

**PROCEEDINGS
OF THE
SEVENTH SYMPOSIUM
ON THE
NATURAL HISTORY OF THE BAHAMAS**

**Edited by
Tom K. Wilson**

**Conference Organizer
Kenneth C. Buchan**

**Bahamian Field Station, Ltd.
San Salvador, Bahamas
1998**

Cover Illustration: ArcView GIS generated elevation map of San Salvador. Produced by Matt Robinson of the University of New Haven for the Bahamian Field Station

© Copyright 1998 by Bahamian Field Station, Ltd.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in written form.

Printed in USA by RSMAS, University of Miami, Miami, Florida

ISBN 0-935909-66-4

**KIRTLAND'S WARBLERS IN THE BAHAMA ARCHIPELAGO: A COMPILATION OF
RECORDS AND REPORTS AND A BIBLIOGRAPHY OF THE SPECIES ON ITS WINTERING
GROUNDS**

Martha Walsh-McGehee,
Island Conservation Effort,
Windwardside
P.O. Box 599,
Saba,
Netherlands Antilles,

David S. Lee,
North Carolina State
Museum of Natural Sciences,
P.O. Box 29555,
Raleigh N.C. 27626,

J. Christopher Haney,
The Wilderness Society,
900 17 th Street, N. W.,
Washington D.C. 20006

ABSTRACT

The Bahamas represent the major wintering area for Kirtland's Warblers, *Dendroica kirtlandii*, (Mayfield 1996), and there are only three reports of individual birds wintering outside the Bahama archipelago. Despite high levels of interest resulting from its endangered status, and a rather extensive body of literature, little useful information is currently available for implementing conservation priorities of this warbler on its wintering grounds.

INTRODUCTION

In 1995 we decided to examine the available literature in order to assess the season of occurrence, distribution and habitat needs of Kirtland's Warblers during its period of winter residence in the Bahamas. Our findings, combined with field work, have already been presented in part (Lee et al. 1997, Haney et al. 1998). In the course of our study we uncovered 111 accessible reports of 199 individual wintering birds and compiled a bibliography of nearly 200 reports and published references dating from 1865 to the present. As this information is widely scattered and published over a protracted time period, we believe that publishing this complete assemblage of winter records and associated bibliographic references will be useful to Bahamian natural resource managers, to biologists concerned with Kirtland's Warblers and other neotropical migrants, and to others concerned with local environmental issues.

All published occurrence records are included; we have made no effort to edit them, or to pass secondhand judgement on their validity. A review of these records and reports shows the species has been reported from 18 islands and island groups in the Bahamas and Turks and Caicos. Some island groups have many more records than others. Haney et al. (1998) have illustrated that these occurrences are not random, but that they indicate a statistically defensible preference for the northernmost, pine-dominated islands, and that regularity of occurrence does not result from island size or island visitation rate by bird students. A summary of all compiled distributional information is provided in Tables 1 and 2. It shows:

- 111 accessible reports of 199 individual birds from the Bahama archipelago between 1841 and 1998.
- The majority (88%) of these birds winter in the northern portion of the archipelago.
- These warblers occur most frequently (74%) on islands that support Caribbean pine (*Pinus caribaea*) forests.
- Three published winter reports are from outside this region.
- Kirtland's Warblers occur in the Bahamas from 17 August to 28 April, with a majority of reports between October and early March.
- Habitat information is available in 73 of the reports, and Haney et al. (1998) show pine habitats are referred to in 60% of these reports.

Our bibliography includes early publications which address occurrence in the Bahamas, subsequent occurrence reports and summaries, pertinent regional

Table 1: Summary of wintering reports of Kirtland's Warblers through December 1997 arranged by island and date of occurrence. An * indicates specimen or photograph records.

Abaco

1*	2nd wk Oct 1841	Baird 1865	
1*	21 March 1891	Cory 1891	Great Abaco
1* m	20 March 1902	Bonhote 1903	Little Abaco
2	9-11 Nov. 1967	Robertson 1968a	nr Marsh Harbor
1*	early 1969	Bond 1969, 1980	Great Abaco
1	13 November 1987	Norton 1988	Abaco Nat. Park
1 m	17 August 1990	Lee et al 1997	ne Abaco Nat. Park
1	25 August 1990	Lee et al 1997	Abaco Nat. Park
1 imm	1-3 December 1995	Lee et al 1997	Abaco Nat. Park
1	15 December 1996	Haney et al 1998	Abaco Na. Park
1	17 December 1996	Haney et al 1998	nr Crossing Rocks

Andros

1* f	9 January 1879	Cory 1879	Hawk's Nest
1*	1884?	Maynard 1896	Southern Bight
1	16 November 1967	Robertson 1986a	Fresh Creek
1	30 Mar-6 Apr 1968	Robertson 1986b	Fresh Creek
1	1970	Radabaugh 1974	
1-3	1968-1971	Radabaugh 1974	

Bahamas

1*	1886	Townsend 1927	
----	------	---------------	--

Bimini

1	27 or 28 April 1907	Chapman 1898	Cat Cay
1*	1913	Van Tyne 1951	Cat Cay
1	1915	Van Tyne 1951	Cat Cay

Berry Islands

3*	2 and 20 April 1891	Cory 1891	
1	31 March 1984	Dunnell and Dunnell 1985	Great Stirrup Cay

Cat Island

1*	20 November 1890	ANSP 48134	
1*	1891	Mayfield 1960	
1*	20 Nov.(1950?)	Bond 1951	Port Howe

Crooked Island

1	11-22 March 1973	Radabaugh 1974	
---	------------------	----------------	--

Eleuthera

2*	22 April 1884	Chapman 1898	
5*	13 Nov.-2 Dec 1891	Mayfield 1960	
3*; 2m, 1f	20-22 April 1897	Chapman 1898	

1	9 March 1956	Bond 1957	Harbour Island
1	11 November 1961	Hundley 1967	
1	30 November 1963	Hundley 1967	
1	9 November 1975	Anon. 1976b	
1 m	20 February 1985	Norton 1989	Governor's
Harbour			
2;1m, 1f	Dec 1985-28 Mar 1986	Norton 1986a,b	
1	14 February 1989	Norton 1989	Governor's
Harbour			

Grand Bahama

1	24 November 1955	Lee et al 1997	Lucayan Nat. Pk
1	14 November 1959	Blanchard 1965	West End Airport
3	19 November 1960	Hundley 1967	e of Freeport
1	late December 1961	Hundley 1967	e of Freeport
2	December 1961	Hundley 1967	e of Freeport
1	24 November 1962	Hundley 1967	e of Freeport
1	December 1962	Grantz 1963	8km w of Freeport
1	16 November 1963	Blanchard 1965	Pinelands Wildl. Sanct.
5	12 February 1964	Hundley 1967	e of Freeport
2	24 March 1964	Hundley 1967	e of Freeport
1	27 March 1964	Hundley 1967	e of Freeport
2; 1m, 1f	27 April 1964	Hundley 1964	e of Freeport
1	5 August 1964	Blanchard 1965	Pinelands Wildl. Sanct.
3; 2m, 1f	29 August 1964	Hundley 1967	e of Freeport
2	13 November 1964	Blanchard 1965	Pinelands Wildl. Sanct.
2; 1m, 1f	27 November 1964	Hundley 1967	e of Freeport
1m	9 February 1965	Hundley 1967	e of Freeport
1m	15 February 1965	Hundley 1967	e of Freeport
3	17 February 1965	Hundley 1967	e of Freeport
2	16 October 1965	Hundley 1967	e of Freeport
2	21 October 1966	Hundley 1967	e of Freeport
2	22 October 1966	Hundley 1967	e of Freeport
1	5 August 1967	Bond 1968	e of Freeport
1*	April 1969	Mayfield 1972	
1	28 December 1969	Mayfield 1972	West End
>5	1969-1974	Radabaugh 1974	
1	25-27 November 1995	Lee et al 1997	Lucayan Nat. Pk.
1	9 February 1997	Haney et al in ms	12 mi e of Freeport
1	10 February 1997	Haney et al in ms	nr Owl Hole
1	22 February 1998	this study	nr Church Road
1	23 February 1998	this study	nr Owl Hole
	13 March 1998	this study	Freeport

Great Inagua

1	8 March 1935 or 1940	Van Tyne 1951
1 f	29 March 1979	Lee et al 1997
2m	20, 22 March 1985	Lee et al 1997
1f	1 April 1985	Lee et al 1997
1m	2 April 1985	Lee et al 1997

New Providence

4*	10 January 1879	Mayfield 1960	
24*	10 Jan-29 Mar 1885	Maynard 1896	nr Nassau
2*	12 April 1886	Ridgway 1886	Green Cay
4*	21 Mar.-25 Apr. 1887	Van Tyne 1951	nr Nassau
8* ;2m, 3f	18-25 Apr 1887	Chapman 1899	
1 m	April 1887	USNM 274850	
2*, 1f	25 Mar. -2 Apr. 1893	Chapman 1898	Nassau
5*;2m, 1f	4 Mar-6 Apr 1897	Chapman 1898	Nassau
1*	5 May 1897	Chapman 1898	Athol
1*	April 1902	Bonhote 1903	

Nassau

1* f	5 March 1913	MCZ 63660	Nassau
1*	1915	Van Tyne 1951	
3	26 February 1941	Hundley 1967	
1m	27 March 1957	Challinor 1962	Paradise Is (Hog)
1f	27 August 1967	Wallace 1968	Paradise Is (Hog)
1	20 August 1970	Am Birds 25: 48	nr Airport
1f	30 January 1985	Lee et al 1997	
1m	2 February 1985	Lee et al 1997	Paradise Is
1	13 December 1989	Lee et al 1997	CoralHarbor Road
1	13 December 1991	Am Birds 47: 304	Coral Harbor Road
1	28 October 1997	this study	South Westridge

Rum Cay

>1	1891?	Cory 1891	
----	-------	-----------	--

San Salvador (Watling)

4*; 1m, 2f	4-9 April 1886	Ridgway 1891	
1*	27 December 1963	LSU	

Turks and Caicos

2*	9 January 1891	Cory 1891	
1	10 February 1978	Clench 1978	N. Caicos, Bellfield Land.
1m	6 February 1985	Lee et al 1997	S. Caicos
1m	10 February 1985	Lee et al 1997	S. Caicos
3; 2m, 1f	11 February 1985	Lee et al 1997	
1m	7 March 1985	Lee et al 1997	Grand Turk
1m	27 December 1985	Lee et al 1997	Grand Turk
1	8 December 1997	This study	Middle Caicos
1	16 December 1997	This study	Pine Cay

Outside Bahama Archipelago

1 m	11 November 1974	Lane 1975	Mexico, Lazario
1f	14-15 March 1985	Faanes and Haney 1989	Dominican Rep.,

Laguna Saladilla

1	?	Wunderle and Wade 1993	Dominican Rep.
---	---	------------------------	----------------

Table 2: Distribution of wintering Kirtland's Warblers from the Bahama archipelago for all records with island locations. Records from a specimen collected at sea, one labeled only as Bahamas, and ones from outside Bahamas (see Table 1) are not included.

<u>Island</u>	<u>No. reports</u>		<u>No. individuals</u>	
Northern island groups				
Bimini	3	(3%)	3	(2%)
Grand Bahama	33	(31%)	57	(29%)
Abaco	11	(10%)	12	(6%)
Berry Islands	2	(2%)	4	(2%)
Andros	6	(6%)	8	(4%)
New Providence	21	(20%)	65	(33%)
Eleuthera	10	(9%)	18	(9%)
Cat	3	(3%)	3	(2%)
Subtotals	89 (83%)		170 (87%)	
Southern Island groups				
Exuma	0		0	
Long	0		0	
Rum Cay	>1	(1%)	>1	(<1%)
San Salvador	2	(2%)	5	(3%)
Crooked	1	(1%)	1	(<1%)
Acklands	0		0	
Mayaguana	0		0	
Great Inagua	5	(5%)	6	(3%)
Little Inagua	0		0	
Caicos Bank	9	(8%)	12	(6%)
Subtotals	>18 (17%)		>25 (13%)	
TOTALS	107		195	

research (including in-depth studies failing to locate wintering Kirtland's Warblers), and papers interpreting biological, zoogeographical and conservation issues. Important studies appearing after Mayfield's 1960 monograph on the species which concern wintering Kirtland's Warblers include: Faanes 1985, Haney et al. 1998, Hundley 1967, Lee et al. 1997, Mayfield 1996, Radabaugh 1974, and Sykes 1989.

Information provided here is current through March 1989.

ACKNOWLEDGMENTS.

We thank the American Bird Conservancy, and National Audubon Society for financial assistance in conducting our field work and the International Institute of Tropical Forestry for providing funds to attend the 7th Symposium on the Natural History of the Bahamas. Jim Wiley, Grambling State University, provided us with an advanced copy of his unpublished Bibliography of Ornithology in the West Indies which contained many references we had overlooked.

BIBLIOGRAPHY.

- Adams, C. C. 1903. The migration route of Kirtland's Warbler. *Bull. Ornithol. Club* 5: 14-21.
- Allen, P., and J. Gooders. 1981. Finding birds around the world. Houghton Mifflin Company. Boston.
- Allen P. E. and S. M. Hitchcock. 1997. Impact of forest management options on cavity-nesting birds in the Bahamas. *El Pitiirre* 10(1): 20.
- Amadon, D. 1953. Migratory birds of relict distribution: some inferences. *Auk* 70(4): 461-469.
- Anonymous. 1884. A naturalist's trip. *Naturalist Florida* 1 : 4.
- Anonymous 1961. Florida Audubon tour adds new Bahama records. *Fl. Nat.* 34: 461-469.
- Anonymous. 1963. Register for November Bahama tours. *Fl. Nat.* 36: 78.
- Anonymous. 1965. Kirtland's Warbler wintering area protection sought. *Fl. Nat.* 38: 156.
- Anonymous. 1976a. Bahamas National Trust news and activities: Carnegie Museum Bahamas expedition. *Bahamas Natur.* 2: 44-45.
- Anonymous. 1976b. Bahamas National Trust news and activities: a Kirtland's Warbler sighting on Eleuthera. *Bahamas Natur.* 1 :31-33.
- Anonymous. 1980. Selected Vertebrate Endangered Species of the seacoast of the United States-Kirtland's Warbler. Fish and Wildlife Service, U. S. Department of the Interior. Biological Services Program FWS/OBS-80/01.21: 1-5.
- Anonymous. 1996. Partners-in-flight. Bahamas Nat. Trust Ornithol. Group Newsletter. March: [2].
- Arendt, W. J. [with collaborators]. 1992. Status of North American migrant landbirds in the Caribbean region: a summary. Pages 143-171 in *Ecology and Conservation of neotropical migrant landbirds* (J. M. Hagen III and D. W. Johnston. Eds.) Smithsonian Institution Press, Washington, D.C.
- American Ornithologist's Union. 1983. Check-list of North American Birds, 6th ed. Amer. Ornith. Union. (876 pp.)
- Ashcraft, J. D. 1995. Making a comeback? Kirtland's Warbler. *Bird Watcher's Digest.* 17(6):36-41.
- Askins, R. A., J. F. Lynch, and R.Greenberg. 1990. . Population declines in migratory birds in eastern North America. Pages 1-57 in *Current Ornithology*, Vol 7 (D. M. Power, Ed.). Plenum Press, New York. (388pp.)
- Baird, S. F. 1865. Review of American birds in the museum of the Smithsonian Institution. Pt. 1, North and Middle America. *Smithsonian Misc. Coll.* Vol. 12, Part 1.
- Baird, S. F., T. M. Brewer, and R. Ridgway. 1905. A history of North American birds, Vol I. Little, Brown, and Co. Boston.
- Baltz, M. and D. Osbourne. 1997. The Winter Invasion: Migrant Songbirds in the Bahamas. *Bahamas Natur.* 8 (1): 15-20.
- Bangs, O. 1900. Notes on a collection of Bahama birds. *Auk* 17: 283-293
- Beebe, R. 1977. The Kirtland's Warbler. *Bahamas Natur.* 3: 38-41.

- Blanchard, D. 1965. Kirtland's Warbler in winter on Grand Bahama Island. *Jack-Pine Warbler* 43:39-42.
- Bond, J. 1940. Check-list of birds of the West Indies. Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1945a. Check-list of birds of the West Indies, Second ed. Academy of Natural Sciences, Philadelphia.
- Bond, J. 1945b. The wood warblers. *Audubon Mag.* 47: 67-73.
- Bond, J. 1947 (et. seq.). *Field Guide to Birds of the West Indies*. MacMillan Co., New York. (257 pp.)
- Bond, J. 1950. Check-list of birds of the West Indies. Third ed. Academy of Natural Sciences, Philadelphia.
- Bond, J. 1951. First supplement to the Check-list of birds of the West Indies (1950). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1956. Check-list of birds of the West Indies, Fourth ed. Academy of Natural Sciences, Philadelphia.
- Bond, J. 1957a. North American Wood Warblers in the West Indies. *Audubon Mag.* 59: 20-23.
- Bond, J. 1957b. Second supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1957c. North American Wood Warblers in the West Indies., Pages 257-262 in *The Warblers of America* (L. Griscom and A. Sprunt Jr., Eds.) Devin-Adair Co., New York (356pp.)
- Bond, J. 1961. Sixth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1968. Thirteenth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1969. Fourteenth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1976. Twentieth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1977. Twenty-first supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1980. Twenty-third supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1982. Twenty-fourth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bond, J. 1986. Twenty-sixth supplement to the Check-list of birds of the West Indies (1956). Academy of Natural Sciences of Philadelphia, Philadelphia.
- Bonhote, J. L. 1903. [Bahama birds]. *Bull. Br. Ornithol. Club* 8: 50-51.
- Bonhote, J. L. 1903. On a collection of birds from the northern islands of the Bahama groups. *Ibis* 3: 273-315.
- Brudenell-Bruce, P. G. C. 1975. *The Birds of the Bahamas*. Taplinger Publishing Company, New York. 142 pp.)
- Buden, D. W. 1987a. The birds of Cat Island, Bahamas. *Wilson Bull.* 99: 579-600..
- Buden, D. W. 1987b. The birds of the southern Bahamas. B. O. U. Check-list No. 8 (119 pp)
- Buden, D. W. 1990. The birds of Rum Cay, Bahama Islands. *Wilson Bull.* 102: 451-468.
- Buden, D. W. 1992. The birds of the Exumas, Bahama Islands. *Wilson Bull.* 104: 674-698. Buden, D. W. and A. Sprunt IV. 1993. Additional

- observations on the birds of the Exumas, Bahama Islands. *Wilson Bull* 105: 514-518.
- Butler, A. W. 1893. Notes on Indian birds. *Proc. Indiana Acad. Sci.* 1893: 116-120.
- Byelich, J., M. E. DeCapita, G. W. Irvine, R. E. Radtke, N. I. Johnson, W. R. Jones, H. Mayfield, and W. J. Mahalak. 1976 (revised 1985). Kirtland's Warbler recovery plan. Twin Cities, Minn.: U.S. Fish and Wildlife Service.
- Campbell, D. G. 1978. The ephemeral islands: a natural history of the Bahamas. Macmillan Educated London. (151 pp.)
- Challinor, D. Jr. 1962. Recent sight records of Kirtland's Warbler in the Bahama Islands. *Wilson Bull.* 74: 290.
- Chapman, F. M. 1898. Kirtland's Warbler (*Dendroica kirtlandii*). *Auk* 15: 289-29
- Chapman, F. M. 1899. Further notes on *Dendroica kirtlandii*. *Auk* 16: 81.
- Chapman, F. M. 1907 et seq. The Warblers of North America. D. Appleton and Co. New York. (306 pp.)
- Chapman, F. M. 1908. Camps and cruises of an ornithologist. D. Appleton and Co., New York. (pp.)
- Clench, M. H. 1973. The fall migration of Kirtland's Warbler. *Wilson Bulletin* 85: 417-428.
- Clench, M. H. 1978. Search ends: a Kirtland's at last. *Bull. Aud. Soc. West. Pennsylvania* 42: 8.
- Collar, N. J. and P. Andrew. 1988. Birds to watch. The ICBP world checklist of threatened birds. ICBP Tech. Publication. No 8. Smithsonian Institution Press, Washington, D. C.
- Conner, H. A. and R. W. Loftin 1985. The birds of Eleuthera Island, Bahamas. *Fla. Field Nat.* 14(4): 77-93. 77-93.
- Cooke, W. W. 1904. Distribution and migration of North American Warblers. U.S.D.A. A. Div. of Biol. Surv. Bull. no. 18. (142 pp.)
- Cooke, W. W. 1905. The winter ranges of the warblers (Mniotiltidae). *Auk.* 22(3): 296-299.
- Cooke, W. W. 1917. Migration of warblers. Pages 14-20 in *The warblers of North America*. 3rd ed. (F. M. Chapman, Ed.) D. Appleton and Co., New York. (307pp.)
- Cory, C. B. 1880. Birds of the Bahama Islands; containing many birds new to the islands, and a number of undescribed winter plumages of North American species. Privately published by the author. Boston.
- Cory, C. B. 1886. The birds of the West Indies, including the Bahamas Islands, the Greater and Lesser Antilles, excepting the islands of Tobago and Trinidad. *Auk* 3: 1-59.
- Cory, C. B. 1889. The birds of the West Indies, including all species known to occur in the Bahama Islands, the Greater Antilles, the Caymans, and the Lesser Antilles, excepting the islands of Tobago and Trinidad. Estes and Lauriat, Boston.
- Cory, C. B. 1890. Birds of the Bahama Islands containing many birds new to the islands, and a number of undescribed winter plumages of North American birds, Revised (2nd) ed. Estes and Lauriat, Boston.
- Cory, C. B. 1891a. A list of birds taken and observed in Cuba and the Bahama Islands, during March and April, 1891. *Auk* 8(3): 292-294. Cory, C. B. 1891b. List of birds collected by C. L. Winch in the Caicos Islands and Inagua, Bahamas during January and February and in Abaco, in March, 1891. *Auk* 8: 295-298.
- Cory, C. B. 1892. Catalogue of West Indian birds, containing a list of all species known to occur in the Bahama Islands, the Greater Antilles, the Caymans, and the Lesser Antilles, excepting the islands of Tobago and Trinidad. Privately publ. by the author. Alfred Mudge and Sons, Printer, Boston.
- Cory, C. B. 1895. A list of birds of the West Indies, including the Bahama Islands and the Greater and the Lesser Antilles, excepting the islands of Tobago and Trinidad. Estes and Lauriat, Boston.

- Cory, C. B. 1897. Capture of Kirtland's Warbler (*Dendroica kirtlandii*) in the Bahama Islands. Bull. Nuttall Ornithol. Club 4: 118.
- Coues, E. 1878. Birds of Colorado Valley. Arno Press. New York, N. Y. (807 pp.)
- Coues, E. 1927. (1st ed 1886). Key to North American birds, 6th ed., vol 1. The Page Co. Pub. Boston, Massachusetts. (863 pp.)
- CREWS (Committee on Rare and Endangered Wildlife Species). 1996. Rare and endangered wildlife of the United States. Washington D.C.: U.S. Government Printing Office. Bureau of Sport Fisheries and Wildlife Resource Publ. 34.
- Dunnell, A., and K. Dunnell. 1985. Kirtland's Warbler at Great Stirrup Cay. Jack-Pine Warbler 63: 61.
- Emlin, J. T. 1977. Land bird communities of Grand Bahama Island: the structure and dynamics of an avifauna. Orn. Monogr. 24.
- Evered, D. S. and L. R. Messick. 1990. Report of the expedition to locate the Kirtland's Warbler in the Bahamas 11 March to 1 April, 1989. unpublished report, University of Cincinnati, Cincinnati.
- Faaborg, J. and J. W. Terborgh. 1980. Patterns of migration in the West Indies, Pages 157-163 in Migrant Birds in the Neotropics; Ecology, Behavior, Distribution, and Conservation (A. Keast and E. S. Morton, Eds.). Smithsonian Institution Press, Washington, D. C.
- Faanes, C. A. 1985. Memorandum to the Director of Patuxent Wildlife Research Center, Laurel, Md: summary of field work on Kirtland's Warbler winter ecology. Unpublished report, Laurel, Maryland.
- Faanes, C. A., and J. C. Haney. 1989. First record of Kirtland's Warbler from the Dominican Republic and additional bird observations. Caribbean J. Sci. 25: 30-35.
- Fisher, J., N. Simon, and J. Vincent. 1969. Wildlife in Danger. Collins, London.
- Fretwell, S. 1981. What's holding down the Kirtland's Warbler? Bird Watch 9: 1-2.
- Fuller, E. 1988. Extinct birds. Facts on File Publications, New York.
- Gochfeld, M. 1979. Wintering ranges of migrant warblers of eastern North America. Am. Birds 33(5): 742-745.
- Graham, F. Jr. 1990. 2001: birds that won't be with us. Am. Birds 44(5): 1074-1081, 1194-1195, 1197-1199.
- Grantz, C. C. 1963. More listed birds for Grand Bahama Caribbean. Fla. Nat. 36: 78.
- Griscom, L. and A. Sprunt., Jr. 1979. The Warblers of America. Doubleday and Co., Inc., Garden City, New York. (356 pp.)
- Hamel, P. B. 1988. Bachman's Warbler. Pages 624-635 in Audubon wildlife report 1988/1989 (W. J. Chandler, Ed.). National Audubon Society, New York.
- Haney, J. C., D. S. Lee, and M. Walsh-McGehee. 1998. A quantitative analysis of winter distribution and habitats of Kirtland's Warblers in the Bahamas. Condor (in press).
- Harrison, H.H. 1984. Wood Warbler's world. Simon and Schuster, New York. Hellmayr, C. E. 1935. Catalogue of birds of the Americas and the adjacent islands in the Field Museum of Natural History. Field Mus. of Nat. Hist. Pub. 347. ZOO. SER. 13(8). (541 pp.)
- Howe, W. H., D. H. Taylor, and D. A. Jett. 1989. Additional records of birds from Cat Island, Bahamas. Wilson Bull. 101: 115-117. Huber, K. R. 1982. The Kirtland's Warbler (*Dendroica kirtlandii*): an annotated bibliography 1852-1980. Mus. Zool. Univ. Mich, Ann Arbor.
- Hundley, M. 1967. Recent wintering records of the Kirtland's Warbler. Auk 84: 425-426.
- Hundley, M. H. and C. R. Mascon. 1963. Field check list of the birds of the Bahama Islands. Florida Audubon Society, Maitland, Florida.
- Hutton, E., Jr. 1984. The origin of migration of some bird species. Redstart 51(3): 99-102.

- Jackson, J. A. 1996. Interactions and interdependence on a fragile fringe: birds and man in a changing Caribbean. *El Pitirre* 9(3): 12-16.
- Jennings, J. H. 1888. List of birds observed at New Providence, Bahama Islands, March-June, 1887. *Johns Hopkins Univ. Circulars* 7: 39.
- Jones, L. 1904. The migration route of Kirtland's Warbler. *Wilson Bull.* 16(2), no 47: 64.
- Jordan, D. S. 1929. Manual of the vertebrate animals of the northeastern United States inclusive of marine species. World Book Co. Yonkers-on-Hudson, NY. (446 pp.)
- Jordan, K. C. 1989. A summary of conservation trends in the Bahamas. Pages 839-844 in *Biogeography in the West Indies. Past, present, and future* (C. A. Woods, Ed.). Sandhill Crane Press, Gainesville, Florida (878pp.)
- Keast, A. and E. S. Morton, eds. 1980. Migrant birds in the neotropics: ecology, behavior, distribution and conservation. Smith. Inst. Press, Washington, D.C.
- Kepler, C. B., G. W. Irving, M. E. DeCapita, and J. Weinrich. 1996. The conservation management of Kirtland's Warbler *Dendroica kirtlandii*. *Bird Conserv. Inter.* 6: 11-22.
- King, W. B., compiler. 1981. Endangered birds of the world, the ICBP bird red data book. Vol. 2. Smith. Inst. Press in coop with Int. Coun. for Bird Preservation, Washington, D. C.
- King, W. B., J. A. Jackson, H. W. Kale II, H. F. Mayfield, R. L. Punkett Jr., J. M. Scott, P. F. Springer, S. A. Temple, and S. R. Wilber. 1977. The recovery team-recovery plan approach to conservation of endangered species: a status summary and appraisal. Report of the Committee on Conservation 1976-77. *Auk* 95 (4, Suppl.) 3DD-19DD.
- Lane, J. 1975. Kirtland's Warbler in Mexico. *Am. Birds* 29: 144.
- Lee, D. S. 1996. The winter avifauna of the Abaco National Park (Part I). *Bahamas Journal of Science.* 3(3): 8-15.
- Lee, D. S., M. Walsh-McGehee, and J.C. Haney. 1997. A history, biology, and re-evaluation of Kirtland's Warbler habitat in the Bahamas. *Bahama J. Sci.* 4:19- 29.
- Leopold, N. F., Jr. 1924. The Kirtland's Warbler in its summer home. *Auk* 41(1): 44-58.
- Mackenzie, J.P.S. 1977. *Birds in Peril*. Houghton Mifflin Co., Boston (191 pp.).
- Mason, C.R. 1962. Grand Bahama Hotel—a new voice in conservation. *Fl. Nat.* 35: 123-25.
- Mason, C. R. 1964. Grand Bahama Island. *Fl. Nat.* 37: 116
- Mason, C. R. 1976. Field checklist of the birds of Harbour Island. Russ Mason's Flying Carpet Tours, Inc., Kissimee, Florida.
- Matthews, J. R. and C. J. Moseley [Editors]. 1990. Kirtland's Warbler, *Dendroica kirtlandii*, Pages 601-603 in *The official World Wildlife Fund guide to endangered species of North America, Vol. 2*. World Wildlife Fund and Becham Publishing, Inc., Washington, D. C. (1647 pp.)
- Mayfield, H. F. 1960. The Kirtland's Warbler. *Cranbrook Inst. Sci. Bull.* No. 40.
- Mayfield, H. F. 1964. The birds of the northern Bahama Islands...a visitor's view. *Fl. Nat.* 37: 39-41.
- Mayfield, H. F. 1972. Winter habitat of Kirtland's Warbler. *Wilson Bull.* 84: 347-349.
- Mayfield, H. F. 1975. The number of Kirtland's Warblers. *Jack-Pine Warbler* 53: 39-47.
- Mayfield, H. F. 1983. Kirtland's Warbler, victim of its own rarity. *Auk* 100(4): 974-976.
- Mayfield, H. F. 1984. Kirtland's Warbler: why so rare? *Living Bird Q.* 3: 4-8.
- Mayfield, H. F. 1988. Do Kirtland's Warblers migrate in one hop? *Auk* 105(1): 204-205.
- Mayfield, H. F. 1988. Where were Kirtland's Warblers during the last ice age? *Wilson Bull.* 100: 659-660.
- Mayfield, H. F. 1992. Kirtland's Warbler (*Dendroica*

- kirtlandii*). In A. Poole, P. Stettenheim, and F. Gill[eds.], The Birds of North America, No. 19. The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D.C.
- Mayfield, H.F. 1996. Kirtland's Warbler in winter. *Birding* 28:34-39.
- Maynard, C. J. 1881. The birds of eastern North which occur east of the Mississippi River, between the Arctic Circle and the Gulf of Mexico, with full notes upon their habits, etc. Revised ed, C. J. Maynard and Co., Newtonville, Massachusetts. [reissued in 1896]
- Maynard, C. J. 1884. A new catalog of bird's skins, nests, and eggs obtained on the Bahamas by C. J. Maynard. (published by author)
- Maynard, C. J. 1896. The birds of eastern North America. Maynard and Co., Newtonville, Massachusetts.
- Mayer, E. 1953. Additional notes on the birds of Bimini, Bahamas. *Auk* 70: 499-501.
- Mengel, R. M. 1965. The probable history of species formation in some northern wood warblers (Parulidae). *Living Bird* 3: 9-43.
- Miller, J. R. 1978. Notes on birds of San Salvador Island (Watlings), the Bahamas. *Auk* 95(2): 281-287.
- Miller, K. V., and M. J. Conroy. 1990. Spot satellite Imagery for mapping Kirtland's Warbler wintering habitat in the Bahamas. *Wildl. Soc. Bull.* 18: 252-257.
- Morse, D. H. 1989. American warblers. Cambridge, Mass.: Harvard University Press.
- Norton, R. L. 1986a. West Indies region. *Am Birds* 40(2): 338-340.
- Norton, R. L. 1986b. West Indies region. *Am. Birds* 40(3): 528-529.
- Norton, R. L. 1988. West Indies Region. *Am. Birds* 42(1): 142-144.
- Norton, R. L. 1989. West Indies region. *Am. Birds* 43(2):371-372.
- Norton, R. L. 1990. West Indies region. *Am. Birds* 44(2): 335-336.
- Norton, R. L. 1993a . West Indies Region. *Am. Birds* 47: 304-305.
- Norton, R. L. 1993b. First autumnal report of birds from Rum Cay, Bahamas. *Wilson Bull.* 105: 361-364.
- Norton, R. L. 1995. West Indies region. *Nat. Audubon Soc. Field Notes* 49(3): 313-314.
- Norton, R. L. 1996. West Indies region. *Nat. Audubon Soc. Field Notes* 50(1): 120, 122.
- Oliver, K. 1994. Island crossroads. *Fl. Nat.* 67: 4-5.
- Oliver, K. 1995. Rare bird in Grand Bahama. *The Freeport News*. 27 December 1955; 1, 3.
- Pashley, D. N. and R. P. Martin. 1988. The contribution of Christmas Bird Counts to knowledge of the winter distribution of migratory warblers in the neotropics. *Am. Birds* 42(4): 1164-1176.
- Patterson, A. The birds of Fresh Creek. *Fl. Nat.* 41: 117-118, 120.
- Patterson, A. 1972. Birds of the Bahamas. Stephen Green Pr. Battleboro, VT. (180 pp.)
- Patterson, R. 1994. [Checklist of birds observed on Abaco]. Unpublished typescript, Marsh Harbour, Abaco.
- Paulson, D. R. 1966. New records of birds from the Bahama Islands. *Notule Naturae, Acad. Nat. Sci. Philadelphia* 394: 1-15.
- Paynter, R. A., Jr. 1986. Checklist of birds of the world, a continuation of the works of James L. Peters. Vol 14. *Mus. Comp. Zoo. Cambridge, Mass.* (433 pp.)
- Probst, J. R. 1986. A review of factors limiting the Kirtland's Warbler on its breeding grounds. *Am. Midl. Nat.* 116: 87-100.
- Purdie, H. A. 1879. Another Kirtland's Warbler (*Dendroica kirtlandii*). *Bull. of the Nuttall Ornith. Club.* 4(3): 185-186.

- Rabb, G. B. and E. B. Hayden Jr. 1957. The Van Voast-American Museum of Natural History Bahama Islands Expedition. Record of the expedition and general features of the islands. *Am. Mus. Nat. Hist.* Nov. 1836: 1-53.
- Radabaugh, B. E. 1972. Untitled report on a trip to Bahamas to study the wintering grounds of Kirtland's Warbler.
- Radabaugh 1973. Report of a Trip to some central and southern islands of the Commonwealth of the Bahamas in search of Kirtland's Warblers from January 5 to April 3, 1973.
- Radabaugh, B. E. 1974. Kirtland's Warbler and its Bahama wintering grounds. *Wilson Bull.* 86:374-383.
- Rappole, J. H. E. S. Morton, T. E. Lovejoy III, and J. L. Ruos. 1993. Aves migration nearticas en los neotropicos. Conservation and Research Center, National Zoological Park, Smithsonian Institution, Front Royal, Virginia.
- Ridgway, R. 1891. List of birds collected on the Bahama Islands by the naturalists of the Fish Commission steamer Albatross. *Auk* 8: 333-334.
- Ridgway, R. 1902. The birds of Northern and Middle America: a descriptive catalogue of the higher groups, genera, species, and subspecies of birds known to occur in North America, from the Arctic lands to the Isthmus of Panama, the West Indies and other islands of the Caribbean Sea, and the Galapagos Archipelago. *Bulletin of the U. S. National Museum*, no. 50, Part II, Washington, D. C.
- Riley, J. H. 1905. Birds of the Bahama Islands. Pages 374-368 in *The Bahama Islands* (G. B. Shattuck, Ed.). The Geographic Society of Baltimore, The Macmillan Company, New York. (630 pp.)
- Robertson, W. B., Jr. 1968a. Regional reports; Florida Region. *Aud. Field Notes* 22 (1): 25-31.
- Robertson, W. B., Jr. 1968b. Regional reports; Florida Region. *Aud. Field Notes*. 22(4): 516-520.
- Robertson, W. B. 1971. Region reports; Florida Region. *Am. Birds* 25(1): 44-49.
- Ryel, L. A. 1981. Population change in the Kirtland's Warbler. *Jack-Pine Warbler* 59: 76-91.
- Sanderson, D. J. 1982. Birds of the Turks and Caicos Islands. *Turks and Caicos Current* 1982: 35-42.
- Smart, G. 1953. Status of the Fish and Wildlife Service's endangered species research program. Pages 591-595 in Jean Delacour/International Federation for the Conservation of Birds, Symposium on Breeding Birds in Captivity (A. C. Risser Jr. and F. S. Todd, Eds.). International Federation for the Conservation of Birds, Los Angeles.
- Stone, A. E. 1986. Migrating and wintering records of Kirtland's Warbler: an annotated bibliography. U.S. Fish and Wildlife Service, Patuxent Wildlife Research Unit, Athens, Georgia.
- Sundevall, C. J. 1869. Ofversigt af fogelslaget Dendroeca. *Ofvers.af .Vetensk.Ak. Forhandl.,Stockholm* 1869: 605-618.
- Sykes, P. W., Jr. 1989. Kirtland's Warbler on their wintering grounds in the Bahamas Archipelago-preliminary report. *Proc. Kirtland's Warbler Symposium*. Lansing, Michigan. USDA Forest Service.
- Sykes, P. W., Jr. 1996. Kirtland's Warbler *Dendroica kirtlandii*, Pages 113-123 in *Rare and endangered biota of Florida*. Vol V. Birds.(J. A. Rodgers Jr., H.W. Kale II, and H. T. Smith, Eds.). University of Florida Press, Gainesville, Fl.
- Sykes, P. W., Jr. 1997. Kirtland's Warbler a closer look. *Birding* 29: 220-227.
- Sykes, P. W., Jr., C. B. Kepler, D. A. Jett, and M. E. DeCapita. 1989. Kirtland's Warbler on the nesting grounds during the post-breeding period. *Wilson Bull.* 101: 545-558.
- Terborgh, J. W. 1974. Preservation of natural diversity: the problem of extinction prone species. *BioScience* 24: 715-722.
- Terborgh, J. W. 1980. The conservation status of neotropical migrants: present and future. Pages 21-30 in *Migrant birds in the neotropics*

- (A. Keast and E.S. Morton, Eds.). Smithsonian Institution Press, Washington, D. C.
- Townsend, C. H. 1927. Old times with the birds: autobiographical. *Condor* 29: 224-232,
- Trautman, M. B. 1979. Experiences and thoughts relative to the Kirtland's Warbler. *Jack-Pine Warbler*. 57(3): 153-140.
- Twomey, A. C. 1936. Climographic studies of certain introduced and migratory birds. *Ecology* 17: 122-132.
- Van Tyne, J. 1951. The distribution of the Kirtland's Warbler (*Dendroica kirtlandii*). *Proc. of Xth Int. Ornithol. Congr.* 10: 537-554.
- Van Tyne, J. 1953. Kirtland's Warbler *Dendroica kirtlandii* (Baird), Pages 417-428 in *Life histories of North American wood warblers. Order passeriformes. Bulletin 203* (A. C. Bent. Ed). U. S. National Museum. Washington, D. C. (734 pp)
- Vincent, J. 1968. List of bird species appearing in the Red Data Book of the International Union for Conservation of Nature and Natural Resources, here listed country by country, or, in the case of islands, under oceanic-regions. International Council for Bird Preservation.
- Walkinshaw, L. H. 1972. Kirtland's Warbler endangered. *Am. Birds* 26: 3-9.
- Walkinshaw, L. H. 1983. Kirtland's Warbler: The natural history of an endangered species. *Bulletin 58*, Cranbrook Institute of Science, Bloomfield Hills, Michigan.
- Walsh-McGehee, M., D. S. Lee, and J. C. Haney. 1997. Habitat use of Kirtland's Warblers wintering in the Bahamas. The 7th Symposium of the Bahamas. June 13-17, 1997 San Salvador, Bahamas; 21 (abstract).
- Wallace, G. J. 1968. Another August record of Kirtland's Warbler on its wintering grounds. *Jack-Pine Warbler* 46: 7.
- Wardle, C. 1996. Research and ornithological activities in the Bahamas. *El Pitirre* 9(3): 22.
- White, T. 1993. Caribbean natives and American migrants. *Naturalists News* 19: 18.
- White, T. 1996. Kirtland's versus Yellow-throated warblers. *Birding* 28: 269-270.
- Wiley, J. W., and J. M. Wunderle, Jr. 1993. The effects of hurricanes on birds, with special reference to ribbean islands. *Bird Conserv. Intern.* 3: 319-349.
- Wunderle, J. M., Jr., and R. B. Waide. 1992. Distribution of overwintering Nearctic migrants in the Bahamas and Greater Antilles. Unpublished report for the World Wildlife Fund- USA.
- Wunderle, J. M. Jr. and R. B. Waide. 1994. Future prospects for Nearctic migrants wintering in Caribbean forests. *Bird Conservation International* 4:191-207.
- Zimmerman, D. R. 1975a. Panic in the Pines. *Audubon Mag.* 77: 88-91, 94-95, 98-100, 102-103, 106.
- Zimmerman, D. R. 1975b. The Quest of the Warbler. *Audubon* May 1975.
- Zimmerman, D. R. 1975c. To Save a Bird in Peril. Coward, McCann and Geoghegan, Inc. New York (286pp.)