



## U.S. Fish & Wildlife Service

### 2011 Rangewide Population Estimate for the Indiana Bat (*Myotis sodalis*) by USFWS Region

Estimates are primarily based on winter surveys conducted in January and February of 2011 at known Priority 1 & 2 hibernacula throughout the species' range. Additional data from Priority 3 and 4 hibernacula were included when available.

**NOTE:** The USFWS considers these population estimates to be the best available data for this species. However, we also recognize that some of these data contain an undeterminable, but potentially significant and variable degree of error from one year to the next. Bat population estimation error is attributable to multiple factors including variable detectability of bats roosting within different hibernacula settings, some unknown number of bats using unknown/undocumented winter roost sites, and biologists using somewhat different survey techniques in different states. Bat biologists began widely using digital photography as a primary winter survey technique in 2007 and 2009 because it improves overall accuracy and reduces surveyor-associated error over traditional techniques. The USFWS generally has increased confidence in the accuracy of the population estimates subsequent to the use of digital photography. The USFWS asks data users to be cognizant of the limitations of these population data and to take proper precautions when interpreting and presenting population trends through time.

USFWS Region	State	2003	2005	2007	2009	2011	% Change from 2009	% of 2011 Total
<b>Region 2</b>	<b>Oklahoma</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>100+%</b>	<b>0.0%</b>
<b>Region 3</b>	Indiana	183,337	206,610	238,068	213,170	222,820	4.5%	52.5%
	Illinois	43,647	55,090	53,823	53,342	55,956	4.9%	13.2%
	Missouri	17,752	16,102	15,895	13,688	13,647	-0.3%	3.2%
	Ohio	9,831	9,769	7,629	9,261	9,870	6.6%	2.3%
	Michigan	20	20	20	20	20	0.0%	0.0%
	<b>Total</b>	<b>254,587</b>	<b>287,591</b>	<b>315,435</b>	<b>289,481</b>	<b>302,313</b>	<b>4.4%</b>	<b>71.2%</b>
<b>Region 4</b>	Kentucky	49,544	65,611	71,250	57,325	70,329	22.7%	16.6%
	Tennessee	9,802	12,074	8,906	12,721	12,786	0.5%	3.0%
	Arkansas	2,228	2,067	1,829	1,480	1,206	-18.5%	0.3%
	Alabama	265	296	258	253	261	3.2%	0.1%
	North Carolina	0	0	0	1	1	0.0%	0.0%
	<b>Total</b>	<b>61,839</b>	<b>80,048</b>	<b>82,243</b>	<b>71,780</b>	<b>84,583</b>	<b>17.8%</b>	<b>19.9%</b>
<b>Region 5</b>	West Virginia	11,443	13,417	14,745	17,965	20,358	13.3%	4.8%
	New York	32,529	41,745	52,779	34,045	16,052	-52.9%	3.8%
	Virginia	1,158	769	723	730	863	18.2%	0.2%
	Pennsylvania	931	835	1,038	1,031	518	-49.8%	0.1%
	New Jersey	644	652	659	416	5	-98.8%	0.0%
	Vermont	472	313	325	64	3	-95.3%	0.0%
	<b>Total</b>	<b>47,177</b>	<b>57,731</b>	<b>70,269</b>	<b>54,251</b>	<b>37,799</b>	<b>-30.3%</b>	<b>8.9%</b>
<b>Rangewide Total:</b>		<b>363,608</b>	<b>425,372</b>	<b>467,947</b>	<b>415,512</b>	<b>424,708</b>	<b>2.2%</b>	<b>100.0%</b>

<b>2-yr. Net Change:</b>	<b>61,764</b>	<b>42,575</b>	<b>-52,435</b>	<b>9,196</b>
<b>2-yr. % Change:</b>	<b>17.0%</b>	<b>10.0%</b>	<b>-11.2%</b>	<b>2.2%</b>

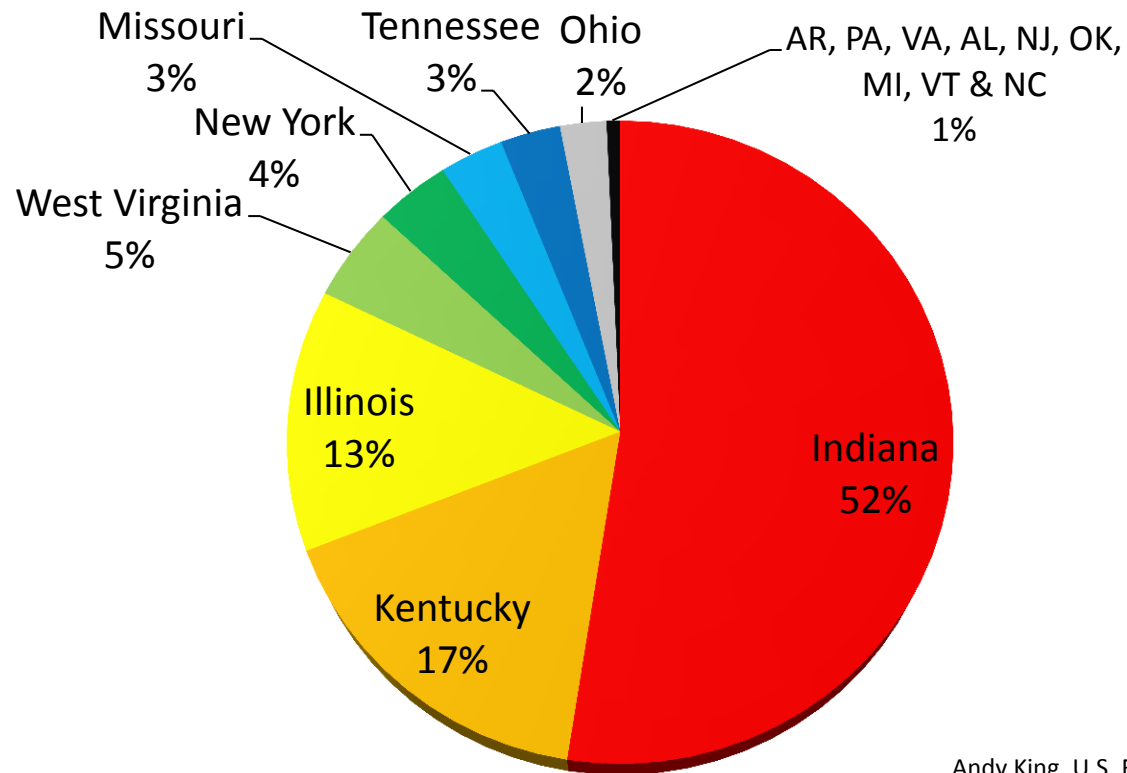
Compiled by Andy King (andrew\_king@fws.gov), U.S. Fish and Wildlife Service, Bloomington, Indiana, Ecological Services Field Office from data gathered from bat biologists throughout the species' range.

For additional information regarding the Indiana bat go to... <http://www.fws.gov/midwest/Endangered/mammals/inba/index.html>

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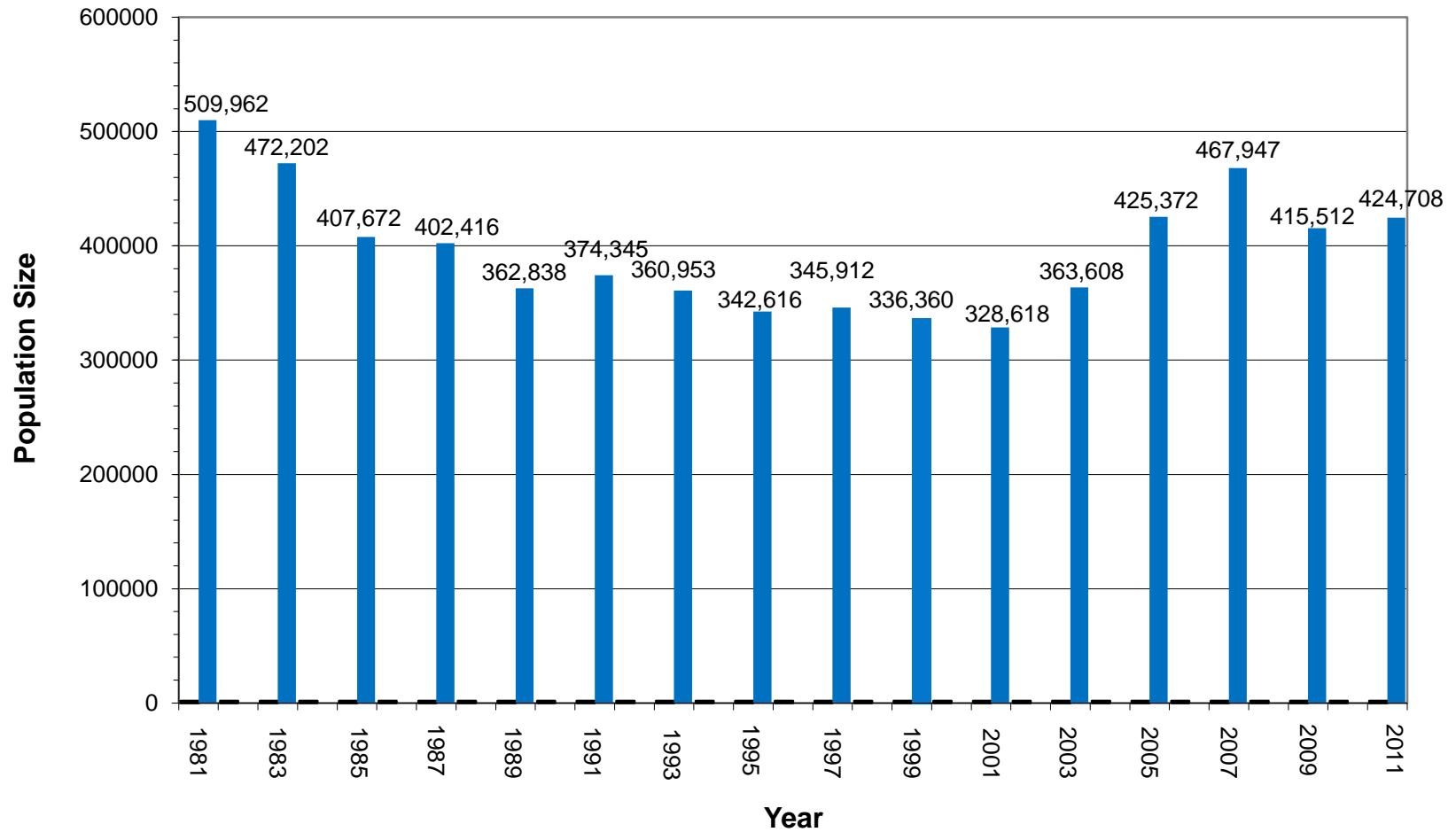
**Indiana Bat Rangewide Population Distribution  
among Known Hibernacula in 17 States during the 2010-2011 Winter Survey**

(2011 pop. = approx. 424,708 bats)



Andy King, U.S. Fish and Wildlife Service  
Bloomington, Indiana. Revised 1-4-2012

## Indiana Bat Rangewide Population Estimates from 1981 - 2011



Andy King, U.S. Fish and Wildlife Service, Bloomington, Indiana. Revised 1-4-2012



# U.S. Fish & Wildlife Service

## 2011 Rangewide Population Estimate for the Indiana Bat (*Myotis sodalis*) by Recovery Unit

Estimates are primarily based on winter surveys conducted in January and February of 2011 at known Priority 1 & 2 hibernacula throughout the species' range. Additional data from Priority 3 and 4 hibernacula were included when available.

**NOTE:** The USFWS considers these population estimates to be the best available data for this species. However, we also recognize that some of these data contain an undeterminable, but potentially significant and variable degree of error from one year to the next. Bat population estimation error is attributable to multiple factors including variable detectability of bats roosting within different hibernacula settings, some unknown number of bats using unknown/undocumented winter roost sites, and biologists using somewhat different survey techniques in different states. Bat biologists began widely using digital photography as a primary winter survey technique in 2007 and 2009 because it improves overall accuracy and reduces surveyor-associated error over traditional techniques. The USFWS generally has increased confidence in the accuracy of the population estimates subsequent to the use of digital photography. The USFWS asks data users to be cognizant of the limitations of these population data and to take proper precautions when interpreting and presenting population trends through time.

IBat Recovery Unit	State	2003	2005	2007	2009	2011	% Change from 2009	% of 2011 Total
Ozark-Central	Illinois	43,647	55,090	53,823	53,342	55,956	4.9%	13.2%
	Missouri	17,752	16,102	15,895	13,688	13,647	-0.3%	3.2%
	Arkansas	2,228	2,067	1,829	1,480	1,206	-18.5%	0.3%
	Oklahoma	5	2	0	0	13	0.0%	0.0%
	<b>Total</b>	<b>63,632</b>	<b>73,261</b>	<b>71,547</b>	<b>68,510</b>	<b>70,822</b>	<b>3.4%</b>	<b>16.7%</b>
Midwest	Indiana	183,337	206,610	238,068	213,170	222,820	4.5%	52.5%
	Kentucky	49,544	65,611	71,250	57,325	70,329	22.7%	16.6%
	Ohio	9,831	9,769	7,629	9,261	9,870	6.6%	2.3%
	Tennessee	3,246	3,221	2,929	1,663	1,690	1.6%	0.4%
	Alabama	265	296	258	253	261	3.2%	0.1%
	SW Virginia	430	202	188	217	307	41.5%	0.1%
	Michigan	20	20	20	20	20	0.0%	0.0%
	<b>Total</b>	<b>246,673</b>	<b>285,729</b>	<b>320,342</b>	<b>281,909</b>	<b>305,297</b>	<b>8.3%</b>	<b>71.9%</b>
Appalachian	West Virginia	11,443	13,417	14,745	17,965	20,358	13.3%	4.8%
	E. Tennessee	6,556	8,853	5,977	11,058	11,096	0.3%	2.6%
	Pennsylvania	931	835	1,038	1,031	518	-49.8%	0.1%
	Virginia	728	567	535	513	556	8.4%	0.1%
	North Carolina	0	0	0	1	1	0.0%	0.0%
	<b>Total</b>	<b>19,658</b>	<b>23,672</b>	<b>22,295</b>	<b>30,568</b>	<b>32,529</b>	<b>6.4%</b>	<b>7.7%</b>
Northeast	New York	32,529	41,745	52,779	34,045	16,052	-52.9%	3.8%
	New Jersey	644	652	659	416	5	-98.8%	0.0%
	Vermont	472	313	325	64	3	-95.3%	0.0%
	<b>Total</b>	<b>33,645</b>	<b>42,710</b>	<b>53,763</b>	<b>34,525</b>	<b>16,060</b>	<b>-53.5%</b>	<b>3.8%</b>
<b>Rangewide Total:</b>		<b>363,608</b>	<b>425,372</b>	<b>467,947</b>	<b>415,512</b>	<b>424,708</b>	<b>2.2%</b>	<b>100.0%</b>

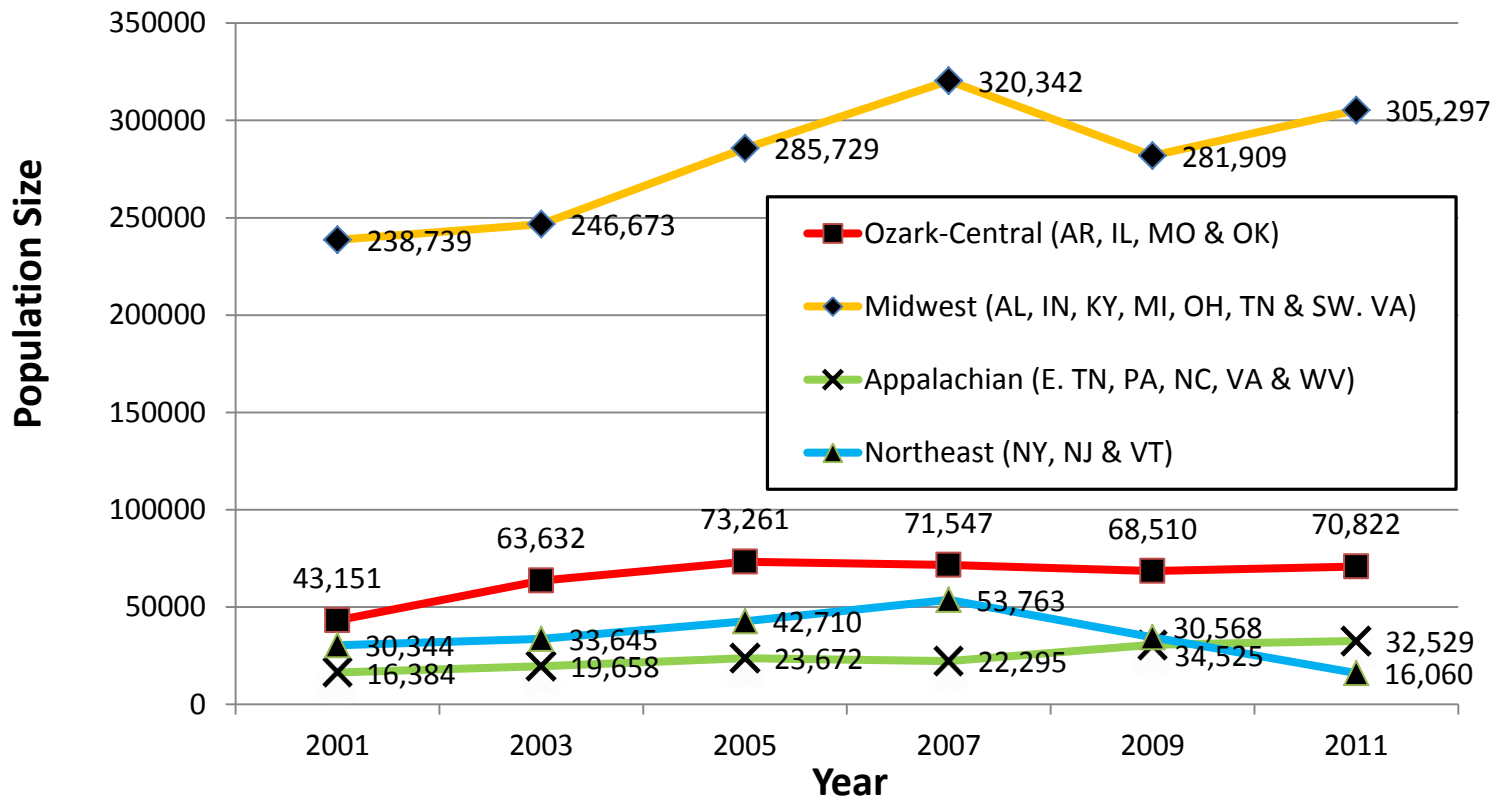
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For additional information regarding the Indiana bat go to...

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### Indiana Bat Population Estimates by Recovery Unit from 2001 - 2011



Andy King, U.S. Fish and Wildlife Service, Bloomington, Indiana. Revised 1-4-2012