



U.S. Fish & Wildlife Service

TABLE 1. 2015 Population Estimates for the Indiana Bat (*Myotis sodalis*) by USFWS Region

Estimates are primarily based on winter surveys conducted in January and February of 2015 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	2007	2009	2011	2013	2015	% Change from 2013	% of 2015 Total
Region 2	Oklahoma	0	0	13	5	5	0.0%	0.0%
Region 3	Indiana	238,068	213,244	225,477	226,572	185,720	-18.0%	35.5%
	Missouri*	183,304	181,097	182,852	184,245	185,693	0.8%	35.5%
	Illinois	53,824	53,342	61,239	58,840	56,055	-4.7%	10.7%
	Ohio	7,629	9,261	9,870	9,259	4,809	-48.1%	0.9%
	Michigan	20	20	20	20	20	0.0%	0.0%
	Total		482,845	456,964	479,458	478,936	432,297	-9.7%
Region 4	Kentucky	71,250	57,325	70,598	62,233	66,024	6.1%	12.6%
	Tennessee	8,906	12,715	12,887	15,569	4,952	-68.2%	0.9%
	Arkansas	1,821	1,480	1,206	856	1,389	62.3%	0.3%
	Alabama	258	253	261	247	247	0.0%	0.0%
	North Carolina	0	1	1	1	0	-100.0%	0.0%
	Total		82,235	71,774	84,953	78,906	72,612	-8.0%
Region 5	New York	52,779	33,172	15,654	17,772	15,564	-12.4%	3.0%
	West Virginia	14,745	17,965	20,296	3,845	2,373	-38.3%	0.5%
	Virginia	723	731	863	632	597	-5.5%	0.1%
	New Jersey	659	619	409	448	111	-75.2%	0.0%
	Pennsylvania	1,038	1,035	516	120	24	-80.0%	0.0%
	Vermont	325	64	61	53	53	0.0%	0.0%
	Total		70,269	53,586	37,799	22,870	18,722	-18.1%
Rangewide Total:		635,349	582,324	602,223	580,717	523,636	-9.8%	100.0%

2-yr. Net Change:	-53,025	19,899	-21,506	-57,081
2-yr. % Change:	-8.3%	3.4%	-3.6%	-9.8%

* A previously unknown Indiana bat hibernaculum was discovered in Missouri in 2012. This "new" Priority 1 site contained a minimum of 123,000 bats when partially surveyed in January 2013 and had over 167,000 when more completely surveyed in January 2015. Based upon first-hand accounts of very large clusters/numbers of unidentified hibernating bats at this site for several decades prior to its discovery by bat biologists, the Service decided to add the same number of bats as was found in 2015 to each previous biennium total for MO through 1981. Incorporating the newly discovered bat numbers in this manner, improved the accuracy of the Missouri, Ozark-Central Recovery Unit and range-wide population estimates over those reported in previous years and avoided artificial spikes in population trends in 2013 and 2015.

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... <http://www.fws.gov/midwest/Endangered/mammals/inba/index.html>



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TABLE 2. 2015 Population Estimates for the Indiana Bat (*Myotis sodalis*) by Recovery Unit

Estimates are primarily based on winter surveys conducted in January and February of 2015 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	2007	2009	2011	2013	2015	% Change from 2013	% of 2015 Total
Ozark-Central	Illinois	53,824	53,342	61,239	58,840	56,055	-4.7%	10.7%
	Missouri*	183,304	181,097	182,852	184,245	185,693	0.8%	35.5%
	Arkansas	1,821	1,480	1,206	856	1,389	62.3%	0.3%
	Oklahoma	0	0	13	5	5	0.0%	0.0%
	Total	238,949	235,919	245,310	243,946	243,142	-0.3%	46.4%
Midwest	Indiana	238,068	213,244	225,477	226,572	185,720	-18.0%	35.5%
	Kentucky	71,250	57,325	70,598	62,233	66,024	6.1%	12.6%
	Ohio	7,629	9,261	9,870	9,259	4,809	-48.1%	0.9%
	Tennessee	2,929	1,657	1,791	2,369	2,551	7.7%	0.5%
	Alabama	258	253	261	247	247	0.0%	0.0%
	SW Virginia	188	217	307	214	137	-36.0%	0.0%
	Michigan	20	20	20	20	20	0.0%	0.0%
Total	320,342	281,977	308,324	300,914	259,508	-13.8%	49.6%	
Appalachia	West Virginia	14,745	17,965	20,296	3,845	2,373	-38.3%	0.5%
	E. Tennessee	5,977	11,058	11,096	13,200	2,401	-81.8%	0.5%
	Pennsylvania	1,038	1,035	516	120	24	-80.0%	0.0%
	Virginia	535	514	556	418	460	10.0%	0.1%
	North Carolina	0	1	1	1	0	-100.0%	0.0%
Total	22,295	30,573	32,465	17,584	5,258	-70.1%	1.0%	
Northeast	New York	52,779	33,172	15,654	17,772	15,564	-12.4%	3.0%
	New Jersey	659	619	409	448	111	-75.2%	0.0%
	Vermont	325	64	61	53	53	0.0%	0.0%
	Total	53,763	33,855	16,124	18,273	15,728	-13.9%	3.0%
Rangewide Total:		635,349	582,324	602,223	580,717	523,636	-9.8%	100.0%
2-yr. Net Change:		-53,025	19,899	-21,506	-57,081			
2-yr. % Change:		-8.3%	3.4%	-3.6%	-9.8%			

*A previously unknown Indiana bat hibernaculum was discovered in Missouri in 2012. This "new" Priority 1 site contained a minimum of 123,000 bats when partially surveyed in January 2013 and had over 167,000 when more completely surveyed in January 2015. Based upon first-hand accounts of very large clusters/numbers of unidentified hibernating bats at this site for several decades prior to its discovery by bat biologists, the Service decided to add the same number of bats as was found in 2015 to each previous biennium total for MO through 1981. Incorporating the newly discovered bat numbers in this manner, improved the accuracy of the Missouri, Ozark-Central Recovery Unit and range-wide population estimates over those reported in previous years and avoided artificial spikes in population trends in 2013 and 2015.

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For additional information regarding the Indiana bat...

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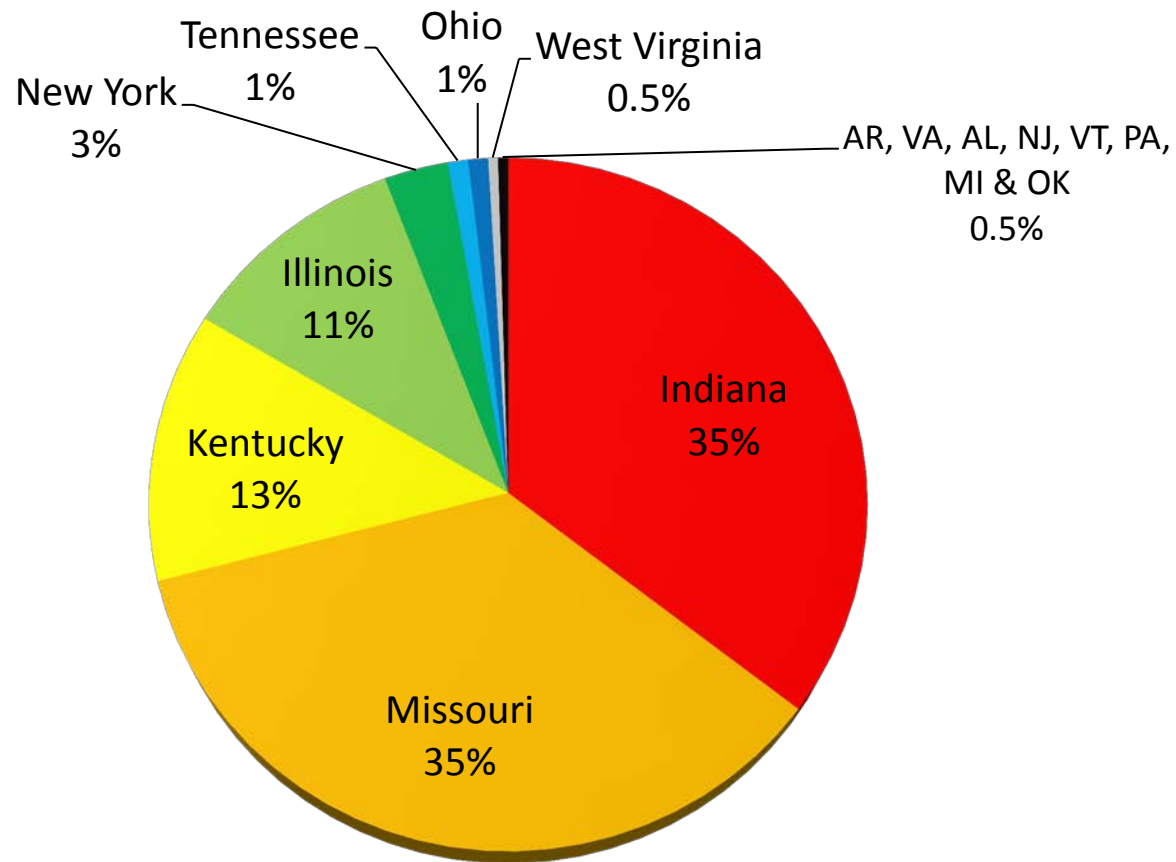


FIGURE 1. Percentage of the 2015 Indiana bat range-wide population (approx. 523,636 bats) hibernating within each state.

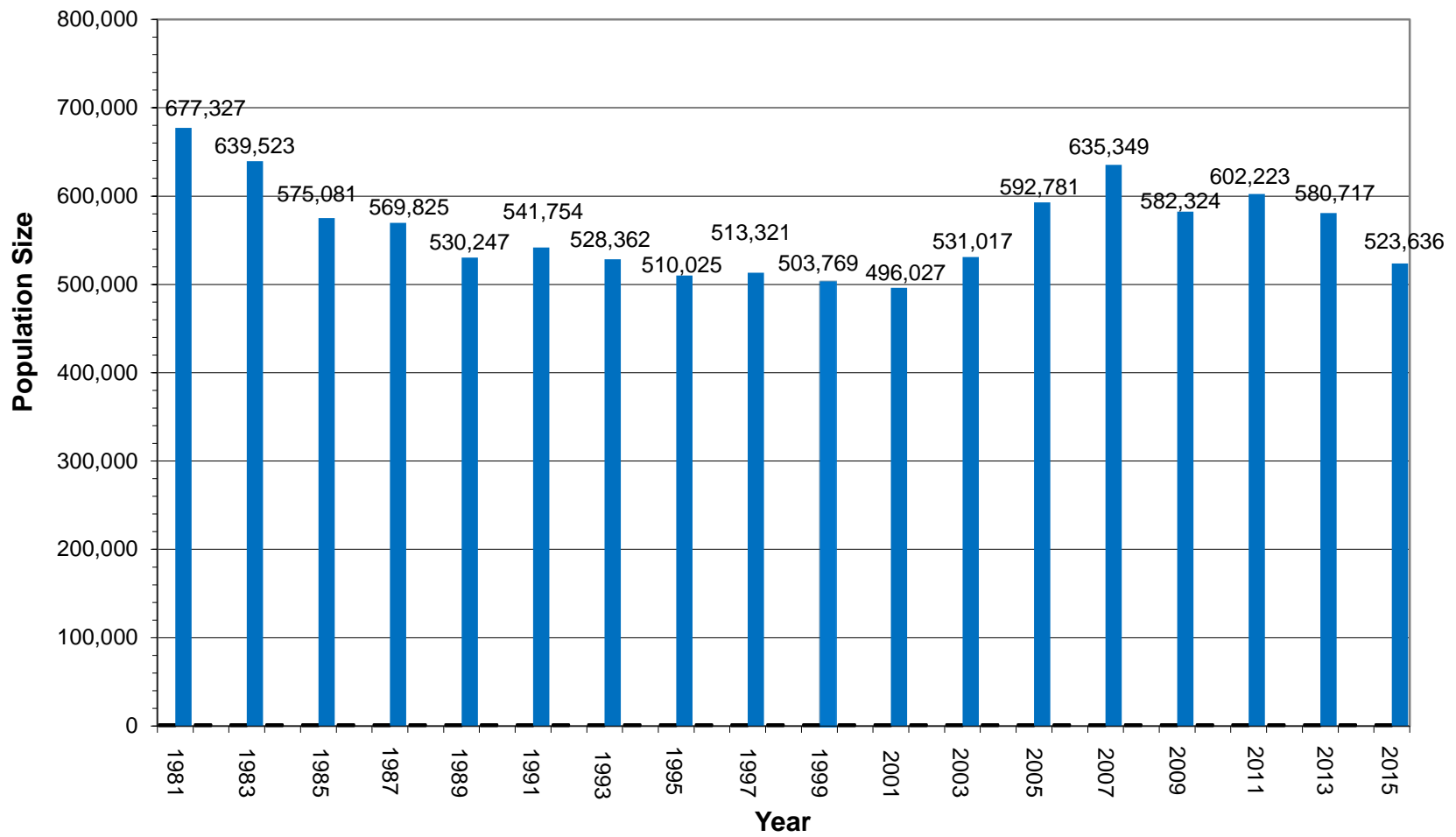


FIGURE 2. Indiana bat range-wide population estimates from 1981 to 2015.

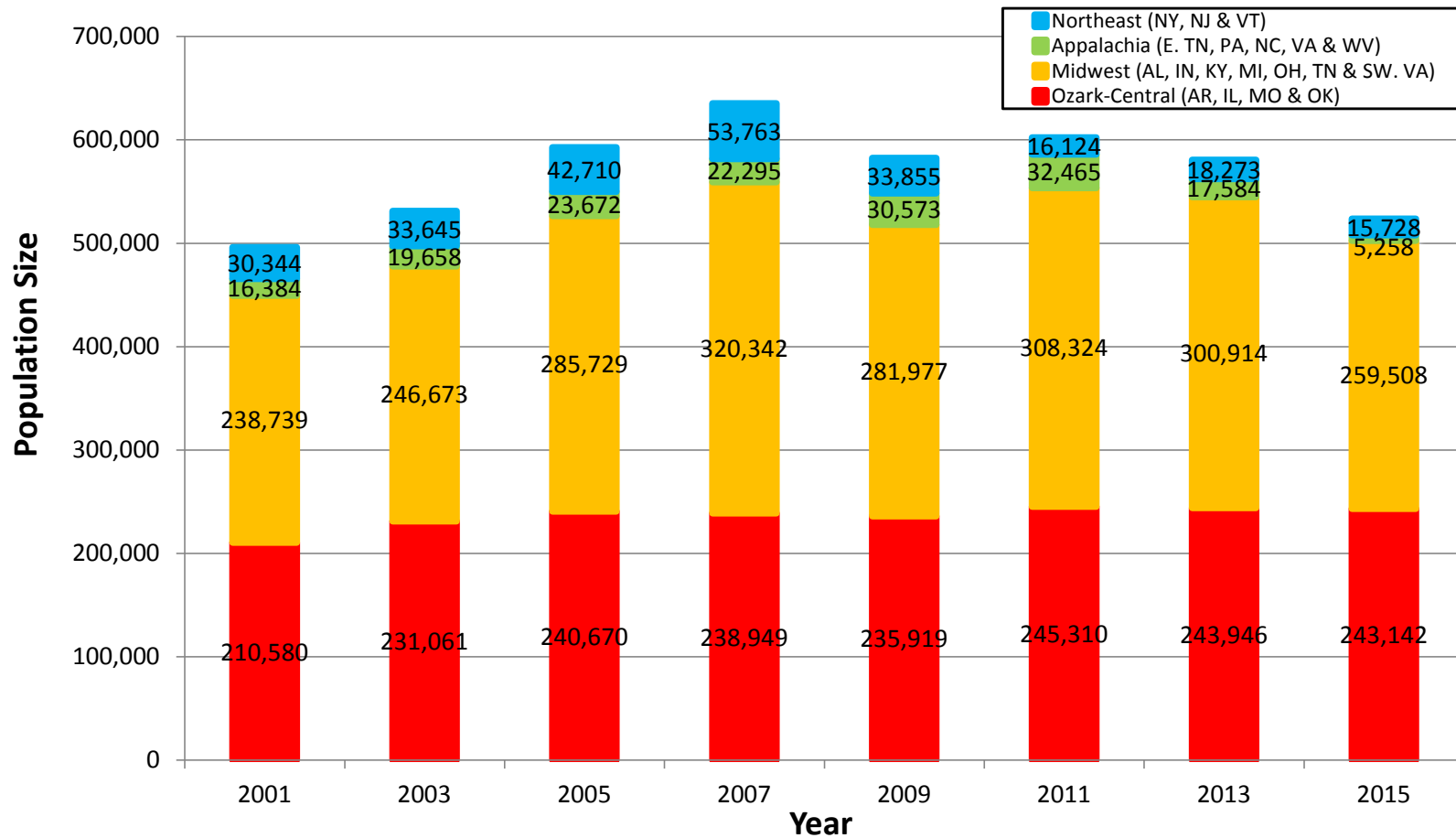


FIGURE 3. Indiana bat population estimates by recovery unit from 2001 to 2015.

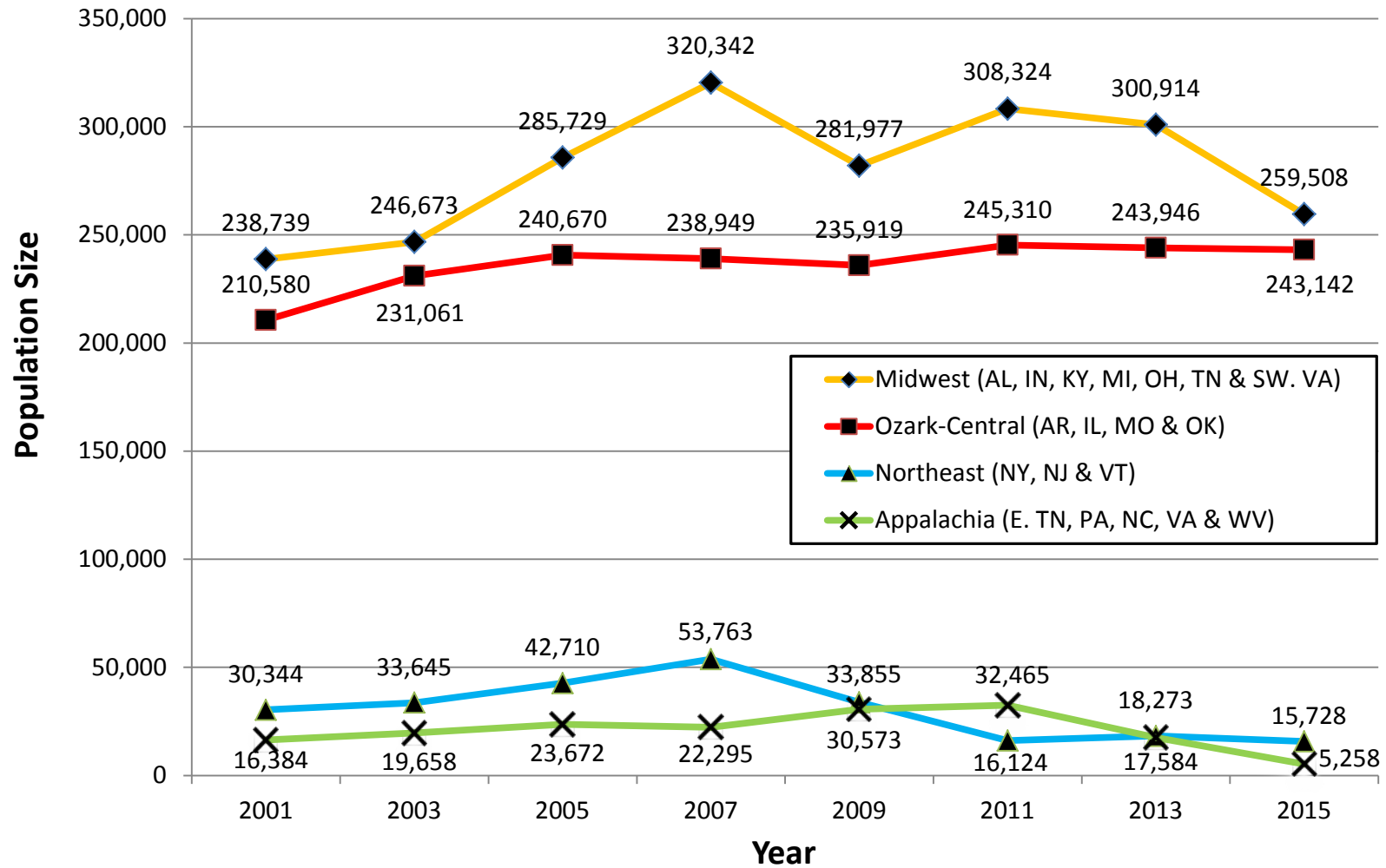


FIGURE 4. Indiana bat population estimates by recovery unit from 2001 to 2015.

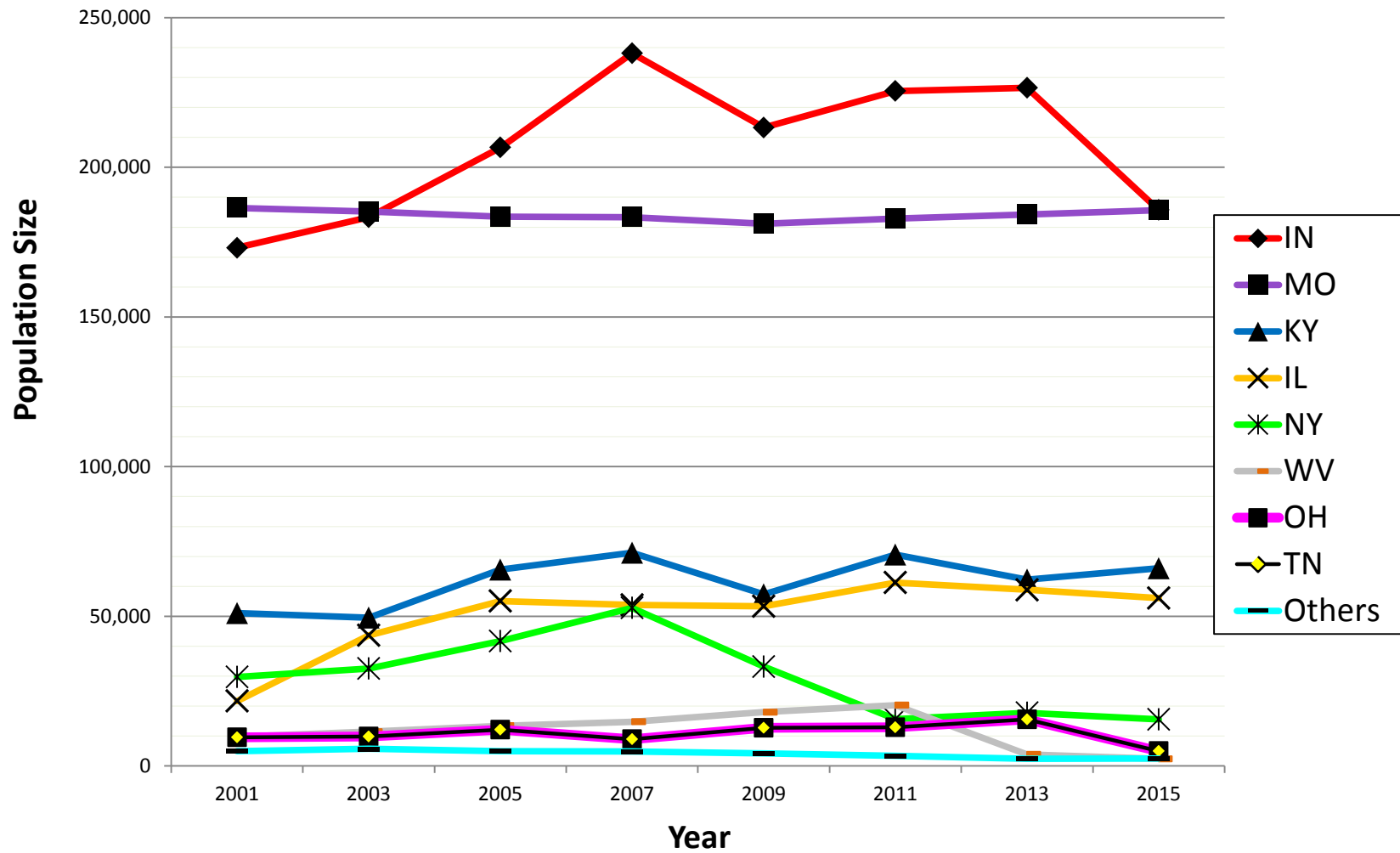


FIGURE 5. Indiana bat population estimates by state from 2001 to 2015.

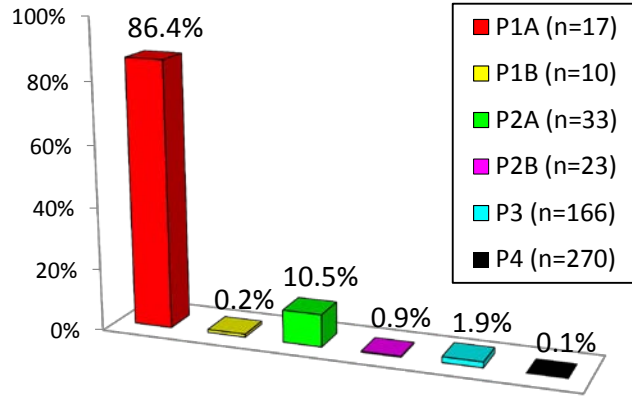


FIGURE 6. Distribution of the 2015 Indiana bat range-wide population ($\approx 523,636$ bats) among Priority 1A-4 hibernacula.

P1A = recorded pop. $\geq 10,000$ bats with ≥ 5000 over past 10 yrs.; P1B = recorded pop. $\geq 10,000$ bats with < 5000 over past 10 yrs.; P2A = recorded pop. ≥ 1000 bats with ≥ 500 over past 10 yrs.; P2B = recorded pop. ≥ 1000 bats with < 500 over past 10 yrs.; P3 = recorded pop. ≥ 50 bats; P4 = recorded pop. < 50 bats.

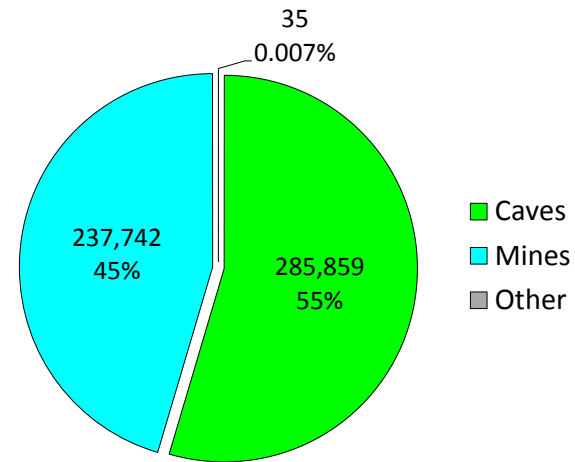


FIGURE 7. Percentage of the 2015 Indiana bat range-wide population ($\approx 523,636$ bats) hibernating in caves, mines and other man-made structures.

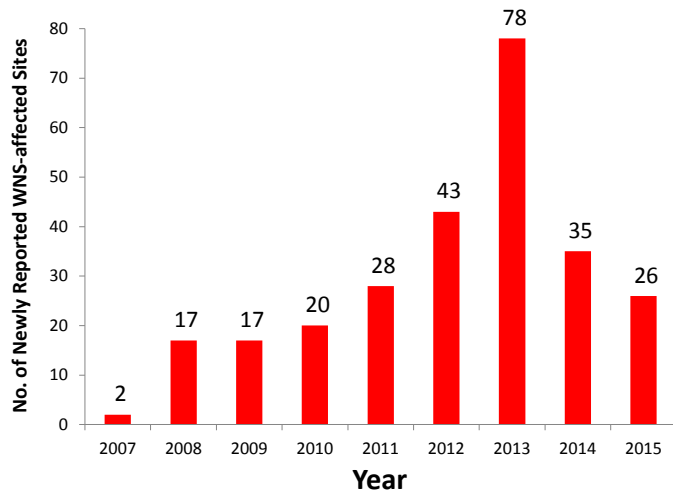


FIGURE 8. Annual number of "new"/first-time reports of Indiana bat hibernacula having one or more WNS-affected bats (any species; confirmed or suspected) by state wildlife agencies.

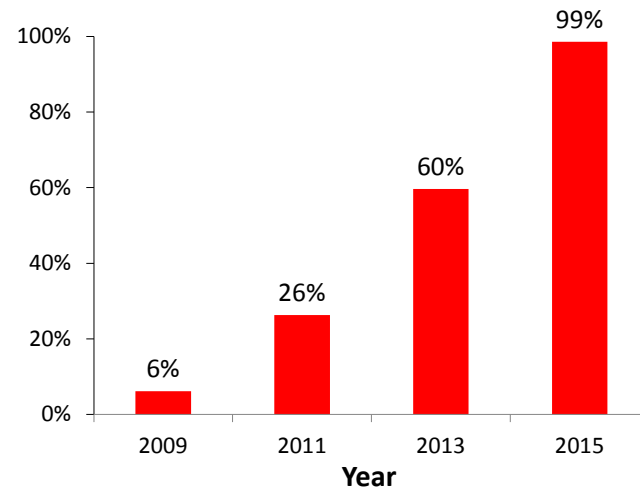


FIGURE 9. Percentage of Indiana bat range-wide population hibernating in WNS-confirmed or suspected sites by year.