

Appendix F

Landowner Enrollment Program

This appendix provides a description of the Landowner Enrollment Program under the Lake States Forest Management Bat Habitat Conservation Plan (Lake States HCP), including an overview, components of the program, and the methodology used to establish criteria for enrollment in the program.

F.1 Overview

The States of Michigan, Minnesota, and Wisconsin (Lake States) have prepared the Lake States HCP to obtain federal incidental take authorization under Section 10(a)(1)(B) of the Endangered Species Act (ESA). As described in the HCP, the State DNRs will apply for three separate permits that USFWS will issue to each agency based on the programmatic Lake States HCP.

These permits provide the State DNRs with take authorization for implementing covering activities. This authorization can be extended to nonfederal and nonstate landowners when implementing covered activities through a certificate of inclusion (COI). These COIs will be issued based on participation in the Landowner Enrollment Program as described in this appendix.

For the purposes of this HCP, “other nonfederal landowners” refers to county, municipal, and private landowners within the states of Michigan, Minnesota, and Wisconsin (see Section 1.3.4.1, *Permittees/Certificate of Inclusion Holders*, for additional detail). Private lands include corporate landholdings, family forests, Native American tribal lands, and lands owned by nongovernmental organizations, unincorporated partnerships, associations, and clubs (see Table 2-1 for details on acreages of private landowners).

F.2 Landowner Enrollment Program

F.2.1 Eligibility

The covered bats occur at low to very low densities on the landscape, due largely to the influence of white-nose syndrome on their populations. This low density will limit the risk of take by private landowners who conduct forestry activities on their lands. Nonetheless, some landowners may wish to enroll in the HCP to receive take coverage and provide a conservation benefit to bats. The number of private landowners who may be interested in enrolling is unknown. To account for this uncertainty, the DNRs are limiting the program only to private landowners who are most likely to need take authorization, be interested in enrolling, or both. The DNRs do not have the capacity to administer a landowner program with unlimited eligibility. Furthermore, the risk of taking covered bats on most individual parcels is extremely low, especially those with smaller parcels with little or no risk of take.

Taking these factors in account, the DNRs have established the following eligibility requirements, which focus the program on a) very large ownerships, which have the highest risk of take, b) measurable risk of take at other ownership sizes, or c) presence of important habitat features

(described in more detail below). Other nonfederal landowners in Michigan, Minnesota, and Wisconsin may participate in the Lake States HCP Land Enrollment Program if they own land on which they plan to conduct covered activities (see Chapter 2, *Covered Activities*) and if they meet the following eligibility criteria:

1. Applicant owns forestland greater than 10,000 acres in one state, or
2. Applicant collectively owns forestland (may be contiguous or not) in one of the forestland size classes where at least 0.5 bats have the potential to be taken (see Tables F-2 to F-11), or
3. Applicant owns lands (of any size) containing a known roost¹ or known hibernaculum entrance² (see Section F.2.2, Step 3.b).

F.2.2 Application Process

While each State DNR will administer their own Landowner Enrollment Program in their own way, the same overarching process will occur in each state.

1. Landowners will submit an application for participation in the Land Enrollment Program through the DNR communication tool (e.g. website). Landowners may also request a hard copy application by contacting the State DNR.
2. The application will contain the following:
 - a. A description of the lands to be enrolled, including proof of ownership (or the owners' written assent to the application), location, acreage, and parcel number(s).
 - b. A description of the type (e.g., forest management practices) and extent (e.g., acres) of covered activities to be conducted annually on enrolled lands.
 - c. Information regarding participation in any federal, state, or third-party forest certification programs if applicable.
 - d. The application fee set by the State DNR.
3. State DNRs will review applications in the order submitted. During this review, they will do the following:
 - a. Confirm that the applicant's land is within their jurisdiction and is eligible for coverage (see Section F.2.1, *Eligibility*).
 - b. Notify the applicant of any known roosts or hibernaculum entrances³ on lands to be enrolled.
 - c. Identify the conservation actions that enrollees will be required to implement as part of program enrollment (see Section F.2.3, *Landowner Enrollment Program Conservation Actions*).

¹ A known roost is one that has been identified in the state's Natural Heritage Program Database.

² A known hibernaculum is one that has been identified in the state's Natural Heritage Program Database.

³ This includes any lands within a 0.25-mile buffer of a known hibernaculum entrance.

- d. Detail the period of program validity, not to exceed the State DNR's 50-year permit term. An application to renew program participation must be submitted prior to the expiration of the current term.
4. If the applicant is eligible for coverage and has agreed to all enrollment requirements, the State DNR will grant take authorization to the applicant under the Lake States HCP via participation in the Land Enrollment Program. If a State DNR determines that the applicant's proposed inclusion is not consistent with the incidental take permit or the Lake States HCP, the State DNR will deny the application.
5. Participation in the Land Enrollment Program will bind the participant to the terms of the program, including any specified standards and procedures, and all applicable terms of the Lake States HCP.
6. Program participation is transferable only when approved by the State DNR. The State DNR will not approve a transfer unless the State DNR determines, to its satisfaction, that the transferee will comply with all terms and conditions of program participation and will not deviate from any covered activity described in the application package.

F.2.3 Landowner Enrollment Program Conservation Actions

Landowners enrolled in the Land Enrollment Program must agree to implement the following conservation actions as a condition of program participation. Failure to implement these actions while conducting covered activities will be considered non-compliance with program requirements and may result in revocation of program participation (i.e., HCP coverage) (see Section F.2.6, *Non-Compliance*, for further information).

F.2.3.1 Conservation Action 1. Implement State DNR Retention Guidelines in Forest Habitat

Program participants must implement the retention guidelines established by their State DNR⁴ when conducting forest management activities. As part of their application for program enrollment, participants will disclose the type and extent of forest management to be completed annually on enrolled lands. Based on the type of harvest (partial vs. final), the State DNR will work with the landowner to determine which retention guidelines will apply to their harvest activities. A complete description of partial vs. final harvest is found in Section 4.1.1, Definitions and in Table 2-3). Retention guidelines for the landowner enrollment program are the same as for the DNRs and are also explained in Section 5.2.2.1, *Biological Goal 2: Protect and enhance roosting and foraging habitat for bats*.

While the specific guidelines to be followed will differ by state, retention guidelines will generally include actions such as the following:

- Protecting snags and leaving them standing unless they are a safety hazard
- Retaining aggregations of leave trees, on a stand basis
- Retaining multiple cavity trees

⁴ Michigan Department of Natural Resources 2012; Minnesota Forest Resources Council 2013; Wisconsin Department of Natural Resources 2012.

- Recruiting mast trees and retaining legacy trees when available

If the relevant State DNR modifies retention guidelines for that state over the course of the permit term, program participants will be notified in advance and the DNRs will work with participants to develop a timeline for incorporating the new guidelines.

F.2.3.2 Conservation Action 2. Protect Known Roost Trees

Program participants must protect all known roosts⁵ for covered bats on enrolled lands. Across all three states, this means protecting known roost trees and a 150-foot buffer year-round. In Michigan (for Indiana bats), this means protecting known roost trees and capture locations within a 2.5-mile buffer. As part of the application process, State DNRs will notify landowners of any known roosts on lands proposed for enrollment. In addition, program participants must geolocate any known maternity roost trees on enrolled lands within 5 years of enrollment.⁶ For older roosts⁷, this effort will be a desktop analysis based on the best available data associated with the record. It is understood this will include mapping errors. In such cases, a centroid will be used with the belief that the buffer will extend protection to the roost.

Program participants will protect each known roost tree and the surrounding 150-foot radius (1.6-acre) avoidance area, which will serve as a disturbance buffer between the roost and activities that would otherwise adversely affect the roost. Cutting of the known roost tree will be prohibited year-round.

To minimize the potential to affect known Indiana bat roosts, tree-cutting and prescribed fire will be restricted within a 2.5-mile buffer of suitable Indiana bat roosts (dead or dying trees or trees with loose bark and ≥ 12 inches diameter at breast height) during the pup season (June 1 through July 31). This objective applies to both known roosts and known capture locations (absent roosting data).

These restrictions will cease to apply if known roost trees are naturally removed due to wildfire, windthrow, disease, or other natural events.

F.2.3.3 Conservation Action 3. Protect Known Hibernacula

Program participants must protect all known hibernacula for covered bats on enrolled lands. As part of the application process, State DNRs will notify landowners of any known hibernacula entrances on lands proposed for enrollment. In addition, program participants will be notified if the applicable State DNR identifies a new hibernaculum entrance on (or within a 0.25-mile buffer of) enrolled lands.

Program participants will protect each known hibernaculum entrance as well as a buffer of habitat within a 0.25-mile radius of the entrance of the hibernaculum as described below. Entry to the hibernaculum will be limited to State DNR staff or other qualified biologist activities completed for the benefit of covered species.

⁵ A known roost is one that has been identified in the state's Natural Heritage Program Database.

⁶ Program participants are not required to identify new roosts through surveys, but rather to document the location of known roosts.

⁷ See Chapter 5, Objective 2.2, footnote 6 and 7, regarding when an older root is no longer considered present and mapping errors.

Within the 0.25-mile hibernaculum entrance buffer:

- Timber harvests will be prohibited year-round, unless they are done in conjunction with the State DNR with the express objective of improving habitat for covered bats, and subject to applicable measures in the Plan.
- Disturbance from noise (85 decibels at a distance of 50 feet) such as pile-driving and blasting will be prohibited year-round. If necessary, program participants will coordinate with the State DNR to conduct such activities during a time of year when covered bats are unlikely to be present.

F.2.3.4 Conservation Action 4. Prepare and Implement Prescribed Burn Plans in Forest Habitat

If program participants plan to conduct prescribed burn activities on enrolled lands, they must prepare and submit a prescribed burn plan to the applicable State DNR. This plan must detail the location and timing of proposed burn activities. In addition, it must include the following (as applicable):

- A description of how fire intensity and flame length will be reduced such that the critical plume temperature at which bats could be injured (140°F) does not reach roost height (approximately 15 feet above the ground) in known roost trees or within hibernaculum buffers (see Conservation Action 3) during pup season (June 1 through July 31) wherever possible.
- A description of any actions needed to ensure that wind will carry smoke away from the entrance(s) of any known hibernacula.

F.2.4 Monitoring of Enrolled Lands

Enrolled landowners will be responsible for monitoring compliance with applicable measures described in Section F.2.3. Each state will develop a monitoring form that landowners will submit annually to be in compliance with permit terms. Table 5-8 contains additional details on monitoring.

F.2.5 Annual Reporting

As part of the Lake States HCP annual report, the State DNRs will summarize activities carried out under the Land Enrollment Program during the previous year. Each annual report will include the following information:

- The number of COIs issued and a description of enrolled lands (location, acreage, forest type)
- A summary of the monitoring forms submitted under the Land Enrollment Program and the results of these actions
- A list of any participants in non-compliance and the corrective actions taken to bring them back into compliance

F.2.6 Non-Compliance

Incidental take coverage provided under the Land Enrollment Program is available only to the extent that program participants are in full compliance with all relevant program requirements, the conservation actions identified by the State DNR, and all other applicable legal requirements.

If the State DNR becomes aware that conservation actions as described in Section F.2.3 are not being implemented as directed, the State DNR will provide reasonable notice to the program participant along with an opportunity to rectify the effects of the breach. If the program participant fails to do so, the State DNR may suspend or revoke program participation. The State DNRs will revoke participation in the program (i.e., HCP coverage) if a participant fails to comply with program conditions and is unable/unwilling to take appropriate corrective actions.

F.3 Methodology Used to Determine Program Eligibility

According to the *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*, “A landowner or project proponent should be advised to develop an HCP and seek an incidental take permit if they are conducting (or planning to conduct) any type of activity in an area where ESA-listed species are known to occur and where their activity or activities are **reasonably certain to result in incidental take** [emphasis added].” (U.S. Fish and Wildlife Service and National Marine Fisheries Service 2016).

Eligibility for the Landowner Enrollment Program is based first on the size (acres) of forested land ownership. An ownership is a group of one or more owners that jointly owns a parcel of forested land (Caputo et al. 2017)⁸. These parcels may or may not be contiguous. Landowners who own more than 10,000 acres of forestland (in one state) are eligible participate in the program because, in general, these landowners perform a relatively large share of timber harvest within the lands eligible for enrollment. As a result, many large forest landowners may wish to manage their risk associated with ESA compliance by enrolling in this HCP.

For landowners who own less than 10,000 forested acres, this appendix provides a tool to estimate the risk of take of each covered species based on bat density, ownership size and the resulting bats that may be foreseeably taken across that forestland size class. Landowners that meet minimum criteria (as described below) for taking a bat can enroll in the program. Ownership categories are divided into 6 forestland size classes within the FIA

Table Calculations

Data on forestland ownership in each state were gathered from the FIA (USDA 2019). Six forestland class sizes are used in the FIA dataset (**Column A**). This analysis assumes that timber harvests are not completed at the same rate across all size classes. For example, smaller forestland size classes typically represent small family farms that conduct limited tree cutting for personal use. Conversely, owners of larger forestland size classes are more likely to conduct timber harvest for commercial purposes and on a widespread scale. To reflect this assumption, a harvest rate is assigned to each forestland size class (**Column B**).¹ The total annual timber harvest across private lands (derived from Chapter 2, *Covered Lands and Activities*, of the HCP) is then multiplied by this harvest rate to determine the projected annual harvest per forestland size class (**Column C**). This is then tied to the number of bats affected by acre as calculated in Chapter 4, *Effects Analysis*. This number is rounded to the nearest half integer (**Column D**).

⁸ The FIA defines ownership as “a legal entity having an ownership interest in land regardless of the number of people involved. An ownership may be an individual; a combination of persons; a legal entity such as corporation, partnership, club, or trust; or a public agency. An ownership has control of a parcel or group of parcels of land.” (USDA 2020). It has been restated for readability in the text above.

dataset that was used for this analysis. If, for a given forestland size class, at least half of a bat has the potential to be taken, landowners are eligible to participate in the program. Below this threshold the probability of taking a single bat is discountable and not administratively feasible. Landowners that pertain to forestland size classes estimated to take less than half of one bat annually are not eligible to participate in the Landowner Enrollment Program. The forestland class size to which an enrollee pertains is determined by their ownership size, or the total forested acres owned by a single individual or entity in a given state. A column-by-column explanation of the process is found in the **Table Calculations** call out box.

Regardless of forestland size class for an individual ownership, any landowner with a hibernaculum entrance or a known roost on their land is eligible for the Landowner Enrollment Program.

Tables F-1 through F-10 show results for the estimation tool to determine eligibility for enrollment for landowners with less than 10,000 forested acres. This tool used information within the private lands dataset for FIA (it was not possible to add county and municipal lands to the analysis because they weren't disaggregated within the Forest Inventory and Analysis (FIA) (USDA Forest Service 2019) dataset. The results should be representative of all "other nonfederal lands" since private lands constitute the majority of the land cover. The results of this analysis for all species in the three states are presented in Tables F-1 through F-10. Note that because there are differing populations and densities of covered species across the three states, this analysis was completed for each covered bat species in each state.

These tables are dependent on the density of bats on the landscape and are anticipated to change as the densities of bats changes. They will be recalculated periodically (e.g., every five years) to revise the thresholds that determine eligibility to enroll in the program.

Based on the methodology outlined above, the only species to be affected (at the level of 0.5 bats or more) is little brown bat within the states of Michigan and Wisconsin. Thus, ownerships of 500 acres or more in the states of Michigan and Wisconsin are eligible to enroll in the program. Smaller ownerships (or landowners less than 10,000 acres in the state of Minnesota) are only eligible to enroll if a hibernaculum or known roost is on their land.

Table F-1. Estimated Annual Take of Little Brown Bats on Private Lands in Michigan, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,691.86	0.0
20-49	3%	4,037.79	0.0
50-99	5%	6,729.65	0.0
100-199	5%	6,729.65	0.0
200-499	5%	6,729.65	0.0
500-999	10%	13,459.30	0.5
1,000-4,999	15%	20,188.95	0.5
5,000-9,999	25%	33,648.25	1.0
10,000+	30%	40,377.90	1.0
TOTAL	100%	134,593.00	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Within each forestland size class, the annual number of little brown bats killed (Column D) is calculated using the numbers derived in Chapter 4, *Potential Effects of Covered Activities* (see Section 4.3), prorated for each forestland size class by multiplying the total take in private lands by the proportion of annual harvest in each size class (Column C). Note that this take represents the total predicted take of all lands within a given forestland size class, not the anticipated take of a single landowner.

Through this example, we can see that take of 0.5 little brown bats will occur at a forestland size class of 500 acres in Michigan.

Even though this methodology factors in known rates of decline in the Lake States, it is likely that these rates will continue to increase over the permit term, particularly at sites like Tippy Dam in Michigan, where no declines have been observed to-date, and Soudan Mine in Minnesota, where declines have just begun. As a result, the density of bats (and potential for take) is likely to decrease over the permit term. As part of the HCP adaptive management program, the threshold for eligibility in the Landowner Enrollment Program will be updated every 5 years throughout the permit term to account for changes in bat population status (see Section 5.4.5, *Eligibility for Landowner Enrollment Program*).

Table F-2. Estimated Annual Take of Indiana Bats on Private Lands in Michigan, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class (%)	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,691.86	0.0
20-49	3%	4,037.79	0.0
50-99	5%	6,729.65	0.0
100-199	5%	6,729.65	0.0
200-499	5%	6,729.65	0.0
500-999	10%	13,459.30	0.0
1,000-4,999	15%	20,188.95	0.0
5,000-9,999	25%	33,648.25	0.0
10,000+	30%	40,377.90	0.0
TOTAL	100%	134,593.00	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-3. Estimated Annual Take of Northern Long-eared Bats on Private Lands in Michigan, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,691.86	0.0
20-49	3%	4,037.79	0.0
50-99	5%	6,729.65	0.0
100-199	5%	6,729.65	0.0
200-499	5%	6,729.65	0.0
500-999	10%	13,459.30	0.0
1,000-4,999	15%	20,188.95	0.0
5,000-9,999	25%	33,648.25	0.0
10,000+	30%	40,377.90	0.5
TOTAL	100%	134,593.00	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-4. Estimated Annual Take of Tricolored Bats on Private Lands in Michigan, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres) ^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,691.86	0.0
20-49	3%	4,037.79	0.0
50-99	5%	6,729.65	0.0
100-199	5%	6,729.65	0.0
200-499	5%	6,729.65	0.0
500-999	10%	13,459.30	0.0
1,000-4,999	15%	20,188.95	0.0
5,000-9,999	25%	33,648.25	0.0
10,000+	30%	40,377.90	0.0
TOTAL	100%	134,593.00	

^a Harvest data is derived from Chapter 2 of the HCP.
^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-5. Estimated Annual Take of Little Brown Bats on Private Lands in Minnesota, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres) ^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	1,627.98	0.0
20-49	3%	2,441.97	0.0
50-99	5%	4,069.95	0.0
100-199	5%	4,069.95	0.0
200-499	5%	4,069.95	0.0
500-999	10%	8,139.90	0.0
1,000-4,999	15%	12,209.85	0.0
5,000-9,999	25%	20,349.75	0.0
10,000+	30%	24,419.70	0.0
TOTAL	100%	81,399.00	

^a Harvest data is derived from Chapter 2 of the HCP.
^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-6. Estimated Annual Take of Northern Long-eared Bats on Private Lands in Minnesota, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	1,627.98	0.0
20-49	3%	2,441.97	0.0
50-99	5%	4,069.95	0.0
100-199	5%	4,069.95	0.0
200-499	5%	4,069.95	0.0
500-999	10%	8,139.90	0.0
1,000-4,999	15%	12,209.85	0.0
5,000-9,999	25%	20,349.75	0.0
10,000+	30%	24,419.70	0.0
TOTAL	100%	81,399.00	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-7. Estimated Annual Take of Tricolored Bats on Private Lands in Minnesota, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	1,627.98	0.0
20-49	3%	2,441.97	0.0
50-99	5%	4,069.95	0.0
100-199	5%	4,069.95	0.0
200-499	5%	4,069.95	0.0
500-999	10%	8,139.90	0.0
1,000-4,999	15%	12,209.85	0.0
5,000-9,999	25%	20,349.75	0.0
10,000+	30%	24,419.70	0.0
TOTAL	100%	81,399.00	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-8. Estimated Annual Take of Little Brown Bats on Private Lands in Wisconsin, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,612.57	0.0
20-49	3%	3,918.85	0.0
50-99	5%	6,531.42	0.0
100-199	5%	6,531.42	0.0
200-499	5%	6,531.42	0.0
500-999	10%	13,062.85	0.5
1,000-4,999	15%	19,594.27	0.5
5,000-9,999	25%	32,657.12	1.0
10,000+	30%	39,188.54	1.0
TOTAL	100%	130,628.48	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-9. Estimated Annual Take of Northern Long-eared Bats on Private Lands in Wisconsin, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres)^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,612.57	0.0
20-49	3%	3,918.85	0.0
50-99	5%	6,531.42	0.0
100-199	5%	6,531.42	0.0
200-499	5%	6,531.42	0.0
500-999	10%	13,062.85	0.0
1,000-4,999	15%	19,594.27	0.0
5,000-9,999	25%	32,657.12	0.0
10,000+	30%	39,188.54	0.0
TOTAL	100%	130,628.48	

^a Harvest data is derived from Chapter 2 of the HCP.

^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0).

Table F-10. Estimated Annual Take of Tricolored Bats on Private Lands in Wisconsin, by Forestland Size Class

All Private Lands			
A. Forestland Size Class (acres)	B. Harvest Rate by Size Class	C. Annual Harvest (acres) ^a	D. Number of Bats Taken by Harvest Annually ^b
1-9	0%	-	0.0
10-19	2%	2,612.57	0.0
20-49	3%	3,918.85	0.0
50-99	5%	6,531.42	0.0
100-199	5%	6,531.42	0.0
200-499	5%	6,531.42	0.0
500-999	10%	13,062.85	0.0
1,000-4,999	15%	19,594.27	0.0
5,000-9,999	25%	32,657.12	0.0
10,000+	30%	39,188.54	0.0
TOTAL	100%	130,628.48	0.0

^a Harvest data is derived from Chapter 2 of the HCP.
^b Number of bats taken is rounded to the nearest half integer (e.g., 0.0, 0.5, 1.0)

F.4 References

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