



January 15, 2023

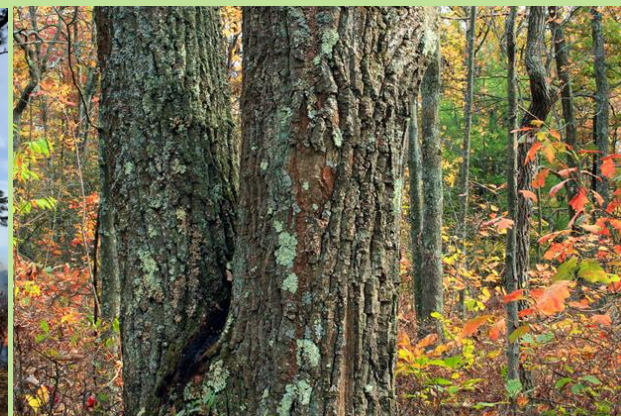
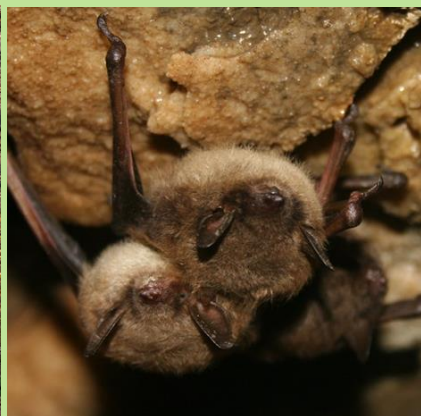


# *Pennsylvania State Lands Habitat Conservation Plan Annual Report*

*for Indiana and Northern Long-eared Bats  
on Pennsylvania State Game Lands,  
State Forests, and State Parks*

*Reporting Period 2 (July 1, 2021-June 30, 2022)*

Pennsylvania Department of Conservation and Natural Resources  
and the  
Pennsylvania Game Commission



# Habitat Conservation Plan Annual Report

Reporting Period 2 (July 1, 2021-June 30, 2022)

Pennsylvania Game Commission and Pennsylvania Department of Natural Resources

*Public Version: This is a public version of a report by the agencies to US Fish and Wildlife Service detailing the progress of their HCP. As such, some sensitive information has been removed.*

## Executive Summary

The Pennsylvania Game Commission (PGC) and Department of Conservation and Natural Resources (DCNR), or “the permittees” manage a combined 3.8 million acres of mostly forested public lands for many uses and values, including wildlife habitat. They jointly received an Incidental Take Permit (ITP or permit) from the U.S. Fish and Wildlife Service (USFWS) on Dec. 23, 2020. The permit allows for the accidental take of federally endangered Indiana bat (*Myotis sodalis*) and federally threatened northern long-eared bat (*Myotis septentrionalis*; this species’ new reclassification as federally endangered will take effect on January 30, 2023<sup>1</sup>) by PGC and DCNR while in pursuit of their normal forestry practices, which can both create and impact habitat for the bats. These practices, called “covered activities,” include timber sales, prescribed burns, fencing, issuing permits for firewood cutting, and installation and maintenance of roads and trails. The permittees have implemented the State Lands Forestry Habitat Conservation Plan (HCP) for Indiana Bats and Northern Long-eared Bats. This is the second year of HCP implementation. The HCP outlines how they will limit and address impacts on State Game Lands, State Forests and State Parks. This allows a more proactive approach in planning for the conservation of Indiana and northern long-eared bats across the state lands system and includes initiatives such as seasonal restrictions, canopy retention, surveys, monitoring and hibernation protection.

The USFWS incidental take permit specifies an annual take in acreage of forested state land in habitat areas in lieu of numbers of bats killed. It is an important clarification that “take” of habitat does not imply the removal or “conversion” of forested land to a non-forested condition. Take of habitat refers to covered activities that occurred within the habitat area. The permittees have made a commitment to keep a mosaic of age classes of forest land on the state land system. The USFWS set the annual take limit of forest lands for each covered activity and for each species with the issuance of the Incidental Take Permit.

For Year 2, the permittees reported take that is under the permitted limits; and therefore, they were in compliance with the permit. USFWS permits 19,770 acres of take for Indiana bat and 130,386 acres for northern long-eared bat. The permittees had **3,196 acres of take of Indiana bat habitat** and **6,234 acres of**

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<sup>1</sup> On November 29, 2022 the U.S. Fish and Wildlife Service published a final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. The U.S. Fish and Wildlife Service is delaying the effective date of the final rule to reclassify the northern long-eared bat from threatened to endangered under the Endangered Species Act. The agency is extending the effective date by 60 days, from Jan. 30, 2023, to March 31, 2023. This report was originally written prior to this extension.

**take of northern long-eared bat habitat** during the permit term conducting timber sales, prescribed burns, fencing and firewood operations, and road and trail construction and maintenance. Each covered activity is discussed in detail below.

In addition, the HCP sets forth specific surveys, and monitoring actions for the conservation measures. The agencies completed or exceeded conservation measures to be in compliance The results of these monitoring actions are provided below.

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## List of Acronyms & Definitions

Acronym	Meaning
BHI	Bat Habitat Identifier
BOF	Bureau of Forestry in DCNR
BSP	Bureau of State Parks in DCNR
DCNR	Department of Conservation and Natural Resources
FIMS	Forestry Information Management System
HCP	Habitat Conservation Plan
IBAT	Indiana Bat
NLEB	Northern Long-eared Bat
PA	Pennsylvania
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Inventory
QBS	Qualified Bat Surveyor
SFL	State Forest Lands
SGL	State Game Lands
SP	State Parks
USFWS	United States Fish and Wildlife Service

## Introduction

The Department of Conservation and Natural Resources (DCNR) and the Pennsylvania Game Commission (PGC) manage a combined 3.8 million acres of mostly forested public lands for many uses and values, including wildlife habitat. The federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*; note this species new reclassification as federally endangered will take effect on January 30, 2023) use Pennsylvania state lands for foraging, roosting, maternity colonies, spring staging, fall swarming and migratory habitat. Forest management strategies and uses for these lands include removing timber, conducting prescribed



burns, installing fencing, permitting the removal of standing dead trees for firewood, and road and trail installation and maintenance. These strategies, called covered activities, have the potential to impact bats. However, timber removal and prescribed burns also help create foraging habitat and can be beneficial to Indiana and northern long-eared bats.

To minimize and mitigate these impacts, and to expand on benefits to habitat, PGC and DCNR received an Incidental Take Permit (ITP) by the U.S. Fish and Wildlife Service (USFWS) on December 23, 2020. A requirement of the ITP is the implementation of a Habitat Conservation Plan (HCP). The HCP allows the PGC and DCNR to limit and address impacts across the entire 3.8 million acres over a 30-year period, rather than on a project-by-project basis. This allows a more proactive approach in planning for the conservation of Indiana and northern long-eared bats across the state lands system and includes initiatives such as seasonal restrictions, canopy retention, and hibernation protection. PGC and DCNR will follow the HCP for the permit term of 30 years.

PGC and DCNR are pleased to submit to the USFWS, this annual report for the second reporting period of the permit term (July 1, 2021 – June 30, 2022, or “year 2”). It summarizes the permittees’ implementation activities and details among other things, compliance with commitments, effects of covered activities, conservation and management actions, habitat restoration and creation actions, and monitoring results. Data from PGC and DCNR was collected, synthesized and interpreted. In addition to submitting this annual report to USFWS, a public version the report will be made available to the public and posted to the permittees’ HCP websites, without including sensitive information.

This annual report satisfies the following goals stated in the HCP:

- Provide the information and data necessary for PGC and DCNR to demonstrate to USFWS and the public that the State Lands Forestry HCP is being implemented properly.
- Disclose any problems with HCP implementation and the corrective measures planned or implemented to address the problems.
- Identify amendments to the HCP or permit components required or requested of USFWS to increase the success of conservation measures, respond to changed circumstances, or address feedback loops through adaptive management.

## Organization of the Report

The report is organized according to the requirements in the HCP, Section 6.4.2 Reporting (p. 6-10 - 6-12 in the HCP) and matches the goals listed above. Each numbered section of this report corresponds to one of the HCP’s reporting requirements. Each section begins by stating the commitments in the HCP, outlining monitoring and reporting metrics. Tables are numbered according to the section in which they occur (e.g., Section 2.1 includes Table 2.1). This report also describes the permittees’ processes taken to satisfy each requirement. All numbers are rounded to the nearest whole number for ease of reading.



## Year 2 Challenges and Accomplishments

This is the second annual report for the State Lands HCP and, because the first report covered only 6 months, this is the first report on a full 12-month period. The HCP and the incidental take permit have been in place for 18 months at the close of this reporting period. As such, some activities have only occurred under the permit and HCP once (activities taking place in late summer and fall) and the purpose of this report is to list activities even though trends are not yet evident. Similar to the first reporting period, this year has been instrumental for developing and testing methods of collecting, calculating, and analyzing data. DCNR and PGC are still working through challenges regarding the differences between their methods of tracking and processes of covered activities. In this report, the permittees have attempted to be as consistent as possible and explain where there are inconsistencies in reporting methods. It is important to note, however, that while there may be technical differences between a metric, the overall result still satisfies the HCP requirements.

In keeping with the second goal presented in Chapter 6 of the HCP, the permittees report on some problems with HCP implementation and provide suggested administrative to increase the success of conservation measures or monitoring requirements. These are identified in this report with an asterisk (\*) and “Administrative Change” in the text box. PGC and DNCR note that it is a continued challenge in differences in reporting methods, leading to challenges in locating and analyzing information. The permittees are working to try to automate data collection, but this will take some time.

Some accomplishments to note is that PGC and DCNR have exceeded artificial roosts requirements for summer habitats, been successful in securing funding for training and gate development, surveys, NLEB plan, and creating a public friendly fact-sheet version of the annual report on the web.

## 1.0 Communications of Requirement

The HCP requires a copy of the memo communicating HCP requirements be distributed to staff during year 1 of the permit term, as well as evidence of its distribution at permit issuance. PGC and DCNR procedural documents are slated to be updated which will include reference to the HCP.

The HCP Users’ Guide continues to serve as PGC and DCNR’s memo communicating HCP requirements. Additional guidance including Frequently Asked Questions document for staff, and an HCP Pennsylvania Natural Diversity Inventory Guidance document (PA’s environmental review process) are regularly referenced and shared with staff. Information is also provided to staff via DCNR and PGC’s internal websites.

## 2.0 Description of All Covered Activities Implemented

Description of all covered activities implemented during the reporting period as well as cumulative totals (i.e., from the start of the permit term). (July 1, 2021-June 30, 2022). All acreage is rounded to the nearest acre.

## 2.1 Timber Harvest

The HCP directs PGC and DCNR to report on the total acreage of timber harvest conducted, including the location (i.e., game land unit, state forest, state park), the type of harvest, and the acreage of harvest in modeled seasonal habitat for covered bats (CM-4, CM-5).

**Process:** Timber sale acreage was determined by querying the permittees' timber sale data, searching for timber sales occurring during the reporting period, overlaying, and comparing it to the 6 bat habitat areas (summer, winter, and fall/spring habitat areas for Indiana and northern-long eared bats). Timber treatment types were cross walked with HCP terminology and acreages were aggregated, in Table 2.1 below.

DCNR queried the Bureau of Forestry's timber sale database to obtain a list of projects whose contracts were executed during the reporting period. This list of projects was searched for in the Bureau of Forestry's Forest Information Management System (FIMS) and acreages obtained. For PGC, acreage of timber blocks whose payment date was during the reporting period were counted. The acreage of timber sales occurring in covered bat habitat areas was calculated. The types of timber sales were cross walked from agency terminology to HCP terminology and aggregated.

For DCNR, the following timber treatment types were considered "regeneration" as per HCP terminology: C - Shelterwood (1st Entry), F - Overstory Removal, G - Clearcut, H - Two-Age Shelterwood (Buffer), J - Two-Age (Buffer), and K - Two-Age (Other). Most DCNR timber treatments fall into this category; it includes most everything that is not an improvement, single tree selection or salvage. The following DCNR treatments were counted as "salvage" as per HCP terminology: S - Salvage - Overstory Removal, W - Salvage - Two-Age (Buffer), and X - Salvage - Two-Age (Other). DCNR considered this to be any project that noted salvage in the treatment type. Improvement or single tree selection was considered "intermediate" and did not take place on State Forest or State Park lands.

On State Forest land, there were a total of **1,195 acres of timber sale contracts executed in Indiana bat habitats: 1,002 acres in modeled summer habitat; 193 acres in fall/spring habitat. There were 2,014 acres occurring in northern long-eared bat fall/spring habitat.** No timber sale acreage occurred in Indiana bat winter habitat, northern long-eared bat winter habitat, or northern long-eared bat summer habitats. There was a total of **2,117 acres of regeneration treatments and 515 acres of salvage.** No intermediate treatments occurred on State Forest lands. All treatments took place within appropriate restriction periods, as verified with communication with district managers.

DCNR Bureau of State Parks' timber sales consist of salvage timber treatments only and are generally included in the Bureau of Forestry's timber sale database and FIMS. These projects are often very small in acreage; some projects are so small as to be manually managed and tracked, not entered in FIMS. It is important to note that these projects are tracked in the timber sale database and are reported upon below, however a visual representation (i.e., mapping) is not available. While DCNR acknowledges this, it should be noted that this is a very small acreage of minor element of overall work that is represented

in the HCP. In this annual reporting period, **2 acres of salvage was conducted within the Indiana bat summer modeled bat habitat.**

For PGC, the following commercial timber treatments were considered “regeneration:” Clearcut, Clearcut with Reserves, Coppice, Seed-Tree, Shelterwood Harvest, Overstory Removal, Group-Tree Selection, and Individual-Tree Selection. For PGC, the following treatments were considered “intermediate:” Crop-Tree Release, Thinning, Cleaning, Low-Shade Removal, or Variable-Density Thinning. PGC conducted **340 acres of timber sales in Indiana bat modeled summer habitat and 69 acres in the fall/spring habitat, and 942 acres in northern long-eared bat modeled fall/spring habitat and <1 acre in winter habitat on State Game Lands.** No timber sale acreage occurred in winter habitat for Indiana bats, nor northern long-eared bat summer habitats. There was a total of **1187 acres of regeneration treatments and 165 acres of intermediate treatments.** No salvage treatments occurred on State Game Lands. All treatments took place outside appropriate restriction periods, as verified with communication with regional land managers.

Altogether, **1,606 acres of timber sales occurred in Indiana bat habitat and 2,956 acres occurred in northern long-eared bat habitat.** Some of the acres of timber sales may overlap each other. Each permittee has provided a map of their timber sales in Indiana bat habitat areas and northern long-eared bat habitat areas. For a visual representation, please refer to Maps 1-4 in Appendix A, Section I Timber Harvest<sup>2</sup>.

**Notes:** Due to differences in the permittees’ internal methods of tracking and reporting timber sales, PGC’s and DCNR’s data is slightly different within this report. DCNR tracks ongoing projects in the timber sale database, managed by and accessible to the BOF Silviculture Section, and the GIS database FIMS, managed by the BOF Geospatial Applications Section and accessible to anyone in Forestry. DCNR’s timber sale project phases are fluid and spatial data may change over time (e.g., weather may delay a planned cut or allow only half of a planned block to be cut). Individual block cuts are managed at the forest district level but not housed in FIMS to reduce the need to constantly update shapefiles. DCNR’s timber sale tracking system stores the dates timber contracts are executed and terminated. The timber sale database and FIMS does not store dates individual blocks of timber were cut. PGC’s tracking mechanisms utilize the date a payment was received for cutting of an individual block. Therefore, DCNR reports contract executed dates and PGC reports block payment dates. We acknowledge the difference between these reporting methods: PGC’s method more accurately reports what is cut on the ground at any one point in time, while DCNR’s method includes the entire sale, including blocks that may not be cut that year. DCNR chose contract executed date as the reporting metric because this is how all DCNR’s timber sale information is reported currently.

It is not possible at this time to obtain block payment dates for DCNR timber data. This may cause DCNR’s data to be artificially inflated in any given year, because it implies all acres of a timber sale contract were cut that year. Contracts are good for 3 years, so cutting of these acres would be spread over 3 years or may not occur at all (if an operator defaults). However, over the 5-year rolling average

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<sup>2</sup> Due to the sensitive nature of this information, it has been redacted from the public version of the annual report.

of the HCP, the acreage should be included within that time span and the acres should even out overall. An alternative approach considered for this report was using contract terminated date which is when the sale was finished. However, that method would have the same limitations but skew the data towards the latter end of the contract period, including acreage that may have been cut years ago. DCNR Silviculture Section is in process of updating their database systems, but a new process may be many years in the future.

Both DCNR and PGC timber sale acreage includes timber sale haul roads. DCNR timber tracking systems include haul roads as part of the acreage in a timber contract, and therefore cannot currently be extricated from the timber sale acreage. PGC reports timber sale haul roads in a similar manner in this report in order to be consistent with DCNR. DCNR and PGC are analyzing ways to make their data more comparable for the next annual report.

Both DCNR and PGC calculated acres of harvest within modeled seasonal habitat individually, meaning if 1 acre of harvest occurred in both northern long-eared bat and Indiana bat fall/spring habitat it was counted as 1 acre in each species' habitat. The total acres in harvest type for all bat habitats (first column, Table 2.1) is non-duplicated across seasonal habitats. This is shown with an asterisk (\*) and footnote under the table. Also, numbers have been rounded to the nearest whole number in this report for ease of reading.

*Table 2.1: Timber harvest acreage*

Location (SGL, SFL, SP)	Type of Harvest	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)			Total Acres in Harvest Type (non- duplicative)
		Winter	Fall/ Spring	Summer	Winter	Fall/ Spring	Summer	
SGL*	Regeneration	0	69	247	0	870	0	1,187
	Intermediate	0	0	93	0	72	0	165
	Salvage	0	0	0	0	0	0	0
SFL*	Regeneration	0	193	892	0	1,546	0	2,117
	Intermediate	0	0	0	0	0	0	0
	Salvage	0	0	110	0	467	0	515
BSP	Salvage	0	0	2	0	0	0	2
<b>Totals</b>		<b>0</b>	<b>262</b>	<b>1,344</b>	<b>0</b>	<b>2,956</b>	<b>0</b>	<b>3,986</b>

\* TOTAL AREAS ARE NON-DUPPLICATED WITHIN AND ACROSS SEASONAL HABITATS

TIMBER SALE ACREAGE BY HARVEST TYPE AND HABITAT TYPE, ON STATE LANDS DURING THE REPORTING PERIOD.

## 2.2 Prescribed Fire (burning and firebreaks)

The HCP reporting requirement is for acres of prescribed fire, including the location (i.e., state game land number, state forest, state park), and the acreage of burning in modeled seasonal habitat for covered bats (CM-10, CM-11, CM-12).

**Process:** The PGC and DCNR track prescribed burns on State Game Lands, State Forests and State Park lands in prescribed fire database. These databases were queried and a list of projects that occurred during the reporting period was obtained. The projects were searched for in the prescribed fire layer in agency GIS databases and analyzed, comparing them to the bat habitat areas and the seasonal restrictions. Fire breaks were converted from linear features to acreage using an 8' width, as per the HCP (Chapter 2 Sec 2.3.4.1, p.2-23). Acreage of prescribed fires were calculated on State Game Lands, State Forest lands, and State Parks as shown below in Table 2.2. In addition, follow up emails between central office program managers and land managers confirmed that prescribed fires were conducted according to the seasonal restriction windows.

No burns occurred in winter habitat of either species. No burns occurred in northern long-eared bat summer habitat. **PGC conducted a total of 4,268 acres of prescribed burns that occurred in modeled bat habitat. DCNR Bureau of Forestry conducted 206 acres of burns on State Forest lands and Bureau of State Parks conducted 24 acres of prescribed fire projects on State Parks.** Together, the permittees burned a **total of 1518 acres in Indiana bat modeled habitats and 3278 acres of burn in northern long-eared bat modeled habitats.** It was verified that all prescribed burns on State Lands were conducted before May 15 through GIS review and communication with land managers.

See [CM-10](#), [CM-11](#) and [CM-12](#) below, for more information on conservation measure-specific monitoring.

Maps of prescribed burns can be found in [Appendix A](#), Section II, see Maps 5-8<sup>3</sup>.

**Note:** Acres of prescribed fire were calculated within modeled seasonal habitat individually, meaning 1 acres of burn occurring in more than one species' habitat was counted as 1 acre in each habitat. The PGC and DCNR calculated total acreage as non-duplicated within and across seasonal habitats. This is shown with an asterisk (\*) and footnote under the table. Therefore, the total acreage column will not necessarily equal the sum of the acreage in the modeled seasonal habitats. Numbers have been rounded to the nearest whole number in this report for ease of reading.

*Table 2.2 Prescribed Fire acreage*

Total Acres in Prescribed Fire in Bat Habitats (burning and firebreaks)	Location (SGL, SFL, SP)	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)		
		Winter	Fall/ Spring	Summer	Winter	Fall/ Spring	Summer
4,268*	SGL	0	0	1,193	0	3,072	0
206*	SFL	0	142	159	0	199	0
24*	BSP	0	0	24	0	7	0
<b>4,499*</b>	<b>Totals</b>	<b>0</b>	<b>142</b>	<b>1,376</b>	<b>0</b>	<b>3,278</b>	<b>0</b>

<sup>3</sup> Due to the sensitive nature of this information, maps have been redacted from the public version of the annual report.

## 2.3 Fencing

The HCP directs PGC and DCNR to report the amount of new fence installed on State Lands, including the location (i.e., game land unit, state forest, state park), quantity of fencing (miles) and acreage of affected land in modeled seasonal habitat for covered bats.

**Process:** Agencies queried their GIS databases and land managers to determine the amount of fencing installed during the reporting period. Fences were converted from linear features to acreage using a 10' width, as per the HCP (Chap. 2 Sec. 2.3.2.1, and Table 2-7, p. 2-19 – 2-20).

DCNR Bureau of Forestry constructed 3 fences in bat habitat in Year 2, with approximately 2 miles of fencing that intersected mapped bat habitats. Approximately 1 acre of fencing occurred in northern long-eared bat fall/spring habitat and 1 acre was erected in Indiana bat summer habitat (0.48 acres in two state forests districts). Since DCNR Bureau of State Parks does not conduct widespread regeneration efforts on State Parks and there is minimal need for fencing, therefore, there are none to report for this period.

PGC did not install any fencing during this time period. Refer to Map 9 in Appendix A, Section III<sup>4</sup>.

Table 2.3: Fencing acreage

Total amount of fencing (miles)	Location (SGL, SFL, SP)	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)		
		Winter	Fall/ Spring	Summer	Winter	Fall/ Spring	Summer
0	SGL	0	0	0	0	0	0
2	SFL	0	0	1	0	1	0
0	SP	0	0	0	0	0	0
<b>2</b>	<b>Totals</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>

MILES AND ACRES OF FENCING ON STATE LANDS BY HABITAT TYPE, DURING THE REPORTING PERIOD.

## 2.4 Firewood Collection

The HCP directs the permittees to report on the amount of firewood collection on state lands. This will include the number of firewood collection permits issued, a map of the road lengths designated for firewood collection, and the acreage of these areas in modeled seasonal habitat for covered bats.

**Process:** DCNR Bureau of Forestry is currently the only agency to issue firewood collection permits. The cutting of standing dead trees for firewood was identified as having negative impacts to Indiana bats during different times of their life cycles, particularly for maternity colonies. Prior to firewood harvest seasons, a GIS analysis identified roads segments with 30% or more of their length in modeled Indiana

<sup>4</sup> Due to the sensitive nature of this information, maps have been redacted from the public version of the annual report.

bat summer habitat were closed to the collection of standing dead trees from May 15 to August 31. ("Road segments" was defined by the Bureau of Forestry as a length of road between intersections.) Firewood collection areas were determined/modeled in Year 1, on Feb. 12, 2021.

State forest districts utilized the firewood collection areas determined in Year 1. Some districts closed entire tracts or areas to firewood cutting, to make it easier for rangers and foresters to monitor activity. Some districts allowed only harvest of dead trees lying on the ground. Other districts produced maps showing only roads or tracts that were open to firewood cutting. This was communicated to the public through district websites, district social media, brochures, maps, and signage of areas closed to firewood cutting. Not every district has bat habitat areas located within their district, and therefore not every district has seasonal restrictions for firewood.

The Bureau maintains an online firewood collection permit database. For this reporting period, the amount of firewood collection was estimated based on the number of firewood permits issued by State Forest district offices. Permits specify the number of cords allowed to be harvested and location of harvest. The Bureau estimates that ¼ acre of forest is needed to provide one cord of firewood. Therefore, numbers of cords were multiplied by 0.25 to determine the number of acres allowed to be cut for each permit. The location of each permit was identified using the road names and date of permitted activity compared in FIMS with bat habitat areas. Permits issued for bat habitat areas for trees already down, or for time periods outside of the seasonal restrictions, are not included in acres in bat habitat area numbers.

DCNR issued permits to cut 2,133 acres of firewood on all State Forest lands. Permits were granted for 54 acres within the summer habitat areas and 15 acres were permitted for cutting in fall/spring habitat areas, but no cutting took place during seasonal restriction periods. Table 2.4 summarizes the firewood data from DCNR Bureau of Forestry. DCNR Communications office developed a press release and [Firewood Cutting and Bat Habitat Conservation Measures FAQ](#), published July 2021 detailing firewood restrictions to the public. The press release linked to DCNR's bat habitat conservation plan website. Mapping of roads closed to firewood cutting and seasonal restrictions and an example of a forest district firewood cutting brochure is found [Appendix A, Section IV](#)<sup>5</sup>.

All but one district confirmed that no firewood permits were issued for the roads seasonally closed to firewood cutting during the timing restriction (fall/spring and summer), or year-round restrictions (winter habitat) ([CM-8](#), [CM-9](#)). One state forest could not confirm that no cutting took place outside of the seasonally restricted roads. This may be because district staff and rangers in this state forest are commonly very busy with recreation on the state forest, including illegal activity, and may not have been able to be present at the small stretches of roads with HCP firewood restrictions.

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<sup>5</sup> Due to the sensitive nature of this information, maps have been redacted from the public version of the annual report.



**Notes:** Communication was a key component of the firewood program. The Firewood [FAQ page](#) is still on the Bureau of Forestry’s website, and paper [brochures](#) at State Forest district offices. In Year 2, public sentiment was not a problem for the Bureau of Forestry in regard to firewood seasonal restrictions. The restrictions were new to the public in Year 1, and as such, the Bureau received some negative feedback. The Bureau received very little negative feedback from the public in Year 2. State forest district offices communicated to the public via their DCNR Bureau of Forestry web pages and Facebook pages if applicable. One district received negative comments about the restrictions but the restricted zones in that district are so small on most of the roads that there is plenty of other areas to cut. District-specific brochures can be found on the Bureau’s website. An example is found in [Appendix A, Section IV](#).

Table 2.4: Firewood acreage

Total Number of Permits issued	Total Number of Cords Permitted	Total Acreage Permitted	Acreage in modeled seasonal habitat (IBAT)		
			Winter	Fall/ Spring	Summer
2,133	2,894	724	0	15	56

FIREWOOD CUTTING ACREAGE IS A METRIC THAT ONLY APPLIES TO STATE FOREST LANDS AND INDIANA BAT HABITAT AREAS.

## 2.5 Roads and Trails Constructed

The HCP directs DCNR and PGC to report on the number of new roads and trails constructed on state lands, including the location (i.e., state game land number, state forest, state park), quantity of road or trail (miles) and the quantity of road or trail maintained.

**Process:** DCNR and PGC queried their GIS databases to determine the number of miles of new and maintained roads and trails occurred during the reporting period on state lands. The permittees counted any activity where widening or relocation took place or had vegetation removal associated with them. Projects taking place within the existing footprint were excluded. The acreage of these projects was obtained by converting miles to feet, then determining area assuming 10’ width for work, and converting square feet to acres. The permittees also queried their land managers for additional input. No new roads or trails were built on DCNR State Parks and Forests (see notes below for more details). Very few new roads were created on PGC State Game Lands and all were timber sale haul roads. Less than a quarter of one mile of new roads were created in bat habitat areas on State Game Lands during the permit term and PGC maintained no new acres of roads on State Game Lands that overlapped with HCP bat areas. PGC’s road acreages are non-duplicated within and across seasonal habitats. This is shown with an asterisk (\*) and footnote under the table.

DCNR Bureau of Forestry queried district forests for input and determined that no new roads nor re-route or maintenance requiring widening or tree removal occurred in bat habitat areas during the reporting period. A trail re-route project impacted less than one-quarter acre (0.19 ac.) in Indiana bat summer habitat; no new trails were created in bat habitat area. Two one-quarter acre parking areas

were created, but only one was within Northern long-eared bat fall-spring habitat area. DCNR Bureau of State Parks queried park managers and determined no projects took place in bat habitat areas during the reporting period. Because these areas total less than one acre (do not round up to one acre), it is considered negligible and does not show up on Table 2.5.

**Notes:** PGC and DCNR report slightly different data below. PGC’s “new road” acreage includes new timber sale haul roads as well as new public use and maintenance roads. PGC’s timber tracking and reporting system allows them to tease this data out separately. DCNR’s timber tracking and reporting mechanisms do not. DCNR’s timber sale haul roads acreage is included in the timber sale acreage, Section 2.1. DCNR recognizes this discrepancy and is working to improve reporting and tracking mechanisms for the next annual report. Figures are rounded to the nearest whole number in the table below.

*Table 2.5: Roads and trails acreage*

Miles of new Roads and Trails Constructed in Bat Habitat	Location (SGL, SFL, SP)	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)		
		Winter	Fall/Spr.	Summer	Winter	Fall/ Spr.	Summer
0*	SGL	0	0	0	0	0	0
0	SFL	0	0	0	0	0	0
0	BSP	0	0	0	0	0	0
Miles of Roads and Trails maintained in Bat Habitat	Location (SGL, SFL, SP)	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)		
		Winter	Fall/ Spr.	Summer	Winter	Fall/ Spr.	Summer
0*	SGL	0	0	0	0	0	0
0	SFL	0	0	0	0	0	0
0	BSP	0	0	0	0	0	0
<b>0</b>	<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* NON-DUPLICATED WITHIN AND ACROSS SEASONAL HABITATS. INCLUDES TIMBER SALE HAUL ROADS THAT WERE NOT INCLUDED AS PART OF THE TIMBER HARVEST ACRES IN TABLE 2.1.

ACREAGE OF NEW AND MAINTAINED ROADS AND TRAILS ON STATE LANDS IN BAT HABITAT AREAS, DURING THE REPORTING PERIOD.

### 3.0 Calculation of Acreage of Take

The HCP requires DCNR and PGC report the calculation of the acreage of take for each type of modeled habitat (e.g., summer habitat for northern long-eared bats, fall/spring habitat for Indiana bats) using the covered activity data described previously, to demonstrate compliance with the authorized level of take on the ITP. If the implementation of covered activities resulted in the exceedance of take authorization (e.g., if timber harvest levels exceed authorized take levels in a given year), the report will include a detailed description of the circumstances

leading to the exceedance and the steps to be taken to remedy such exceedance (for example, by reducing harvest levels in subsequent years so that the 5-year rolling average remains within the take levels authorized under the ITP).

PGC and DCNR collected acreage of covered activities taking place within the covered bat habitat areas. Each process to determine the acreage of the covered activity (e.g. actual take) is thoroughly described in Section 2.0 and the acreages are given in each subsection and summarized in Tables 3.0 and 3.1 below. Additionally, email and phone communication with foresters and other land managers confirmed that activities did not take place during the seasonal restriction windows. Mapping of covered activities can be found in Appendix A<sup>6</sup>.

The USFWS's Intra-Service [Biological Opinion](#) dated Dec. 17, 2020, provides acreage of modeled Indiana bat and northern long-eared bat habitat anticipated to be annually impacted by covered activities. The USFWS permits for the take of 19,770 acres of Indiana bat habitat and 130,386 acres of take of northern long-eared bat habitat, across all habitat types and state lands. No covered activity acreage is permitted within winter habitat of either bat.

**Results:** The permittees reported acreage of take under the USFWS's cap in Year 2. In Indiana bat habitat areas combined, 3,194 acres of covered activities took place in Year 2, or 16% of permitted take. In Indiana bat habitat, 6,234 acres of take took place, or 5% of permitted take. No acreage of any covered activity occurred within either bats' winter habitat (the quarter-mile buffer around Indiana and northern long-eared bat hibernacula). Detailed summaries of all covered activities and comparisons with permitted take is below.

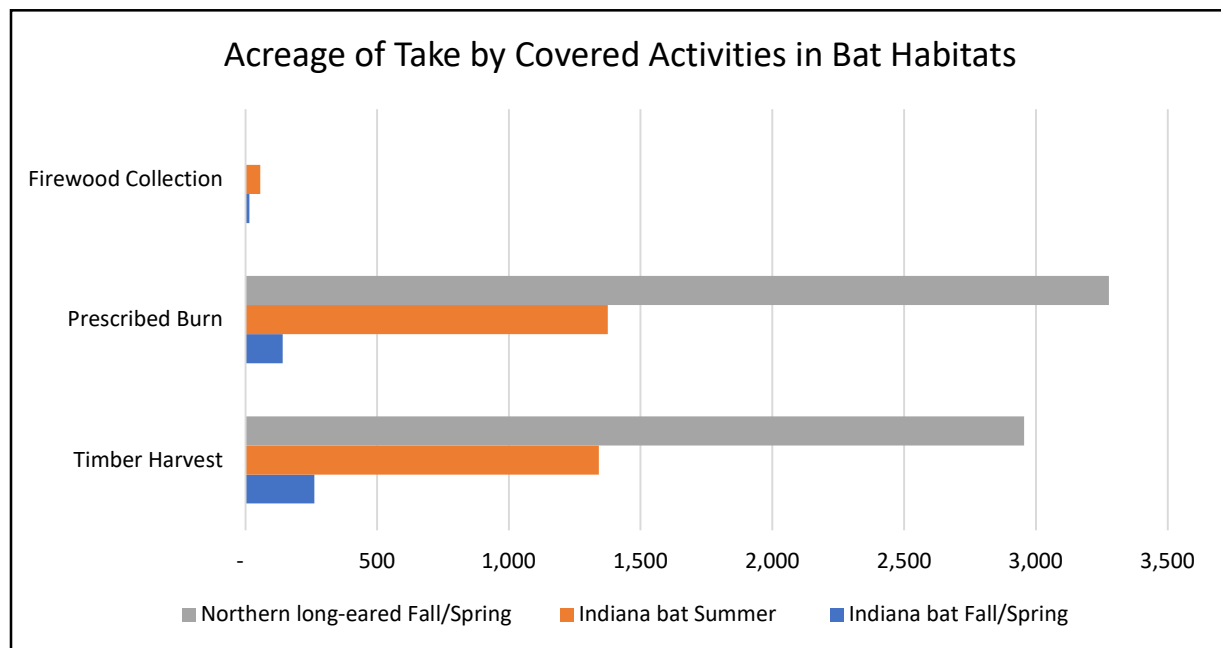
*Table 3.0: Detailed summary*

Covered Activity	Acreage in modeled seasonal habitat (IBAT)			Acreage in modeled seasonal habitat (NLEB)		
	Winter	Fall/ Spr.	Summer	Winter	Fall/ Spr.	Summer
Timber Harvest	-	262	1,344	-	2,956	-
Prescribed Burn	-	142	1,376	-	3,278	-
Fencing	-	1	-	-	-	1
Firewood Collection	-	15	56	-	-	-
Roads and Trails	-	-	-	-	-	-
<b>TOTAL TAKE</b>	-	420	2,776	-	6,233	1

<sup>6</sup> Due to the sensitive nature of this information, maps have been redacted from the public version of the annual report.

<b>PERMITTED TAKE LIMIT</b>	-	3,136	16,634	-	22,338	108,048
<b>Total Acres Under the Permitted Take</b>	-	2,716	13,858	-	16,105	108,047

ACTUAL ACREAGE OF EACH COVERED ACTIVITY CONDUCTED ON STATE LANDS IN EACH BAT'S HABITAT AREAS DURING THE REPORTING PERIOD IS SHOWN. TOTAL ACTUAL ACREAGE PER COVERED ACTIVITY IS SHOWN AS WELL AS TOTAL ALLOWED TAKE. THE TOTAL ACRES UNDER THE ALLOWED TAKE IS THE DIFFERENCE BETWEEN ALLOWABLE AND ACTUAL TAKE.



**FIGURE 1. COMPARISON OF COVERED ACTIVITIES AND ACREAGE OF TAKE. NOTE, FENCING AND ROADS AND TRAILS ARE NOT DISPLAYED HERE BECAUSE OF NEGLIGIBLE ACREAGE. THERE WERE NO ACRES OF COVERED ACTIVITY IN NORTHERN LONG-EARED BAT SUMMER HABITAT; THEREFORE, IT IS NOT REPRESENTED ON THIS CHART.**

*Table 3.1: Actual and permitted take for each covered activity, in acres*

Covered Activity	Acreage of Take in all Modeled Seasonal Habitat	
	IBAT	NLEB
Timber Harvest Take	1,604	2,956
Permitted Take	4,848	36,204
Prescribed Burn Take	1,518	3,278
Permitted Take	10,115	56,975
Operations Take	72	1

Permitted Take	335	2,959
Roads and Trails Take	0	0
Permitted Take	4,472	34,248
<b>TOTAL TAKE</b>	<b>3,194</b>	<b>6,234</b>
<b>TOTAL PERMITTED TAKE</b>	<b>19,770</b>	<b>130,386</b>
<b>Total Acres Under the Permitted Take</b>	<b>16,576</b>	<b>124,152</b>

ACTUAL ACREAGE OF EACH COVERED ACTIVITY CONDUCTED ON STATE LANDS IN BAT HABITAT AREAS DURING THE REPORTING PERIOD IS SHOWN. PERMITTED TAKE FOR EACH COVERED ACTIVITY AND THE DIFFERENCE BETWEEN PERMITTED TAKE AND ACTUAL TAKE IS SHOWN. THE TOTAL ACRES UNDER THE PERMITTED TAKE IS THE DIFFERENCE BETWEEN PERMITTED AND ACTUAL TAKE.

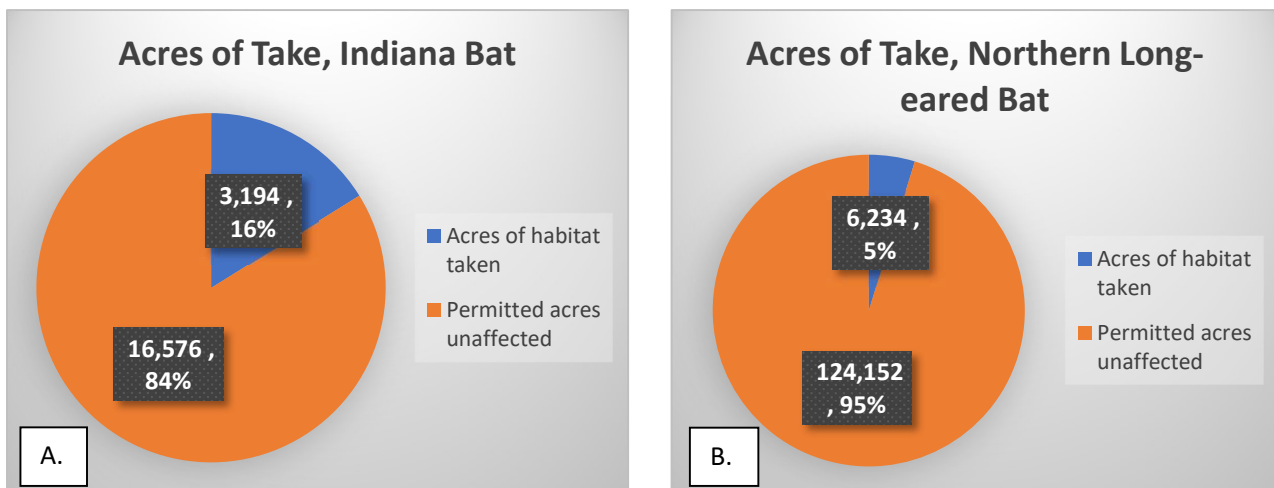


FIGURE 2. ACRES OF INDIANA BAT (A) AND NORTHERN LONG-EARED BAT (B) HABITAT TAKEN BY COVERED ACTIVITIES DURING YEAR 2 (BLUE) COMPARED TO PERMITTED TAKE (ORANGE).

## 4.0 Documentation of Applicable Conservation Measures

The HCP reporting section requires PGC and DCNR to provide documentation of applicable conservation measures, such as an updated, categorized list of northern-long eared bat hibernacula (CM-1 Install Gates at Known Hibernacula), an updated list of northern-long eared bat roosting activity areas (CM-4 Minimize Effects on Trees that Provide Summer Roosting Habitat), and artificial roosts installed under CM-22 Install Artificial Roost Structures, and CM-24 Provide Artificial Roosts for Infected Bats.

Below is summarized the outcome of specific outcomes required by conservation measures.

Table 4.0: Conservation measure documentation summary.

Conservation Measure	Documentation for IBAT	Documentation for NLEB
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Progress on updated, categorized list of northern-long eared bat hibernacula (CM-1 Install Gates at Known Hibernacula)	(N/A)	DCNR and PGC have completed the categorized list of NLEB hibernacula which has been shared with USFWS and is in Appendix B <sup>7</sup> . The evaluation revealed the following: 21 Category-1 hibernacula 18 Category-3 hibernacula PGC and DCNR will prioritize surveys of the Category-3 hibernacula based on the oldest last observed dates, starting with acoustic surveys.
Updated list of northern-long eared bat roosting activity areas (CM-4 Minimize Effects on Trees that Provide Summer Roosting Habitat)	(N/A)	No new NLEB roosting activity areas have been identified during this reporting period.
Artificial roosts installed in summer habitat areas (CM-22 Install Artificial Roost Structures)	19 Artificial roosts were installed in IBAT summer habitat (16 overlap with NLEB).	19 in NLEB summer habitat (16 overlapping, 3 non-overlapping) (Note: NLEB and IBAT structure numbers are not additive; there were a total of 22 structures installed total)
Artificial roosts installed in winter habitat (CM-24 Provide Artificial Roosts for Infected Bats)	4 artificial roosts were installed in IBAT winter habitat that overlap with NLEB winter habitat.	5 artificial roosts were installed in NLEB winter habitat (in addition to the 4 that overlap with IBAT winter habitat, 1 artificial roost was located in NLEB Cat. 1 hibernacula)

## 5.0 Documentation of Individual Take

The HCP directs PGC and DCNR to provide documentation of the annual and cumulative amount of killed, injured, harassed, or harmed Indiana and northern long-eared bats identified through implementation of covered activities.

No observations of take of Indiana or northern long-eared bats occurred during this reporting period.

No dead bats were reported or collected from state lands and no citations were issued.

*Table 5.0: Number of bats killed*

Time Period	Number of bats killed, injured, harassed, or harmed	
	IBAT	NLEB
Year 1 (Dec. 23, 2020-June 30, 2021)	0	0
Year 2 (July 1, 2021-June 30, 2022)	0	0

<sup>7</sup> Due to the sensitive nature of the information included in the Northern Long-eared Bat Hibernacula Plan, it has been redacted from the public version of this report.

Cumulative:	0	0
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## 6.0 Documentation of Directives, Guidance, and Plans

The HCP requires documentation of all PGC and DCNR directives, guidance, or management plans used to establish HCP requirements (e.g., all comprehensive management plans on State Game Lands containing modeled bat habitat, the DCNR Forestry Manual [Pennsylvania Department of Conservation and Natural Resources 2012]), indicating the date each was last updated and when it is due for revision.

PGC and DCNR adopted a Habitat Conservation Plan Users' Guide on March 15, 2021. The PGC's and DCNR's management plans, directives and guidelines will be updated according to their schedules (either 5 or 10-year cycles). This Users' Guide will be used as default guidance on bat HCP until the time when all management plans are updated. This was communicated to staff in trainings.

The Users' Guide and other information, plans, directives and guidance are shared via several online platforms including Microsoft Teams Bat HCP Team including PGC and DCNR HCP management staff and a DCNR IntraForestry Bat HCP sites for appropriate staff. These online platforms are easily and often updated to make sure all staff has access to the most up to date information.

## 7.0 Costs

### 7.1 Actual HCP Cost over Reporting Period

The HCP requires documentation of HCP costs over the reporting period, July 1, 2021-June 30, 2022 are shown below.

*Table 7.1: Estimated Costs of the HCP.*

Estimated Cost	Reporting Period <sup>a</sup>	
	PGC	DCNR
Program Administration Costs	\$29,790	\$48,800
Conservation Program	\$64,076	\$70,317
Monitoring Actions	\$41,415	\$31,404
Adaptive Management and Changed Circumstances	\$24,924	\$27,117
<b>Total Cost Per Agency</b>	<b>\$160,206</b>	<b>\$177,639</b>
<b>Total Cost of HCP</b>	<b>\$148,000</b>	
<sup>a</sup> All implementation costs were annualized over the permit term; however, not all implementation activities will occur on an annual basis, therefore not all costs will occur on an annual basis.		



## 7.2 Changes in Budget Needs

The HCP requires a description of any change in budget needs for the next reporting year (i.e., to account for inflation, changes to personnel, salaries), as well as evidence that the adjusted amount of needed funds have both been requested and secured for the upcoming year.

No changes in budget needs were identified during this reporting period. Agencies are allocating a portion of their Fiscal Year 2022 operating budget to fulfil HCP requirements.

## 8.0 Adaptive Management

The HCP directs PGC and DCNR to describe any changes in HCP implementation resulting from the adaptive management process during the reporting period, as applicable. This description will include the information that triggered the change, the rationale for the planned responses, and the results of any applicable monitoring actions.

No major changes in HCP implementation resulted from the adaptive management process during this reporting period.

## 9.0 Monitoring Program

The HCP directs DCNR and PGC to provide a summary of surveys conducted through the monitoring program for the reporting period, including description of surveys conducted, protocols used, survey results, and discussion of each survey identifying any issues, limitations, and implications of survey results.

### 9.1 Survey Results

The HCP reporting section directs PGC and DCNR to provide a summary of surveys conducted through the monitoring program for the reporting period, including description of surveys conducted, protocols used, survey results, and discussion of each survey identifying any issues, limitations, and implications of survey results.

Table 9.1 summarizes all bat survey information and monitoring requirements for summer, fall/spring and winter habitats for Indiana and northern long-eared bats. Table 9.1 follows the monitoring requirements in Table 5-7, Status and Trends Monitoring in the HCP (Chapter 5, pp. 5-58 – 5-59).

Table 9.1 Survey results summarized for summer, fall/spring and winter (hibernacula) habitat surveys.

#### M1: Summer Mist Netting

**Monitoring commitment:** PGC and DCNR will continue mist-netting surveys (approximately 12 field days)\* in areas of greatest scientific value (e.g., in known populations of both IBAT and NLEB). Bats captured during these events will be radio-tracked\* in accordance with current USFWS and PGC protocols. PGC will continue to require mist netting and reporting from environmental contractors who must get a permit from PGC to handle bats in Pennsylvania. The results of both efforts will be compiled into the PGC bat net/trap database and provided to USFWS. **At least four sites annually** during the approved summer survey period for IBAT and NLEB.

#### **Description:**

The approved summer survey period for Indiana bats and northern long-eared bats is May 15-Aug. 15, which bisects the reporting period. This report includes July 1-Aug. 15, 2021 (second half of 2021 summer survey season) and May 15-June 30, 2022 (the first half of 2022 summer survey season). However, in

discussions with Pam Shellenberger, USFWS, it was determined that any trapping session would be pertinent even if it took place outside the summer season.

**Number of Surveys Conducted by DCNR and PGC:**

10 permits issued in Year 2 for trapping by PGC.  
18 trapping events occurred in Year 2 on state lands during summer mist netting in July and August 2021 and June 2022 (see Administrative Change below).

**Results of summer mist-netting:**

0 Indiana bats  
0 Northern long-eared bats  
Other captures included big brown and little brown bats.

**\*Administrative Changes:**

PGC and DCNR have identified two concerns with this monitoring action. These concerns are explained further in section 16.0.

First, in reference to the USFWS survey guidelines, the permittees propose to replace the phrase “12 field days” with “12 net nights” to convey the requirement more accurately.

Second, there number of days for radio tracking is not specified. PGC and DCNR suggest that 2 days of tracking be included for clarification.

## M2: Canoe Creek SP Maternity Colony Monitoring

**Monitoring commitment:** PGC and DCNR will continue **annual direct visual counts** of the maternity colony at Canoe Creek State Park. **Mist-netting\*** conducted at least once every 3 years during the maternity season. IBAT or NLEB captured during this effort will be tracked in accordance with current USFWS and PGC protocols.

**Date of visual count and results:**

7/20/2021: 384 MYLU/384 EPFU  
6/15/2022: 197 MYLU/196 EPFU  
No NLEB or IBAT were observed.

**Results of mist netting:**

Mist netting did not occur this reporting period.  
(Mist netting occurred, not at the maternity colony, but at portals.)

**\*Administrative Change:**

PGC and DCNR are concerned with the utility of mist-netting and radio-tracking bats from maternity colonies since the location of the maternity colony is already known. Additionally, there is some concern about netting a colony too often and disturbing it. Instead, PGC and DCNR suggest that bats be mist-netted and radio-tracked from newly identified hibernacula to locate potential new maternity colonies. PGC and DCNR suggest netting this colony periodically to see if IBATs are using it, but telemetry should be focused on finding new maternity colonies.

## M3: Artificial Roost Monitoring Summary

**Monitoring commitment:** PGC and DCNR will continue direct visual counts of maternity colonies and existing and new artificial roost sites, including those used by IBAT and NLEB, across the state as part of the Appalachian Bat Count. **Approx. 200\* sites annually.**

**Appalachian Bat Count:**

ABC Fiscal Year 2020 is reported on here. Note that the permittees receive the Appalachian Bat Count report approximately one year after the survey period. PGC received ABC's survey from 1 July 2019-30 June 2020 in January 2021. Therefore, the permittees note that the information reported in this section is from the previous reporting period. However, since that is ABC's reporting mechanism, it should be consistent across years of the HCP Annual Reports. Since this has a lag time (i.e. the permittees do not receive the results of the ABC surveys until a year later), the permittees will show information in a table with the current year as a placeholder.

**Sites counted:**

185 ABC Sites were monitored in 2019-2020

(Note: since the ABC reports come to PGC after the HCP Annual Report deadline, there is a time lag. The permittees would like to clarify the ABC data included in each HCP report will be from the report received during the HCP reporting period, not necessarily undertaken during that period. Therefore, the acceptable data for this report was obtained in 2019-2020. As time goes on, the permittees will display data over time in charts).

**Bats observed:**

M. lucifugus, E. fuscus, M. sodalis, Unknown  
1 artificial roost in Bucks Co. had primarily IBAT  
0 sites primarily had NLEB  
Total bats: 11,491 counted  
No. sites with evidence of use by bats: 136

**Newly installed artificial roosts monitored:**

9 out of 12 existing Bradenbark artificial roosts were monitored by PGC for use at the CS&M mine in SGL 148 in spring 2022.

**Bat species observed using roosts:**

Little brown bats

Include:

See Appendix C for ABC Report for Fiscal Year 2020<sup>8</sup>.

**\*Administrative Change:**

PGC and DCNR have concerns with the frequency of this monitoring requirement as "approximately 200 sites annually." There are not 200 artificial roosts located on state lands, probably less than 100 boxes are known. PGC and DCNR assume that the "200 sites" must have originally included all boxes on private and state land in the ABC database and was likely a misinterpretation during writing the report.

PGC and DCNR suggest that the frequency be changed to approximately 25% on state lands, rotating annually. Our efforts will focus on active boxes, which will be monitored annually. New boxes will be monitored periodically to determine usage.

#### M4: USGS NABat Monitoring Program

**Monitoring Commitment:** PGC and DCNR will continue to participate in the USGS NABat monitoring program by completing six transects\* in each of the six PGC regions throughout the state. Currently, this requires a minimum of 35 nights of monitoring which are completed by driving a designated route at 20 miles an hour, recording bat calls during the trip, and subsequently using approved software to analyze and identify calls.

<sup>8</sup> Due to the sensitive nature of some of the information included in the ABC Report, it has been redacted from the public version of this annual report.

These routes provide an index of summer bat populations of all species and a means of locating unknown colonies of IBAT and NLEB. <b>Annually.</b>
<b>Number of nights monitored*:</b>
36 routes were sampled
<b>Number IBAT and NLEB calls recorded:</b>
0
<b>Include:</b> See Appendix D for complete NABat report <sup>9</sup> .
<b>*Administrative Change:</b>
It is likely not all 6 transects in each of the 6 PGC regions fall within state lands. No change is necessary as long as it is understood that not all 6 transects are located on state lands. Note routes are subject to change as needed based on expected bat presence.
Additionally, it is more accurate to report on the number of routes sampled, versus the number of nights monitored. The NABat report describes the number of routes sampled, but the number of nights monitored may not be given (or 36 routes may all be monitored in one night). Therefore, the permittees would like for the number of routes monitored to be the appropriate metric for this conservation measure.

#### M5: Telemetry

<b>Monitoring Commitment:</b> PGC will continue to request that telemetry of both covered bat species be conducted as a condition of PGC permit issuance to QBSs for handling of bats (PGC issued an average of 18 permits annually from 2010 to 2015). Telemetry will be conducted in accordance with the guidelines outlined in the PA Game Commission Bat Surveyor Packet, which is updated annually in coordination with USFWS. Because of both species' population decline in Pennsylvania, there may be years in which capture efforts fail to acquire one or both species. <b>Frequency: Conduct as able.</b>
<b>Telemetry surveys conducted:</b>
PGC conducted IBAT telemetry in 2021. 3 bats were captured. No NLEB or IBAT were captured.
A telemetry study was conducted by Copperhead Consulting for 2021. 51 bat captures of 48 individual Indiana bats and little brown bats occurred during 4 capture events in fall 2021.
<b>Number new roosts identified:</b>
2 new roosts were identified on state lands. Bats were tracked to the following roosts, on state lands: <ul style="list-style-type: none"> <li>Roost on a state game land (22.8cm DBH <i>Acer saccharum</i> with loose bark)</li> <li>Roost on a state game land (18.7cm DBH <i>Ulmus americana</i>, loose bark)</li> </ul>
See Appendix E for report on bat telemetry report <sup>10</sup> .

#### M6: Fall/Spring Habitat Surveys

<b>Monitoring Commitment:</b> PGC will continue to perform sampling of bats "swarming" at cave or mine entrances using harp traps or mist nests during spring (April or May) or fall (August to November) to assess presence and population of covered bat species. <b>At least one trapping event at three to six different hibernacula annually.</b>
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<sup>9</sup> Due to the sensitive nature of the information included in the NABat report, it has been redacted from the public version of this report.

<sup>10</sup> Due to the sensitive nature of the information included in the Telemetry Report, it has been redacted from the public version of this report. Specific location information has been removed from this table.

**Fall survey results<sup>11</sup>:**

A total of 16 trapping events took place in Year 2 during the fall by permittees or contractors on state lands (at 14 separate locations):

Site	Date	IBAT Captured	NLEB Captured
10 mine portals sites on a state forest, conducted by DEP Bureau of Abandoned Mine Reclamation	9/2021 and 10/2021	0 IBAT	1 juvenile NLEB
a state game land	10/5, 10/14/2021	1 IBAT	0 NLEB
a state game land	10/12/2021	0	0
a State Park	10/19/2021	0	0
a State Park	9/28, 10/19/2021	0 IBAT	1 NLEB

**Spring survey results:**

3 sites were mist netted during 3/2022 and 4/2022. 1 IBAT captured

Site	Date	IBAT/NLEB Captures	NLEB Captures
a State Park	3/16/2022	0	0
a state game land	4/12/2022	1 IBAT	0
a State Park	4/14/2022	0	0

## M7: Winter Habitat (Interior Hibernacula) Surveys

**Monitoring Commitment:** PGC will continue to perform visual inspection of caves and mines for hibernating bats from December through March to assess presence and population of covered bat species. **Annual surveys typically include at least 1 survey at each of 30\* different hibernacula.**

**Number surveys conducted:**

15 sites visited

**Results:**

1396 bats total counted in 15 different hibernacula on state lands (\*see administrative change).  
0 IBAT counted  
0 NLEB counted

<sup>11</sup> Due to their sensitive nature, specific names of sites/hibernacula have been redacted from the public version of this report.

Dead bats were observed at one location during the last survey. This location is not on state lands but is located between parcels of a forest lands, and gets visually surveyed each winter. Most of if not all of them are big browns, but this site has supported live NLEB in the past. The cause of these deaths is unknown, but it not WNS. It may be a result of an increased amount of human disturbance. See photos below, showing dead bats found this winter.



PHOTO 1 & 2: DEAD BATS OBSERVED IN ONE LOCATION SURVEYED

#### \*Administrative Change:

PGC and DCNR believe that, during the writing of the HCP, the list of potential NLEB hibernacula (32 of which are on state lands) was misinterpreted as 30 confirmed hibernacula typically surveyed each year. This may have included both public and private lands.

The permittees average about 30 hibernacula surveyed per year, but not all occur on state lands. The number of hibernacula on state lands surveyed will vary annually based on bat survey needs. Sites are selected based on criteria in PGC's PA Bat Book: Prioritization and Management of PA's Bat Hibernacula of Pervasive Contamination of Fungus Causing White Nosed Syndrome.

## 9.2 Conservation Measure-Specific Monitoring

The HCP directs PGC and DCNR to provide documentation of compliance and effectiveness monitoring for conservation measures that are due for first reporting period.

Documentation of monitoring is provided below for each conservation measure. The charts below follow Table 5-8, *Conservation Measure-Specific Monitoring*, in the HCP (Chapter 5, pp. 5-61 – 5-67). As previously stated, many activities were put on hold during the reporting period due to COVID-19 restrictions.

### CM-1 Install Gates at Known Hibernacula

**Commitment:** PGC and DCNR will install gates and categorize hibernacula as described in Section 5.4.1, Caves and Mines. Permittees will also check the location and condition of signs and gates to ensure that no vandalism has occurred, and gates are structurally sound. Speleologists will be installed where



possible and will be serviced every other year. Inspections should take place during annual hibernacula surveys (December-March); repairs/replacements take place May 15-Aug. 31.

**Compliance Monitoring:** Install gates and categorize hibernacula as described in Section 5.4.1, Caves and Mines. Check the location and condition of signs and gates to ensure that no vandalism has occurred, and gates are structurally sound.

**Photo documentation of the location and condition of signs and gates at hibernacula entrances.**

Mid Atlantic Karst Conservancy (a caver group) check two cave gates. They have not reported damage this past year. One cave was breached over 10 years ago by microblasting around side of gate. This repair needs to be addressed. The entrance to the other cave needs fixing, it has been dug out. A gate was installed at a mine opening on SGL 51, 6/2022.



**PHOTO 3: GATE INSTALLED, JUNE 2022 (GREG TURNER).**

**Documentation of northern long-eared bat hibernacula survey plan and findings.**

The NLEB hibernacula plan is completed.

18 hibernacula Category-3 hibernacula were identified

21 hibernacula were identified as Category-1

0 Category-2 or -4 were identified. DCNR and PGC began with the list of 32 hibernacula that was used during the writing of the HCP. However, since that time, additional hibernacula have been identified and a total of 73 hibernacula were scrutinized in a desktop review (34 of these sites have the ¼ mile winter habitat buffer located on state land but the entrance to the cave is not located on state lands). PGC and DCNR plan to prioritize the 18 Category-3 hibernacula by the oldest last-observed date to start with. We will survey 2-3 of these hibernacula each year until Year 10 (2029-2030). Surveys will begin in Year 3 (2022-2023) and will include visual inspections of caves/mines to assess presence and population of bats as will include well as harp trapping or mist netting if PGC deems necessary.

The NLEB survey plan can be found in Appendix B<sup>12</sup>.

**Effectiveness Monitoring:** In hibernacula that can be safely entered by agency staff, place cameras or speleologgers (light-sensitive event detectors) similar to those used in other states (Johnson et al. 2002) to ensure that gates and signage prevent human entry. Detectors placed in dark regions will record disturbance events in the hibernacula. Detectors will be serviced every other year as part of the hibernacula surveys in Table 5-7.

<sup>12</sup> This plan has been redacted from the public version of this annual report due to sensitive information.



<b>Documentation of maintenance of cameras and detectors.</b>
No new cameras were installed or maintained by the permittees (there are currently no speloeologgers installed) There are 10 sites with data loggers on state land with temperature/humidity sensors that are checked every winter.
<b>Documentation of any recorded disturbance events.</b>
No changes have been observed with the data loggers.
<b>Management recommendations to improve effectiveness.</b>
The permittees have no new management recommendations.
<b>Frequency:</b> Annually, normally occurs during the hibernacula surveys Dec.-March.

### CM-2 Remove Obstructions around Known Hibernacula

<b>Commitment:</b> PGC and DCNR will inspect the six Indiana bat hibernacula entrances annually in late summer or early fall to ensure that hibernacula have not become compromised by water, vegetation, or debris. Permittees will inspect Category 1 northern long-eared bat hibernacula at least every other year. Permittees will remove problematic obstructions between April 1-Sept. 14.
<b>Compliance Monitoring:</b> Inspect the six Indiana bat hibernacula entrances annually in late summer or early fall to ensure that hibernacula have not become compromised by water, vegetation, or debris. Inspect Category 1 northern long-eared bat hibernacula at least every other year. Remove problematic obstructions.
<b>Documentation of obstruction removal, complete with photo documentation.</b>
At a state park entrance, a downed tree was removed. Near a state forest, a “hermit hut” was removed
<b>Documentation of QBS recommendations.</b>
No QBS recommendations available at this time.
<b>Effectiveness Monitoring:</b> A QBS or bat identifier will conduct a survey of the status of each hibernaculum.
<b>Documentation of QBS recommendations:</b>
No new QBS recommendations are available at this time.
<b>Frequency:</b> Annually, normally occurs during the hibernacula surveys Dec.-March

### CM-3 Close Hibernacula Seasonally to Public Visitation

<b>Commitment:</b> PGC and DCNR will inspect signage and gates to close hibernacula on State Lands to visitation from September 15 to May 31.
<b>Compliance Monitoring:</b> Inspect signage and gates to close hibernacula on State Lands to visitation from September 15 to May 31.
<b>Photo documentation of signage and other measures taken to prohibit human entry during this period</b>



**PHOTO 4: LEFT: PHOTO OF GREG TURNER (PGC) REPLACING A SIGN AT A MINE; RIGHT: PROHIBITED ENTRY SIGN FOR BAT HIBERNACULA.**

**Effectiveness Monitoring:** Same as for CM-1, QBS Recommendations

No new QBS recommendations are available at this time.

**Frequency:** Annually, Normally occurs during the hibernacula surveys Dec.-March.

#### CM-4 & CM-5 Minimize Effects on Trees that Provide Summer Roosting Habitat, and Avoid Timber Harvest Effects on Non-Volant Pups in Maternity Colonies

**Commitment:** PGC and DCNR will minimize effects on suitable roost trees in summer habitat for both species by avoiding damaging or harvesting potential roost trees and identifying NLEB roosting activity areas. Permittees will monitor timber sales to ensure BMPs, regeneration, snag retention, species retention, design, layout, road building, etc. are being followed (CM-4) and that cutting of roost trees during pup season in summer habitat is being avoided (CM-5).

**Compliance Monitoring:** Avoid damaging or harvesting potential roost trees and identify northern long-eared bat roosting activity areas.

#### **Documentation of site visits with photos of potential roosts before and after harvest.**

PGC: The PA Game Commission maintains a detailed Reserve Tree Tally for timber harvests that records the number, species, size and type (Live, Dead, Den, Snag). This tally is used by foresters to evaluate whether or not potential roost trees - marked as reserve - remain protected throughout the harvest operation. Foresters have taken photos of significant potential roost trees before and after harvest operations in many instances, but a complete inventory is not available for all potential roost trees. PGC aims to improve their information management systems to better capture and organize site photos moving forward.

DCNR BSP: Since only 2 acres of salvage operations occurred on State Parks, no information is available for Year 2.

DCNR BOF: Site visits are documented by foresters in BOF as they monitor each sale and record the results in Timber Sale Inspection and Completion Forms, FMT-9. This includes noting felling of unmarked and undesigned trees. Below are some photos of snags and bat habitat after sales from Year 2.

**Representative Photos:**

Photo 5: Left, a state forest land sale, showing residuals and cavity tree post-harvest. Photo 6: Right, another sale in different state forest district, showing snag marked as a leave tree (blue paint) post-harvest.

**Documentation of identified northern long-eared bat roosting activity areas.**

No new northern long-eared bat roosting activity areas were identified in Year 2.

**Documentation of any take of covered bats (regardless of season).**

No take of covered bats (regardless of season) was documented during the Year 2. See [Section 5.0](#) and Table 5.0 in this report for additional information. No dead bats were reported, no citations were issued for either species or for either permittee.

**Frequency:** As Needed

**Effectiveness Monitoring:**

Monitor timber sale sites to ensure that the conditions of timber sale contracts are being met for completed sales. Ensure that best management practices are being implemented and that state guidelines for regeneration, snag retention, species retention, design, layout, road building, etc. are being followed. Ensure that the tree and snag retention guidelines are being met. Bureau of Forestry timber sales are also independently audited by the Forest Stewardship Council, which randomly audits four or five State Forest



districts each year. The council will incorporate the timber harvest guidelines outlined in the HCP into their audit process. Bureau of Forestry will provide the results of all council audits to USFWS as part of the annual report (PGC and Bureau of Forestry).
<b>Documentation of site visits with photos of potential roosts before and after harvest.</b>
See above.
<b>Results of all Forest Stewardship Council audits conducted during the year.</b>
<p>Bureau of Forestry timber sales are independently audited by a third party for compliance with the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI) standards, which randomly audits four or five State Forest districts each year. Consultants from SCS Global Services conducted the audit and reported findings to FSC and SFI. Annual FSC-SFI audit took place on State Forests during the week of Oct. 4-6, 2022, evaluating forestry practices over the past year. Sproul, Moshannon, and Gallitzin State Forests were visited. (DCNR acknowledges the date of the audit was outside the reporting period. The audit was reviewing information from the past few years, not just present conditions. Therefore, for reporting purposes, the audit occurring in the field season after the reporting period, e.g. August, should be considered the appropriate year's data).</p> <p>Pennsylvania Department of Conservation and Natural Resources was found to be in conformance with SFI's Conservation of Biological Diversity standard. NSF determined that there were no non-conformances or opportunities for improvement. The SFI report notes "A comprehensive Silviculture Manual, environmental assessment for harvest sales, collaboration with the Natural Heritage Program, State Wildlife Action Plan, District Management Plans, and <b>development of a bat HCP</b> were evidence used to assess the requirements involved in biodiversity conservation."</p> <p>The FSC report notes observation of snag retention in Site 3 at Moshannon State Forest District office. The only non-conformity evidence observed was lack of education relating to herbicide guidelines.</p>
<b>Frequency:</b> Annually

#### CM-6 Cease Harvest Activities when Bats Are Detected

<b>Commitment:</b> Same as for CM-4. In addition, perform a GIS review to ensure that no harvest is authorized in designated northern long-eared bat roosting activity areas during the pup season
<b>Compliance Monitoring:</b> Same as for CM-4. In addition, perform a GIS review to ensure that no harvest is authorized in designated northern long-eared bat roosting activity areas during the pup season.
<p>No bats were detected during harvesting activities (see <a href="#">CM-4</a>) in Year 2. A GIS review of timber sales determined that no timber sales took place within NLEB roosting activity areas (summer habitat) during the reporting period. Results of timber sale data are in <a href="#">Table 2.1</a> Timber harvest acreage and <a href="#">Table 5.0</a> Number of bats killed. Maps of PGC's and DCNR's timber sales can be found in Appendix A, Maps 1-4<sup>13</sup>.</p> <p>(However, while not on state lands, big browns found dead in two locations for unknown reasons, near a state forest, 3/4/2022)</p>
<b>Effectiveness Monitoring:</b> N/A
<b>Frequency:</b> Annually

<sup>13</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

#### CM-7 Avoid Timber Harvest Effects on Winter Habitat

<b>Commitment:</b> PGC and DCNR will restrict timber harvest and firewood collection year-round in identified winter habitat for Indiana bats and Northern long-eared bats.
<b>Compliance Monitoring:</b> perform a GIS review to ensure that no harvests occurred in protected areas.
<b>Documentation:</b> Documentation of locations where timber harvest occurred throughout State Lands. PGC and DCNR queried agency GIS mapping data, timber databases and individual land managers to verify that no timber harvests took place in the ¼-mi buffer around known occupied hibernacula for IBAT and NLEB. See also <a href="#">Table 2.1</a> Timber harvest acreage, showing no timber sales took place in winter habitat areas.  Maps of PGC's and DCNR's timber sales can be found in Appendix A, Maps 1-4 <sup>14</sup> .  No firewood collection was permitted in winter habitat (only applies to State Forest lands). DCNR district foresters were queried and confirmed this. See <a href="#">2.4 Firewood</a> for more details on DCNR's firewood program and data collection methods. Map 10 shows areas where firewood collection is restricted on State Forest lands.
<b>Effectiveness:</b> N/A
<b>Frequency:</b> Annually

#### CM-8 Limit Firewood Collection Seasonally (Fall/Spring Indiana Bat)

<b>Commitment:</b> The Bureau of Forestry will close all areas of modeled habitat for Indiana bat to the collection of standing dead trees from April 1 to May 14 and September 1 to November 1.
<b>Compliance:</b> Continue to monitor State Lands for illegal activity (which includes firewood collection where prohibited) and issue tickets for violations. Include a record of all citations issued for illegal firewood collection in closure areas in the annual report submitted to USFWS. Any take of Indiana bats or northern long-eared bats by woodcutters will be reported (PGC game wardens, wildlife conservation officers, DCNR rangers, and State Forest officers).
<b>Documentation of citations issued.</b> No citations were issued during the reporting period. DCNR district foresters were queried and confirmed that no firewood permits were issued for roads within spring/fall habitat from April 1-May 14 and Sept. 1-Nov. 1.  Fall/spring firewood collection areas were determined/modeled on Feb. 12, 2021. Communication with the public took place mostly through inquiries at State Forest district offices. Additional information for the public includes a press release published in Year 2, linking to an <a href="#">FAQ page</a> on the Bureau of Forestry's website, brochures and maps at State Forest district offices, and signage in districts. An example brochure can be found below CM-9.

<sup>14</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

See Map 10 in Appendix A<sup>15</sup> showing firewood restrictions including roads with seasonal closures from May 15-Aug. 31, areas closed to firewood cutting from April 15-May 14 and Sept. 1-Nov.1, and areas closed to firewood cutting year-round (in winter habitat).



**PHOTO 7: NO FUELWOOD CUTTING NOTICE IN A STATE FOREST.**

**Effectiveness:** Visit closure areas during site reviews to ensure that roost areas are protected (Bureau of Forestry staff, BHIs)

**Report of any known take of Indiana bats or northern long-eared bats by woodcutters.**

There was no report of known take of Indiana bats or northern long-eared bats by woodcutters or citations.

Additionally, areas of closure were visited regularly by foresters, rangers and specialists to ensure that roost areas are protected.

**Management recommendations to improve effectiveness**

In Year 1, woodcutters voiced displeasure with the restrictions. However, the Bureau of Forestry has received minimal comments regarding the firewood program and bat habitat restrictions. A few members of the public still found it inconvenient, but most districts had no complaint or very few/minor complaints. District staff indicated that when they explained the restrictions to the public, most people understood. Therefore, the Bureau of Forestry feels the communications that took place in Year 1 were successful. Our management recommendation is to continue providing the information online, in paper and in person. Mapping and brochures for firewood cutting can be found in [Appendix A, IV Firewood Collection](#).

**Frequency:** Annually

<sup>15</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

### CM-9 Limit Firewood Collection Seasonally (Summer Indiana Bat)

<b>Commitment:</b> The Bureau of Forestry will close areas of modeled summer habitat for Indiana bat to the collection of standing trees along roads that have 30% or more of their length within the high-quality Indiana bat modeled summer habitat, from May 15-Aug. 31.
<b>Compliance Monitoring:</b> Monitor as described for CM-8. Report any take of Indiana bats or northern long-eared bats by woodcutters.
<b>Documentation of citations issued.</b>
No citations were issued during the reporting period. DCNR district foresters were queried and confirmed that no firewood permits were issued for roads within summer habitat from May 15-Aug. 31.
Summer firewood collection areas were determined/modeled on Feb. 12, 2021. Communication with the public took place via includes a press release published in Year 2, linking to an <a href="#">FAQ page</a> on the Bureau of Forestry's website, brochures and maps at State Forest district offices, and signage in districts. An example brochure can be found below CM-9. See Map 10 in Appendix A <sup>16</sup> showing firewood restrictions including roads with seasonal closures from May 15-Aug. 31, areas closed to firewood cutting from April 15-May 14 and Sept. 1-Nov.1, and areas closed to firewood cutting year-round (in winter habitat).
<b>Effectiveness Monitoring:</b> Visit closure areas during site reviews to ensure that roost areas are protected. Evaluate the results of the habitat distribution model annually and update closure areas, as needed
<b>Report of any known take of Indiana bats or northern long-eared bats by woodcutters.</b>
There was no report of known take of Indiana bats or northern long-eared bats by woodcutters or citations.
Additionally, areas of closure were visited regularly by foresters, rangers and specialists to ensure that roost areas are protected.
<b>Management recommendations to improve effectiveness</b>
Similar to CM-8, woodcutters voiced displeasure with the restrictions in Year 1. However, minimal negative comments have been received in Year 2. While there have been a few minor complaints, most people understood the reasoning when it was explained. Therefore, the Bureau of Forestry feels the communications that took place in Year 1 were successful. Our management recommendation is to continue providing the information online, in paper and in person.
<b>Frequency:</b> Annually

### CM-10 Restrict Prescribed Fire Seasonally (Winter)

<b>Commitment:</b> PGC and DCNR will restrict prescribed burns in forested Indiana and northern long-eared bat winter habitat to prevent smoke from entering hibernacula.
<b>Compliance Monitoring:</b> Verify that all prescribed burns were conducted outside the restriction window unless preapproved by USFWS.
<b>Documentation and mapping of burns undertaken.</b>
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6. However prescribed burns were still evaluated for description of all covered activities implemented ( <a href="#">Section 2.2</a> ) and maps can be found in Appendix A, Section II <sup>17</sup> .
<b>Effectiveness Monitoring:</b> Not applicable; related to status and trend monitoring

<sup>16</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

<sup>17</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.



**Frequency: A minimum of once every 5 years.**

#### CM-11 Restrict Prescribed Fire Seasonally (in Summer habitat)

**Commitment:** PGC and DCNR will restrict prescribed burns in forested Indiana bat summer habitat from May 15 to August 15 and in designated roosting activity areas for Northern long-eared bats from June 1 to July 31.

**Compliance Monitoring:** Verify that all prescribed burns were conducted outside the restriction window unless preapproved by USFWS.

**Documentation and mapping of burns undertaken.**

Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6. However prescribed burns were still evaluated for description of all covered activities implemented ([Section 2.2](#)) and maps can be found in Appendix A, Section II<sup>18</sup>.

**Effectiveness Monitoring:** Not applicable; related to status and trend monitoring

**Frequency: A minimum of once every 5 years**

#### CM-12 Manage Prescribed Burns to Minimize Effects on Bats

**Commitment:** PGC and DCNR will ensure that prescribed burns adhere to smoke and heat restriction to minimize the effect of burns on Indiana and Northern long-eared bats.

**Compliance Monitoring:** Verify that all prescribed burns were conducted outside the restriction window unless preapproved by USFWS.

**Documentation and mapping of burns undertaken.**

Summary of acreage of burns occurring in bat habitat areas can be found in [Section 2.2 Prescribed Fire](#). Maps showing prescribed burns can be found in Appendix A, Section II<sup>19</sup>. No projects took place in winter habitat.

**Smoke management plans prepared for each burn.**

Smoke management plans are prepared for each burn. Example language in burn plans regarding fire management practices used to minimize effects of smoke and heat on bats:

***“Smoke management techniques:***

*The optimal smoke movement is to rise vertically and disperse after reaching proper mixing height. If smoke acts different than described, firing sequence and heat application will be modified to achieve desired results. Some lingering ground smoke is unavoidable, and will be allowed as long as the operation or human safety is not compromised from the residual smoke. The area is sparsely populated, and nearest smoke impacts will be more than one half mile.*

*Ignition will be manipulated to allow a buildup of heat to generate convection that will allow the smoke to lift and disperse on a favorable wind direction during a time of adequate ventilation. Smoke should lift well before being dissipated by upper-level winds to avoid obscuring visibility for crew. Depending on wind direction, smoke inversions could be an issue in the X or Y areas of the burn unit. Smoke will be manipulated throughout the unit to reduce risk of tree-roosting bats awaking from torpor and flushing. The burn boss will designate a crew member to check for smoke issues if it appears that there could be a*

<sup>18</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

<sup>19</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

*problem. All burn crew members will note any flushing of bats and report it immediately up the chain to the Burn Boss so any mitigation measures can immediately occur and be recorded by Burn Boss."*

PGC and DCNR will continue to use the PNDI HCP project types for prescribed burns project on state lands and include the PNDI receipt in burn plans. The parameters for the burn are provided in the PNDI response and then incorporated into the burn plan in a way that the burn boss is able to carry it out. The burn boss will do his/her best to carry it out. The prescribed fire response in PNDI provides smoke management information:

*"A prescribed fire plan, as outlined under the Prescribed Burn Practices Act, will be drafted, and approved by the agency administrator and include a smoke management plan. The smoke management plan shall include the use of ignition tactics that reduce fire intensity and flame length so that the critical plume temperature at which bats could be injured (140°F) does not reach roost height (approximately 30 feet in height). Minimize the loss of potential roost trees to ensure there is an ample supply of roost snags and trees. Large snags and trees should be left on the landscape to provide alternative roosting habitat during prescribed burns."*

PGC and DCNR will continue to implement language relating to smoke and bats in burn plans moving forward.

**Frequency: Annually**

**Effectiveness Monitoring:** Perform a GIS review to determine if any prohibited areas were burned.

**Management recommendations to improve effectiveness**

Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6. However prescribed burns were still evaluated for description of all covered activities implemented ([Section 2.2](#)) and maps can be found in Appendix A, Section II<sup>20</sup>. DCNR and PGC will also continue to work towards ensuring new PNDIs are run for all burn plans and implementing the smoke management and timing restrictions into the burn plans.

**Frequency: A minimum of once every 5 Years**

### CM-13 Restrict Vehicles and Equipment in Perennial Stream and Riparian Areas

**Commitment:** PGC and DCNR will restrict vehicles or equipment used for construction and timber harvest activities near streams or wetlands. See Appendix L, *Stream Buffer Guidelines*, in the HCP.

**Compliance Monitoring:** Monitor State Lands for illegal activity (which includes vehicle entry where prohibited) and issue tickets for violations. Provide a summary of all citations issued for illegal vehicle activity in the annual report submitted to USFWS (PGC game wardens, wildlife conservation officers, DCNR rangers, and State Forest officers).

**Documentation of enforcement activities**

No citations were issued during Year 2. Through clarification with USFWS, this is interpreted to mean state agency activities not public activities (e.g. illegal off-roading ATVs, etc.). No instances of encroachment in stream or wetland buffers were identified.

**Management recommendations to improve effectiveness**

No new management recommendations to improve effectiveness at this time.

**Effectiveness Monitoring:** Assess riparian areas for vehicle activity during regular monitoring of State Lands (PGC and Bureau of Forestry BHIs).

<sup>20</sup> Maps have been redacted from the public version of this report due to the sensitive nature of their information.

No riparian areas were known to be impacted by vehicle activity during regular monitoring of state lands during Year 2.

**Frequency: Annually**

#### CM-14 Retain Vegetation in Perennial Stream and Riparian Areas

**Commitment:** PGC and DCNR will retain appropriate natural vegetation within 50 feet of perennial streams and around wetlands.

**Compliance Monitoring:** Monitor State Lands for illegal activity (which includes removing riparian vegetation where prohibited) and issue tickets for violations. Provide a summary of all citations issued for illegal vehicle activity in the annual report submitted to USFWS (PGC game wardens, wildlife conservation officers, DCNR rangers, and State Forest officers).

**Documentation of enforcement activities.**

No citations were issued during Year 2. Through clarification with USFWS, this is interpreted to mean state agency activities not public activities (e.g. illegal removal of vegetation for personal use). No instances of encroachment in stream or wetland buffers were identified.

**Management recommendations to improve effectiveness**

No new management recommendations to improve effectiveness at this time.

**Effectiveness Monitoring:** Assess riparian areas for vegetation removal during regular monitoring of State Lands (PGC and Bureau of Forestry BHIs).

No riparian areas were known to be impacted by vegetation removal during regular monitoring of state lands during Year 2.

**Frequency: Annually**

#### CM-15 Implement Erosion and Sediment Control Plans

**Commitment:** PGC and DCNR will develop and implement erosion and sediment control plans for logging and other earth-disturbing activities, as needed.

**Compliance Monitoring:** Annually review documentation to ensure that erosion and sediment control plans are developed for all logging and other earth-disturbing activities. During annual audits of timber sale sites, ensure that erosion and sediment control measures are being followed (PGC and Bureau of Forestry).

**Documentation of activities.**

All timber sale contracts must include an erosion and sedimentation control plan to be considered complete. During site visits to timber sales, foresters ensure that E&S measures are being implemented. DCNR's Bureau of Forestry annual FSC-SFI audit also observes E&S measures being implemented (see [Appendix F](#) or DCNR's website for the [SFI audit](#) reports).

**Management recommendations to improve effectiveness**

**Effectiveness: Not applicable**

**Frequency: annually**

## CM-16 Implement Spill Pollution Prevention Measures

**Commitment:** PGC and DCNR will continue to implement spill pollution prevention measures for operations activities and will include provisions in all timber sale agreements requiring the following actions of operators.

**Compliance Monitoring:** Annually review documentation to ensure that spill pollution prevention measures are being implemented for appropriate agency activities. During annual audits of timber sale sites, ensure that steps are being taken to avoid point- and minimize nonpoint-source pollution in streams and other waterbodies.

### Documentation of plans.

All timber sale contracts must address spill prevention measures to be considered complete. No changes have been made to timber sale contract. During site visits to timber sales, foresters ensure that E&S measures are being implemented.

Below is example language from DCNR's contracts that represent language used by both permittees in contracts:

*(b) Should soil erosion, water pollution, or other conditions detrimental to the environment, occur on State or private lands from the operation of this sale, Buyer, at his own expense, must correct said conditions immediately to the satisfaction of the Department.*

*(c) Oil Spills- Commercially available spill kits for hydraulic fluids, lubricating oils, fuels, and other environmentally hazardous fluids must be available on site when equipment is active. Spill kits must include pads and containment socks that are rated to absorb at least 8 gallons of petroleum-based fluids and containers (or heavy-duty bags) capable of holding an equivalent amount of contaminated soil and other absorbents. A shovel should also be available on-site. Pads must be capable of absorbing fluids in water as well as on the ground. Any leaks or spills shall be contained immediately. Soil and absorbents shall be properly disposed of through a landfill approved by the Department of Environmental Protection (DEP). All leaks that exceed 5 gallons in size or a leak of any size into water must be reported immediately to DEP and to the District Forester. 911 or DEP regional offices may be called directly 24-hours per day to report the spill to DEP:*

*Northwest: (800) 373-3398 Northcentral: (570) 327-3636 Northeast: (570) 826-2511*

*Southwest: (412) 442-4000 Southcentral: (877) 333-1904 Southeast: (484) 250-5900*

*(d) Excessive Oil Leakage- Equipment must be maintained to minimize excessive fluid leakage. The District Forester may require equipment with excessive fluid leakage to be removed from the site and oil soiled areas to be excavated and properly disposed.*

*(e) Equipment Parking- Equipment may not be parked overnight within 100 feet of sinkholes, streams, intermittent streams with a defined bed and banks, and any other water body where fluids can leak into them.*

*(f) Oil drained from equipment shall be placed in suitable containers and disposed of as directed by the District Forester.*

*(g) Buyer shall not permit human waste, garbage, kitchen or laundry wash, manure, sawdust or other mill refuse, oil or any other substance harmful or destructive to human, aquatic or fish life to enter any spring, stream, water course, dam, pond or lake.*

<i>(h) Buyer shall provide, maintain and abandon toilet facilities in accordance with the regulations of the Department at locations approved by the District Forester.</i>
<i>(i) Garbage shall be disposed of as directed by the District Forester.</i>
<b>Documentation of spills and the steps taken to address them</b>
No spills were reported during Year 2.
<b>Management recommendations to improve effectiveness</b>
No new management recommendations to improve effectiveness at this time.
<b>Effectiveness: Not applicable</b>
<b>Frequency: Annually</b>

#### CM-17 Maintain Speed Limits on Forest Roads

<b>Commitment:</b> PGC and DCNR will always maintain a 25 miles-per-hour speed limit on all roads under their jurisdiction in modeled summer habitat of Indiana bats and Northern long-eared bats.
<b>Compliance Monitoring:</b> Monitor State Lands for illegal activity (which includes speed limit violations) and issue tickets for violations. Review road signage at least every 5 years to ensure that speed limit signs are in place and in good condition. Review records of speed limit citations on State Lands to determine if additional signage is needed (PGC game wardens, wildlife conservation officers, DCNR rangers, and State Forest officers).
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6.
<b>Frequency: once every 5 years.</b>
<b>Effectiveness Monitoring:</b> Review the literature on bats and vehicle collisions and speed. If this review suggests that a different management approach would be useful, coordinate with USFWS.
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6.
<b>Frequency: once every 5 years.</b>

#### CM-18 Implement Staff Training Program

<b>Commitment:</b> Document training of land managers in overall ecology of covered bats and specialized habitat needs such as summer roosts, foraging areas, and identification of potential hibernacula for both species.		
<b>Compliance Monitoring:</b> Document training of land managers in overall ecology of covered bats and specialized habitat needs such as summer roosts, foraging areas, and identification of potential hibernacula for both species.		
<b>Documentation of training events provided to PGC and DCNR staff (to include date, location, and topics covered, number of attendees and materials).</b>		
<b>Staff Trainings:</b>	<b>Date:</b>	<b>Materials:</b>

Bat HCP Q&A for BOF program areas (Minerals, Fire divisions).	5/5/22	HCP, Powerpoint presentation, maps. Train staff in different divisions how their programs intersect with HCP specifically. Q&A for divisions.
Bat HCP Q&A for BOF program areas (Silviculture).	5/10/22	HCP, Powerpoint presentation, maps. Train staff in different divisions how their programs intersect with HCP specifically. Q&A for divisions.
BOF New Forester Camp (D9)	6/6/22-6/9/22	Bat HCP, PNDI, habitat types, timber sales, Rx burns, and bat habitat identification.
BOF Timber Tour, D7	6/15/22	Train foresters in bat habitat ID, HCP.
BOF Timber Tour, D12	6/22/22	Train foresters in bat habitat ID, HCP.
PGC Cave Safety and Bat ID	2/7-2/11/2022	Train new PGC staff and technicians on bat survey techniques
PGC Summer mist netting and telemetry	8/22-8/26/2022	Train new PGC staff and technicians on bat survey techniques, Chris Sanders presented information
PGC 2-day Land Management Supervisor Conference	6/8-6/10/2022	HCP presentation and information training
Training has taken place continually for DCNR and PGC since the ITP was issued. HCP coordinators answer questions about snag retention, timing restrictions, and surveys for acquisitions. The most questions, and therefore one-on-one trainings, revolve around PNDI.		
<b>Effectiveness Monitoring: Not Applicable</b>		
<b>Frequency: Not Applicable</b>		

### CM-19 Support Public Engagement

<b>Commitment:</b> PGC and DCNR will provide education and outreach to the public and other stakeholders about aspects of management for the covered bat species including identification of habitat, actions the permittees are taking to improve habitat, and actions stakeholders can take to benefit bats.		
<b>Compliance Monitoring:</b> The Bureau of State Parks will develop an outreach program for the public on the conservation efforts and practices for Indiana bats and northern long-eared bats. This program will provide instruction on recognizing and protecting covered hibernacula on state lands, identifying and avoiding effects on potential roost trees, and providing high-quality summer habitat for the covered bat species.		
<b>Document all outreach efforts (including date, location, and topics covered) on an annual basis.</b>		
<b>Outreach Actions:</b>	<b>Date:</b>	<b>Description:</b>

Clarion University class visit	10/7/2021	Stacy Wolbert, PGC, provided information and demonstration on radio telemetry (focusing on bat telemetry) for 18 students at Clarion University.
SFI logger training	11/12/2021	4-hour virtual class, led by Aura Stauffer, DCNR. Class covered bat biology, importance of roosts, how loggers can avoid, minimize impacts.
Girl Scouts talk	3/19/2022	Stacy Wolbert, PGC, provided a presentation on bats on PA including species, biology, habitats, etc. for 10 students.
Slippery Rock University	4/2/2022	Stacy Wolbert, PGC, provided information and demonstration on radio telemetry focusing on bat telemetry. 17 students.
Eastern Pennsylvania Alliance of Climbers Zoom Panel Discussion	4/11/2022	Panelists included Rob Schorr, Zoologist, Colorado State University, and Director of Climbers for Bat Conservation, Dr. Shawn Davis, Slippery Rock University, and representatives from DCNR (Aura Stauffer) & PA Game Commission (Greg Turner). Attendees learned how collaborations among climbers, wildlife biologists and land managers can help manage, conserve, and protect our bat population.
DCNR update	4/26/2022	Stacy Wolbert, PGC, gave an update to DCNR staff on threatened and endangered species, including bats. 40 people.
Bat Program at French Creek State Park	5/27-5/30/22	146 park guests attended the bat program on Saturday evening to learn about bats and see 16 recuperated bats be released at the park near our new bat condo. The public learned about general bat biology, life history, and white-nose syndrome.
Public Bat Talk at Cook Forest State Park	6/24/2022	Amber Nolder, PGC, provided a public presentation to around 20 people at Cook Forest State Park. Covered basic bat biology, Pennsylvania bat species, threats and conservation measures. Conducted a mist-netting demonstration and captured 2 male big brown bats. Morphometric data were collected and then bats were released.
Northeast Bat Working Group	1/13/2022	Greg Turner, PGC, gave a state update on bat work/trends at the NE Bat Working Group meeting.
Commonwealth of Pennsylvania University Biologists Annual Meeting	4/9/2022	Greg Turner, PGC, was Keynote speaker at the CPUB annual meeting and talked about bat management and white nose syndrome research.
Pre-veterinary Class, PSU	4/13/2022	Greg Turner, PGC, gave a lecture to the pre-veterinary class at Penn State Main campus and PA Bat management and disease management.



**Effectiveness Monitoring: Not applicable**

**Frequency: Annually**

#### CM-20 Maintain a Forested Landscape in a Variety of Seral Stages

**Commitment:** PGC and DCNR will maintain at least 3.5 million acres of forest of the 4 million acres of State land owned and managed by the permittees.

**Compliance Monitoring:** Annually review timber sale records on State Lands to ensure that the amount of forest cover remains at or more than 3.5 million acres throughout the permit duration and that areas of modeled Indiana bat and northern long-eared bat habitat remain at or more than current levels (PGC and Bureau of Forestry).

**Documentation of acreage of forest cover across State Lands.**

There are currently approximately 3,987,000 acres of forest cover across the 4 million acres of state lands. Through conversations with USFWS, it was determined that this metric revolves around the temporal nature of timber sales, to ensure that the entire state lands system is not being cut all at once. This metric does not imply that a timber sale causes the “conversion” of forest to non-forest, but simply resets the age of the forest. The goal is to have a mosaic of forest age classes and habitat patches. PGC and DCNR take this approach to managing their lands.

The process taken to determine the acreage of forest cover across all state lands involved taking the total acreage of state lands (4 million) and subtracting the acreage of timber sales of both permittees across all lands (regardless of bat habitat presence).

**Documentation of acreage of summer, fall/spring, and winter habitat for covered bats across State Lands.**

Acreage of habitat for covered bats across state lands, minus timber harvest projects taking place in bat habitat areas, and balance of acres of habitat left unaffected:

	IBAT	NLEB
<b>Summer:</b>		
<b>Acres of habitat on state lands</b>	471,177	366
<b>Acres of Timber Harvest in habitat</b>	-1,344	-
<b>Acres unaffected</b>	469,833	366
<b>Fall/Spring:</b>		
<b>Acres of habitat on state lands</b>	143,962	1,968,416
<b>Acres of Timber Harvest in habitat</b>	-262	-3,278
<b>Acres unaffected</b>	143,699	1,965,139
<b>Winter:</b>		
<b>Acres of habitat on state lands</b>	765	4,746
<b>Acres of Timber Harvest in habitat</b>	-	-
<b>Acres unaffected</b>	765	4,746

The process used for determining these figures began with a GIS exercise by clipping each modeled habitat area to state lands’ geometry (“Habitat acreage (clipped)” for each habitat type). The acreage of timber

sales occurring during the reporting period and within the habitat type was subtracted from the acreage of the clipped habitat polygons.
It is noted again that this metric is not meant to imply that timber sales remove or “convert” forested habitat to non-forested habitat. This refers to the mosaic of age classes of forest across state lands.
<b>Frequency:</b> Annually
<b>Effectiveness Monitoring:</b> Perform a review of habitat cover and quality based on the most recent vegetative data maintained by the permittees.
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6.
<b>Frequency:</b> Every 5 years

### CM-21 Enhance Foraging and Roosting Habitats

<b>Commitment:</b> PGC and DCNR will increase the quality of existing habitat for Indiana bats and northern long-eared bats across State Lands.
<b>Compliance Monitoring:</b> Manage timber harvests and prescribed fire to ensure maintenance of summer habitat for covered bats. Review timber sale sites to ensure that retention guidelines are being followed as described under CM-4.
<b>Documentation of acreage of summer habitat for covered bats across State Lands.</b>
There are <b>469,833 acres IBAT</b> summer habitat and <b>366 acres NLEB</b> summer habitat across state lands. See <a href="#">CM-20</a> for more detail.
site visits that took place verified that retention guidelines were being followed as described in <a href="#">CM-4</a> . This is confirmed in DCNR’s annual FSC- <a href="#">SFI audit</a> report ( <a href="#">Appendix F</a> ).
<b>Frequency:</b> Annually
<b>Effectiveness Monitoring:</b> Review habitat cover and quality based on the most recent vegetative data maintained by the permittees.
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6.
<b>Frequency:</b> Every 5 years

### CM-22 Install Artificial Roost Structures (in Summer Habitat)

<b>Commitment:</b> PGC and DCNR will install, maintain, and monitor 7 artificial roost structures, such as artificial roosts or artificial bark, every other year in Indiana bat summer habitat for the first 10 years of implementation, and another 7 artificial structures in Northern long-eared bat habitat that overlaps with Indiana bat summer habitat for a total of 70 structures.
<b>Compliance Monitoring:</b> Record quantities, activities, and locations of structures installed or maintained.
<b>Documentation of location and status of artificial roosts.</b>
In Year 2, DCNR and PGC installed 22 artificial roosts in summer habitat. (Note, structures may overlap with summer habitat, and numbers below are not additive). In Year 1, DCNR and PGC installed 6 boxes. We reported on 1 box last year, but due to improved reporting and tracking, we now know there were 6 boxes installed. Also note that, DCNR and PGC have used the NLEB modeled highly suitable range polygon for determining priority locations and overlapping habitat, to represent NLEB summer habitat. Representative photos are below.

To date, PGC and DCNR have installed 28 boxes in summer habitat, combined.

- 23 of the 35 required boxes have been installed in IBAT summer habitat.
- 24 of the 35 required boxes have been installed in NLEB summer habitat.

Report Pd	No. Roosts in IBAT Habitat (may overlap)	No. Roosts in NLEB Habitat (may overlap)	Total No. Roosts Installed
1	6	5 (all overlap with IBAT)	6
2	17 (3 non-overlapping with NLEB)	19 (3 non-overlapping)	22
<b>TOTALS</b>	23	24	28



Photos 8-9: Rocket roosts installed in summer habitat for both species 6/29/2022. Photo 10: Bat box installed in summer and winter habitat for both species 6/22/2022. (Photos: Aura Stauffer)



Photos 11: Rocket roost installed in summer and winter habitats for both species, 6/22/2022. Photos 12 & 13: Bat box (middle) and rocket roost (R) installed in summer habitat for both species 6/28/2022. (Photos: Aura Stauffer)

<b>Frequency: As needed</b>
<b>Effectiveness Monitoring:</b> Examine structures will be to determine bat use. If bats are present, count bat emergences. Mount a guano screen to the base to collect fecal pellets, which may be submitted for genetic analysis (Judy et al. 2010) (QBS or BHI).
Permittees reported on this metric in Year 1. The next year to include monitoring in the Annual Report will be Year 6. Additionally, new structures have not been erected long enough to become used by bats.
<b>Frequency: Every 5 years</b>

### CM-23 Identify, Assess, Protect, and Enhance Potential Hibernacula

<b>Commitment:</b> PGC and DCNR will install artificial roost structures for covered bats in modeled summer habitat. In addition to the seven known and occupied hibernacula protected under CM-1 <i>Install Gates at Known Hibernacula</i> , PGC and DCNR will search for and protect at least 10 additional sites on State Lands suitable as hibernacula for both Indiana bats and northern long-eared bats over the permit term by identifying and protecting potential underground structures (e.g., mines, tunnels, bunkers, and abandoned large culverts).
<b>Compliance Monitoring:</b> Document all efforts to survey State Lands for potential Indiana bat hibernacula. Identify and enhance at least five hibernacula in the first 15 years and the remaining five hibernacula in the remaining 15 years (if not sooner). Report annually on progress towards these benchmarks. Record the status of all identified potential hibernacula and any steps taken to enhance the quality of potential hibernacula for Indiana bats (through direct means, such as structural modifications, or indirectly through other management efforts).
<b>Documentation of steps leading to and locations of created hibernacula on State Lands.</b>
A tunnel has been recently located on a state forest district and was surveyed in March. No IBAT or NLEB were observed.
10 potential hibernacula sites were surveyed on a state forest land in fall 2021 by DEP Bureau of abandoned Mine Reclamation's contractor. DCNR and DEP are partnering on gate design and implementation.
1 juvenile NLEB captured. (also 5 eastern small-footed, 2 big brown and 1 little brown bats were also identified.)
<b>Frequency: Annually</b>
<b>Effectiveness:</b> Following gating and or modification, equip each site that is safe to enter with a speleologger to determine if the site provides suitable temperatures for Indiana bats.
<b>Documentation of survey data and findings.</b>
Gating or modification has not occurred yet.
<b>Management recommendations to improve quality of hibernacula.</b>
<ul style="list-style-type: none"> <li>• For mine openings with bats identified (NLEB or otherwise), Install gates between May 15-Aug 30.</li> <li>• For mine openings with no bats identified, close opening between June 1-July 31.</li> <li>• One mine opening was potentially linked to a confirmed hibernacula, opening entrance and stabilizing with 36" pipe or two 24" pipes.</li> <li>• Assessments will begin taking place to determine if any hibernacula on state lands can be excavated to increase cooling and improve habitat.</li> </ul>
<b>Frequency: Annually</b>

#### CM-24 Provide Artificial Roosts for Infected Bats (Winter Habitat)

**Commitment:** PGC and DCNR will install artificial roosts within 0.25 mile\* of the entrance to each Indiana bat hibernaculum with known or suspected WNS contamination to allow bats infected with WNS a place to roost once they emerge from hibernation. Agencies will install 14 artificial roosts at known winter IBAT habitat within first year of permit term (where species are anticipated to share roost sites) and install roosts at 3 Category-1 NLEB Hibers.

**Compliance Monitoring:** Document or verify installation of artificial roosts near hibernacula so that WNS-infected bats can recover following emergence

#### Documentation of location and status of artificial roosts.

The HCP directs PGC and DCNR to install 14 artificial roosts in overlapping IBAT and NLEB winter habitat (1/4 mile buffer around hibernacula) within the first year of the permit term and 3 at Category-1 NLEB hibernacula. However, COVID-19 restrictions limited field time and caused delays in Year 1. Therefore, DCNR and PGC are still working to meet the installation of 14 boxes in IBAT winter habitat.

To date, PGC and DCNR have installed 9 boxes altogether.

- 8 of the required 14 boxes in IBAT winter habitat have been installed
- 9 of the required 30 boxes in NLEB winter habitat have been installed.

Report Pd	No. Roosts in IBAT Habitat (may overlap)	No. Roosts in NLEB Habitat (may overlap)	Total No. Roosts Installed
1	4 (all overlap)	4	4
2	4 (all overlap)	5	5
TOTALS	8	9	9





Photo 14: Bat box installed in winter and summer habitat for both bats 6/29/2022. Photo 15: Bat box installed in NLEB winter habitat 6/30/2022. (Photos: Greg Turner)

**Frequency: Annually**

**Effectiveness Monitoring:** Monitor created roosts to determine use.

**Documentation of condition and use of artificial roosts.**

9 of the 12 existing Bradenbark roosts at one location were monitored. No Bats were found.  
 Note: After consulting with USFWS, it was determined that adding two additional structures for bats would be unnecessary at this location. PGC and DCNR will place those two additional boxes in other suitable locations.

**Frequency: Annually**

**\*Administrative Change:**

PGC and DCNR suggest adding flexibility to the requirement that boxes be placed within the ¼-mile buffer of the entrance to hibernacula. This limits where an artificial roost can be placed, and in some instances, the best location for an artificial roost considering sunlight exposure, terrain, access, etc. may be outside of the ¼ mile buffer. PGC and DCNR communicated this to USFWS on 11/7/2022 and confirmed that as long as the intent of the artificial roost is to serve bats from a hibernacula and it is located nearby, it is acceptable as meeting the conservation measure.

## 10.0 Monitoring and Research Program Changes

The HCP directs PGC and DCNR to identify recommendations for changes to the monitoring and research program based on interpretation of monitoring results and research findings, if applicable.

No changes in PGC's and DCNR's monitoring and research program are being proposed as a result of this reporting period. Through the process of writing the annual report, several instances have been identified for more streamlined collection of data. The permittees will work to get those improvements in place for future years, such as utilizing Microsoft Teams or other platform for shared storage of photos or other data.

## 11.0 Shortfalls

The HCP directs PGC and DCNR to report on identification of any shortfalls and whether the methods need to be improved or quantities increased for habitat restoration and creation methods (i.e., installation of artificial roosts, modifications to hibernacula).

The only shortfalls that have been identified during this reporting period are the gaps between permittees data collection and reporting abilities. There is an opportunity for greater efficiencies in internal tracking mechanisms. PGC and DCNR have not identified conservation measure methods that need to be improved or quantities that need to be increased for habitat restoration or creation at this point. The permittees are still feeling the effects of COVID-19 restrictions and have fallen short on the number of artificial roosts and gates installed. DCNR and PGC will discuss with USFWS how to best incorporate the structures into future years to meet goals.

## 12.0 HCP-Directed Studies

The HCP directs PGC and DCNR to describe of any HCP-directed studies undertaken during the reporting period, study results, and a description of integration with monitoring, assessment, and compliance and effectiveness elements.

No HCP-directed studies have been undertaken during this reporting period.

## 13.0 Climatic Conditions

The HCP reporting section requires a summary of climatic conditions in the plan area, including average high and low monthly temperatures and average monthly precipitation over the reporting period.

The following information is a summary of archived data for Harrisburg, PA for Year 2, July 2021-June 2022. This location was chosen since it is the state capital and central location of the HCP coordination. National Weather Service Forecast Office (NOAA) website was queried for the reporting period. Table 13.0 shows the average climatic conditions, average monthly high and low temperatures, and average monthly precipitation, according to the NOAA website from State College, PA.

Monthly mean maximum temperatures were about the same in Year 1 as Year 2. The yearly averages maximum temperature for Year 1 (Dec. 2020-June 2021) and Year 2 (July 2021-June 2022) was 57.9 degrees Fahrenheit. The yearly average monthly minimum temperature in Year 2 was higher than in



Year 1 (46.7 deg. F in Year 2 compared to 40.4 deg. F in Year 1). The average monthly mean precipitation in Year 1 was the same as in Year 2 (0.1 inches). The monthly mean snowfall was greater in Year 1 than in Year 2 (0.17 inches in Year 1 compared to 0.04 inches in Year 2).

*Table 13.0 Average climatic conditions for permit area.*

Month	Average High / Low Temperature (in degrees Fahrenheit)	Monthly Precipitation / monthly snowfall (in inches)
July 2021	86.4 / 68.7	8 / 0
August 2021	86.8 / 69.9	5.9 / 0
September 2021	78.7 / 61	11.4 / 0
October 2021	70.5 / 54.2	2.5 / 0
November 2021	52.6 / 33.9	1.2 / 0.1
December 2021	50.2 / 33.5	0.8 / 1
January 2022	35.6 / 20.6	2.9 / 9.5
February 2022	46.6 / 25.3	2.9 / 2
March 2022	55.1 / 33.9	3 / 3.8
April 2022	60.9 / 41.6	3.4 / 0
May 2022	75.2 / 55.4	6.7 / 0
June 2022	82.2 / 62.7	4.3 / 0

SOURCE: NOAA NATIONAL WEATHER SERVICE FORECAST OFFICE, STATE COLLEGE PA. OBSERVED WEATHER REPORTS FOR MONTHLY WEATHER SUMMARY, HARRISBURG. ([HTTPS://WWW.WEATHER.GOV/WRH/CLIMATE?WFO=CTP](https://www.weather.gov/wrh/climate?wfo=CTP))

## 14.0 White Nose Syndrome Impact

The HCP directs PGC and DCNR to provide an assessment of the annual and cumulative impact of WNS on covered species in the plan area (Section 6.5.1.2, White-Nose Syndrome). This will include copies of reports or publications about WNS and covered bats released over the reporting year and the total number of hibernacula surveyed (including both known and potential habitat for covered species).

The annual and cumulative impact of WNS on covered species has not changed over the reporting period, as compared to the 2011 Turner et. al. publication, “A Five-year Assessment of Mortality and Geographic Spread of White-Nose Syndrome in North American Bats, with a Look at the Future. Update of White-Nose Syndrome in Bats.” Bat Research News, 52:13-27.

Below are publications the permittees have been involved in regarding white nose syndrome, covered bats, and their habitats.

1. Mattea A. Lewis, Gregory G. Turner, Michael R. Scafini, and Joseph S. Johnson. Seasonal roost selection and activity of a remnant population of northern myotis in Pennsylvania. Plos One (Accepted/needs final edit 6/13/22) PONE-D-22-08222R1.
2. Sewall, B. J., Turner, G. G., Scafini, M. R., & Johnson, J. S. (2022). Cooling subterranean environments for climate adaptation and disease management: reply to Meierhofer et al. Conservation Biology, 36, e13928. <https://doi.org/10.1111/cobi.13928>

3. Bat Red Blood Cells express Nucleic Acid Sensing Receptors and bind RNA and DNA. L.K. M. Lam, J. Dobkin, K.A. Eckhart, I. Gereg, A. DiSalvo, A. Nolder, E. Anis, J. C. Ellis, G. Turner, and N. S. Mangalmurti. 2022. *ImmunoHorizons* May 1, 2022, 6 (5) 299-306; DOI: <https://doi.org/10.4049/immunohorizons.2200013> doi:<https://doi.org/10.1101/2022.01.13.476238>
4. Unrecognized diversity of mammalian orthoreoviruses in North American bats. Feng, K. H. J.D. Brown, G.G. Turner, E. C. Holmes, and A. B. Alison. 2022. *Virology* 571 (1-11). Cover Photo.
5. Gregory G. Turner, Brent J. Sewall, Michael R. Scafini, Thomas M. Lilley, Daniel Bitz, and Joseph S. Johnson. 2022. Cooling of bat hibernacula to mitigate white-nose syndrome. *Conservation Biology* 2022;36:e13803. <https://doi.org/10.1111/cobi.13803>
  - a. This paper showed that bats increase usage in hibernacula that have been manipulated to increase cooling. The data show bats are responding effectively to WNS through habitat selection. The study shows that cooling warm sites receiving little use by bats is a viable strategy for combating WNS.

## 15.0 Changed or Unforeseen Circumstances

The HCP directs PGC and DCNR to provide documentation of any changed and unforeseen circumstances that were triggered during the year, if applicable. If any were triggered, the report will also include any responses implemented, and resulting monitoring, to changed circumstances in prior years.

No changed or unforeseen circumstances were triggered during the past reporting period. It should be noted that the eventual uplisting of other bat species, such as little brown, would likely trigger an amendment. Future HCP annual reports will include updates on this issue.

## 16.0 Administrative Changes and Amendments

The HCP directs PGC and DCNR to provide a summary of any administrative changes, minor amendments, or major amendments proposed or approved during the reporting year (Section 6.5.2, Modifications to the HCP or Permit).

The HCP provides definitions for “administrative changes” and “amendments.” Administrative changes are internal changes or corrections to the HCP that may be made by PGC and DCNR, at their own initiative, or approved by PGC and DCNR in response to a written request submitted by USFWS.

Requests from USFWS will include an explanation of the reason for the change as well as any supporting documentation. Amendments that modify the projects and activities described in the HCP such that they may affect the effects analysis or conservation program of the HCP or affect other environmental resources or other aspects of the human environment in a manner not already analyzed, must comply with applicable permitting requirements, including the need to comply with NEPA, the National Historic Preservation Act, and Section 7 of the ESA.

PGC, DCNR, and USFWS have discussed possible paths forward if additional bat species such as little brown bat (*Myotis lucifugus*) and tri-colored bats (*Perimyotis subflavus*), become federally listed in future. Proposed administrative changes during this reporting period:

Administrative changes are internal changes or corrections to the HCP made by DCNR or PGC, which may not require a full revision to the HCP or ITP (HCP, Chapter 6.5.2.1). PGC & DCNR have identified the following issues or corrections in the HCP, along with proposed administrative change and explanation to USFWS.

- **CM-10 Restrict Prescribed Fire Seasonally (Winter) (p. 5-36)**
  - **Concern:** This conservation measure applies year-round, not a seasonal restriction.
  - **Suggested Administrative Change:** PGC & DCNR assumes this should read “Restrict Prescribed Fire ~~Seasonally~~ Year-Round in Winter Habitat”
- **Table 5-7 M1—Mist-net/Telemetry studies in summer habitat (Table 5-7, p. 5-58)**
  - **Concern:** “Field days” vs. “net nights.”
    - The Monitoring Action states: “PGC and DCNR will continue mist-netting surveys (approximately *12 field days*) in areas of greatest scientific value (e.g., in known populations of both Indiana and northern long-eared bats to understand WNS survivorship, calculate Indiana bat maternity colony success, understand fall migratory movements)”
    - The Frequency states “At least *four sites annually* during the approved summer survey period for Indiana and northern long-eared bats.”
  - **Suggested Administrative Change:** “PGC and DCNR will continue mist netting surveys (approximately ~~12 field days~~ *net nights*) ...”
    - RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES, March 2022, provides examples of how to count net nights. This is the number of sites x number of nets/site x the number of calendar nights.
    - If the goal is 12 net nights, and the frequency is 4 sites annually, it can be calculated this way: (4 sites x 1 net x 3 nights) or (4 sites x 3 nets x 1 night)
  - **Concern:** telemetry at maternity colonies
    - The Monitoring action states: “Indiana and northern long-eared bats captured during these events will be *radio-tracked* in accordance with current USFWS and PGC protocols.”
    - Clarify: how many days of radio tracking required
  - **Suggested Administrative change:** include information about how many days to radio-track. Suggest 2 days of tracking.
- **M2—Counts and mist-netting at maternity colonies at Canoe Creek SP (Table 5-7, p. 5-58)**
  - **Concern:** Unsure of purpose of the mist-netting and radio-tracking at maternity colonies.
    - Monitoring action states: “PGC and DCNR will continue annual direct visual counts of the maternity colony at Canoe Creek State Park. *Mist-netting of this colony will be conducted at least once every 3 years during the maternity season* (Butchkoski 2003; Butchkoski and Mehring 2004; Butchkoski and Turner 2005, 2006, 2007, 2008; Butchkoski 2009, 2010). Indiana or northern long-eared bats captured during this effort *will be tracked* in accordance with current USFWS and PGC protocols.”
    - Frequency: “Visual count annually, mist netting at least once every 3 years.”
    - Question: if we know the location of maternity colonies, why mist net and what would be the benefit of tracking female bats?
    - Foraging areas have already been determined from past telemetry studies
    - Could put bands on bats, but this is already done during fall/spring harp trapping at mine entrances.

- **Suggested Administrative change:** When we identify new hibernacula, we could trap and track bats to see if there is a new maternity colony.
- **M3—Artificial roost monitoring counts (Table 5-7, p. 5-58)**
  - **Concern:** 200 boxes to monitor
    - Monitoring action states: “PGC and DCNR will continue direct visual counts of maternity colonies and existing and new artificial roost sites, including those used by Indiana and northern long-eared bats, across the state as part of the Appalachian Bat Count.”
    - Frequency states: “approximately 200 sites annually.”
    - There are probably not 200 artificial roosts on state lands to be monitored. (altogether less than 100 are known).
    - We assume that the “200 sites” must have included all boxes (on private and public) in the ABC database; that ICF misinterpreted that as there being 200 sites on state lands.
  - **Suggested Administrative Change:** Options
    - Edit frequency to read “approximately 20-30 ~~200~~ sites annually on state land, rotating.” That would mean each artificial roost on state lands would not be monitored every year but should be checked every 2-3 years.
    - Edit frequency to read “approximately 200 sites annually, through the Appalachian Bat Count” indicating the 200 sites will be monitored by ABC and are not all on state lands
    - Or no change is needed as long as it is understood that the 200 sites are not all on state lands.
- **M4—NABat Acoustic Routes (Table 5-7, p. 5-58)**
  - **Concern:** Likely not all 6 transects in each of the 6 PGC regions fall within state lands.
    - Monitoring action states: “PGC and DCNR will continue to participate in the USGS NABat monitoring program by completing six transects in each of the six PGC regions throughout the state. Currently, this requires a minimum of 35 nights of monitoring which are completed by driving a designated route at 20 miles an hour, recording bat calls during the trip, and subsequently using approved software to analyze and identify calls. These routes provide an index of summer bat populations of all species and a means of locating unknown colonies of Indiana and northern long-eared bats.” Frequency: annually
  - **Suggested Administrative Change:** No changes needed if it is understood that the 6 transects are not all located on state lands. Also, the permittees would like the reporting metric to be for number of routes, not number of nights, monitored.
- **M7—Hiber Surveys (Table 5-7, p. 5-59)**
  - **Concern:** The 30 surveys of hibernacula conducted each year by PGC and DCNR may have included both public and private lands.
    - Monitoring Action: “PGC will continue to perform visual inspection of caves and mines for hibernating bats from December through March to assess presence and population of covered bat species.”
    - Frequency states: “Annual surveys typically include at least one survey at each of 30 *different hibernacula*”

- PGC & DCNR believe ICF misinterpreted the list of potential NLEB hibernacula (32 of which are on state lands, p. 5-22 in the HCP) to mean that there are 30 confirmed hibernacula on state lands which are typically surveyed each year.
    - In reality 5-7 hibernacula on state lands are surveyed each year.
  - **Suggested Administrative Change:** Change language in frequency to “annual surveys typically include at least one survey at each of ~~30~~ 7 different hibernacula.”
- **Other general questions for consideration:**
  - **Question about recreation:**
    - Recreation pressure has increased since HCP was written: ATVs, camping, foot traffic, wildcat trails, rock climbing, etc.
    - Recreation is not a covered activity, but it could affect bats.
    - How should we treat recreation impacts? Examples
      - Rock climbing and potential bat roosts
      - Off-road ATV through creeks
      - Someone intentionally cuts down snag (potential roost tree)
      - If we observe take occur
    - (we assume this would be captured with citations, but looking for clarification)
  - **Question/clarification about seasonal restrictions**
    - Looking for clarification on whether seasonal restrictions are complete no-go “blackout dates” or if it does happen it get rolled into our total acres of take.

## Information from External Reports

Some adaptive management strategies were identified involving utilizing lag times of reports from other organizations and determining the appropriate time period to include. In Year 1, DCNR determined that the appropriate FSC-SFI Audit report to include in Annual HCP reporting was from the field season *following* the reporting period rather than the one during the reporting period because evaluated the previous year’s activities (e.g. the reporting period).

The Appalachian Bat Count is a report that is submitted to PGC annually according to the fiscal year. The HCP reporting structure also follows the fiscal year; however, the ABC report is received by the permittees after the deadline for the HCP annual report. Therefore, the ABC data included is from the *previous* fiscal year. However, the ABC report is dated 8/5/2021 which falls within this HCP reporting period. In future years, as more data becomes available from the ABC and the NABat reports, the permittees will present information in running charts to show how bat data changes over the life of the permit.

Another adaptive management issue stemming from the annual report is the determination that the permittees will report on total acreage within bat habitat areas, not total acres of covered activities regardless of bat habitat areas. Since the HCP, ITP, and this report revolve around covered activities within the modeled habitat areas for the covered species, it was determined that this was the most appropriate information to report on.

## 17.0 Section 106 Documentation

USFWS issuance of an ITP is a federal action subject to Section 106 of the NHPA. To comply with Section 106, USFWS will have to consider the effects of permit issuance on properties listed on or eligible for listing in the National Register.

As per the environmental assessment (EA) conducted by the US Fish and Wildlife Service for the National Environmental Policy Act (NEPA), PGC and DCNR will consult with the State Historic Preservation Office (SHPO). The Service remains responsible for all required findings and determinations associated with the National Historic Preservation Act (NHPA) review, coordination with the applicants and SHPO, and documented completion of the compliance process. However, the Service will require the permittees to satisfy Section 106 requirements prior to initiating any ground-disturbing activities that could affect historic properties and provide documentation to the Service.

### 17.1 NHPA Consultation

The EA states Completion of the required NHPA consultation process can be satisfied through several alternative pathways. For example, the applicants could choose to consult with the SHPO on a project-by-project basis for individual timber harvests, coordinate NHPA consultation on each resource/comprehensive management plan, develop an agreement with the SHPO that could spell out requirements for future consultations on a programmatic basis, or identify another alternative. The applicants are encouraged to choose the scope and scale of coordination that best suits their needs, so long as documentation confirming that the required consultation has been concluded is provided to the Service.

The PGC and DCNR consult with SHPO when internal review of projects determines a potential conflict with cultural resources. Since the PGC and DCNR did not conduct ground disturbing impacts in this time period, no consultation with SHPO took place within the reporting period. All PGC habitat work goes through SHPO coordination and review annually. PGC consults with SHPO further for activity that goes beyond plow depth.

DCNR recently hired a Cultural and Historical Resources Specialist to coordinate reviews for the Bureau of State Parks and the Bureau of Forestry and the SHPO, the PA Historic and Museum Commission. DCNR consulted with SHPO on 34 projects on state parks and state forests for covered activities.

Only 2 of these projects were in bat habitat; both received a response from SHPO of no effect/no survey requested.

### 17.2 Tribal Consultation

The Section 106 process also requires consultation with federally recognized Tribal Nations whose interests could be affected by covered undertakings (or covered activities). In accordance with 36 C.F.R. Part 800, the Service shall delegate initiation of Tribal consultation to the permittees. As part of their Section 106 compliance, the applicants will notify consulting Tribes about proposed undertakings early in the planning process and take Tribal comments on historic properties into consideration prior to initiating any ground-disturbing activities that could affect historic properties. The applicants will provide documentation of Tribal consultation to the Service.

The PGC and DCNR consulted with the two tribal nations, the Delaware Nation and the Seneca Nation, that indicated they wished to be contacted. Copies of that consultation are below. PGC and DCNR will notify these nations annually and keep track of communications.

(DUE TO THE PRIVATE NATURE OF THE INFORMATION INCLUDED THEREIN, THESE CORRESPONDANCES HAVE BEEN REDACTED FROM THE PUBLIC VERSION.)



## Appendices:

### Appendix A. Maps and Additional Information

DUE TO THE SENSITIVE NATURE OF THE INFORMATION INCLUDED IN THIS APPENDIX, MAPS HAVE BEEN REDACTED FROM THE PUBLIC VERSION. ADDITIONAL INFORMATION SUCH AS BROCHURES ARE INCLUDED WHERE APPLICABLE.

#### I. Timber Harvest

Map 1: PGC Timber Sales and Indiana Bat Habitat Area Intersects

Map 2: DCNR Timber Sales and Indiana Bat Habitat Area Intersects

Map 3: PGC Timber Sales and Northern Long-Eared Bat Habitat Area Intersects

Map 4: DCNR Timber Sales and Northern Long-Eared Bat Habitat Area Intersects

#### II. Prescribed Burns

Map 5: PGC Prescribed Burns and Indiana Bat Habitat Area Intersects

Map 6: DCNR Prescribed Burns and Indiana Bat Habitat Area Intersects

Map 7: PGC Prescribed Burns and Northern Long-Eared Bat Habitat Area Intersects

Map 8: DCNR Prescribed Burns and Northern Long-Eared Bat Habitat Area Intersects

#### III. Fencing

Map 9: DCNR (Bureau of Forestry) Fencing and Bat Habitat Area Intersects

#### IV. Firewood Collection

Map 10: DCNR (Forestry) Firewood Restrictions

Example of District Firewood Brochure





#### V. Artificial Roosts

Map 11: Artificial Roosts and Summer Habitats

Map 12: Artificial Roosts and Winter Habitats

#### IV. Firewood Collection

DUE TO THE SENSITIVE NATURE OF THE INFORMATION INCLUDED IN THIS APPENDIX, MAPS HAVE BEEN REDACTED FROM THE PUBLIC VERSION. AN EXAMPLE OF THE PUBLIC BROCHURE IS PROVIDED.

APPLICATION FOR FIREWOOD CUTTING		FIREWOOD CUTTING		CUTTING INFORMATION	
<p><b>FIREWOOD GATHERING APPLICATION</b></p> <p>Complete ALL information requested. Mail completed application and check or money order made payable to <b>'Commonwealth of PA' to:</b> Bureau of Forestry 181 Rothrock Lane Huntingdon, PA 16652</p> <p>Once completed application and payment are received, it is reviewed. If everything is in order, your permit will be mailed or emailed to you within 1-2 business days after receipt.</p> <p>Name of Person gathering firewood: _____</p> <p>Address: _____</p> <p>Email: _____</p> <p>Daytime phone number: (____) _____</p> <p>Permit Holder Driver's Lic# &amp; Date of Birth: _____</p> <p>Make/Model/Yr/Color of Vehicle _____</p> <p>Plate # _____</p> <p>Name 1 or 2 roads where firewood will be gathered: _____</p> <p>Date you want permit to begin: _____ (otherwise, permit will start 3 days after mail date from district office)</p> <p>Amount of payment enclosed: \$20 - 1 cord      \$40 - 2 cords</p> <p><small>There will be a \$50 service fee charged for checks returned due to insufficient funds, account closures, or stop payments.</small></p>		<p><b>Firewood Permittee:</b> Firewood cutting on state forest land is a privilege offered to all responsible citizens, 18 years of age or older, who are willing to adhere to the regulations necessary to protect our environment.</p> <p>Experience has taught us that these few rules are necessary. By promptly reporting violators, you can help insure that our firewood program will be continued from year to year.</p> <p>One other note of caution, please be careful when working in the woods, especially when using a chainsaw. It is great to be able to save money by burning wood but just one accident could erase that saving and more.</p> <p>Please read the regulations carefully. Should you have any questions, contact our office by calling (814) 643-2340, email us at <a href="mailto:FD05@pa.gov">FD05@pa.gov</a>, or writing to: Bureau of Forestry, 181 Rothrock Lane, Huntingdon, PA 16652. In case of an emergency or to report a violation after normal working hours contact the Huntingdon County Control Center (814-643-3860), the Centre County Control Center (1-800-478-0050), or the Mifflin County Control Center (717-248-9607) and ask the person on duty to contact one of our forest officers who will return your call as soon as possible.</p> <p>May your firewood cutting and your time spent on the Rothrock State Forest be an enjoyable experience.</p>		<ul style="list-style-type: none"> <li>• Firewood is standing or down <b>DEADWOOD ONLY</b>.</li> <li>• Firewood is for personal use only and may not be resold.</li> <li>• The blocking of drainage ditches, pipes and other structures with tops and slash is prohibited.</li> <li>• Stump height of cut trees may not exceed the diameter of the stump or 12 inches, whichever is smaller.</li> <li>• Removal of fuel wood by any method other than hand carrying or wheel barrow is prohibited.</li> <li>• All tops and slash shall be removed 25 feet from streams, roads, trails, and boundaries.</li> <li>• Obstructing a gate, road, trail, path, access way or road turnaround is prohibited.</li> </ul>	
<p><b>AREAS CLOSED TO CUTTING</b></p> <ul style="list-style-type: none"> <li>• Firewood cutting is prohibited in areas marked for timber sales, denoted by <b>State Forest Timber Sale Boundary signs</b>, or where trees are marked with paint or within fenced deer exclosures.</li> <li>• Firewood cutting is prohibited along Route 322, 26, and 305. It is also prohibited along Charter Oak Road and Barree Road, and Grissinger Camp Lane.</li> <li>• NO firewood cutting is permitted in Natural Areas, Wild Areas, or any area posted against cutting.</li> </ul>		<p>Bureau of Forestry Rothrock State Forest District 5 181 Rothrock Lane Huntingdon, PA 16652 Telo: (814) 643-2340 • Email: <a href="mailto:FD05@pa.gov">FD05@pa.gov</a> Website: <a href="http://www.dcnr.pa.gov/StateForests/FindAForest/Rothrock/">www.dcnr.pa.gov/StateForests/FindAForest/Rothrock/</a></p> <p>In the event of an emergency, contact a state forest employee or dial 911.</p> <p>If you become lost: stop, stay calm, stay put, &amp; dial 911. The further you walk the longer it will take to find you.</p> <p> Check out 'Rothrock State Forest' on Facebook!</p> <p></p>		<p><b>Rothrock State Forest</b></p> <p><b>Firewood Cutting</b></p>   <p><b>Pennsylvania Bureau of Forestry</b></p>	

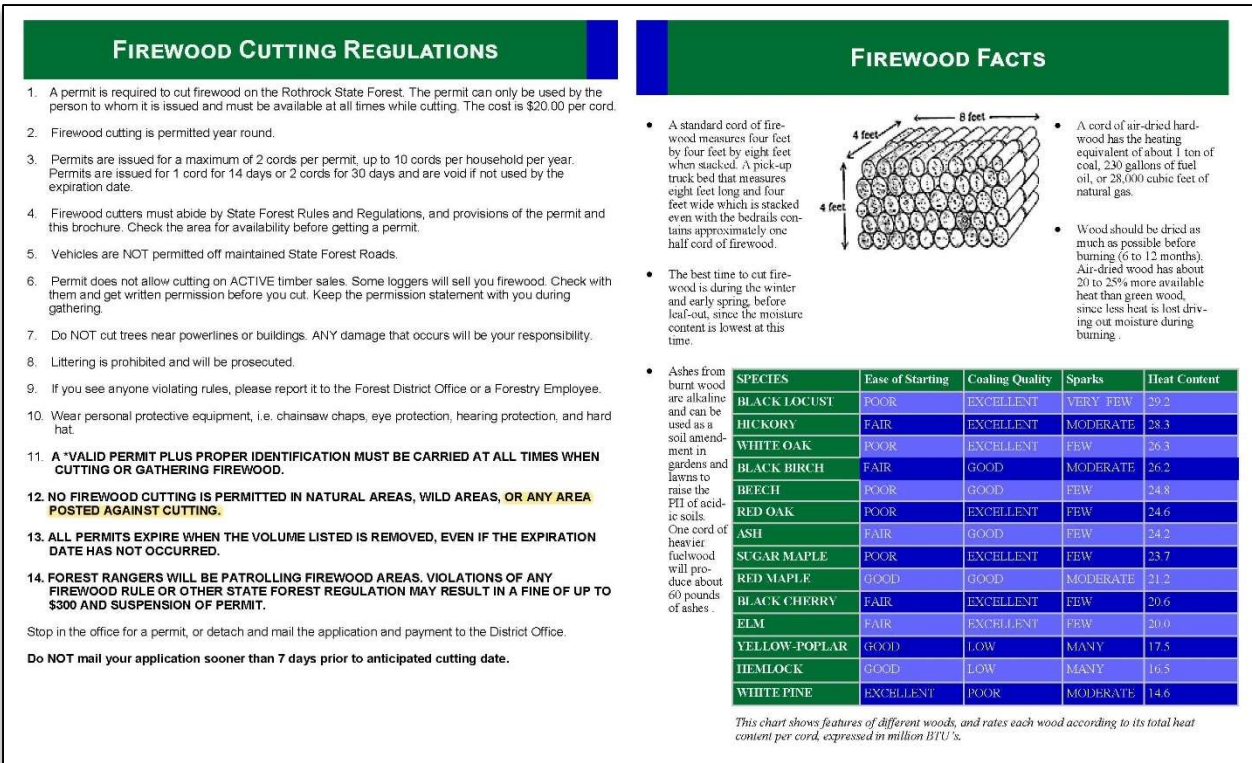
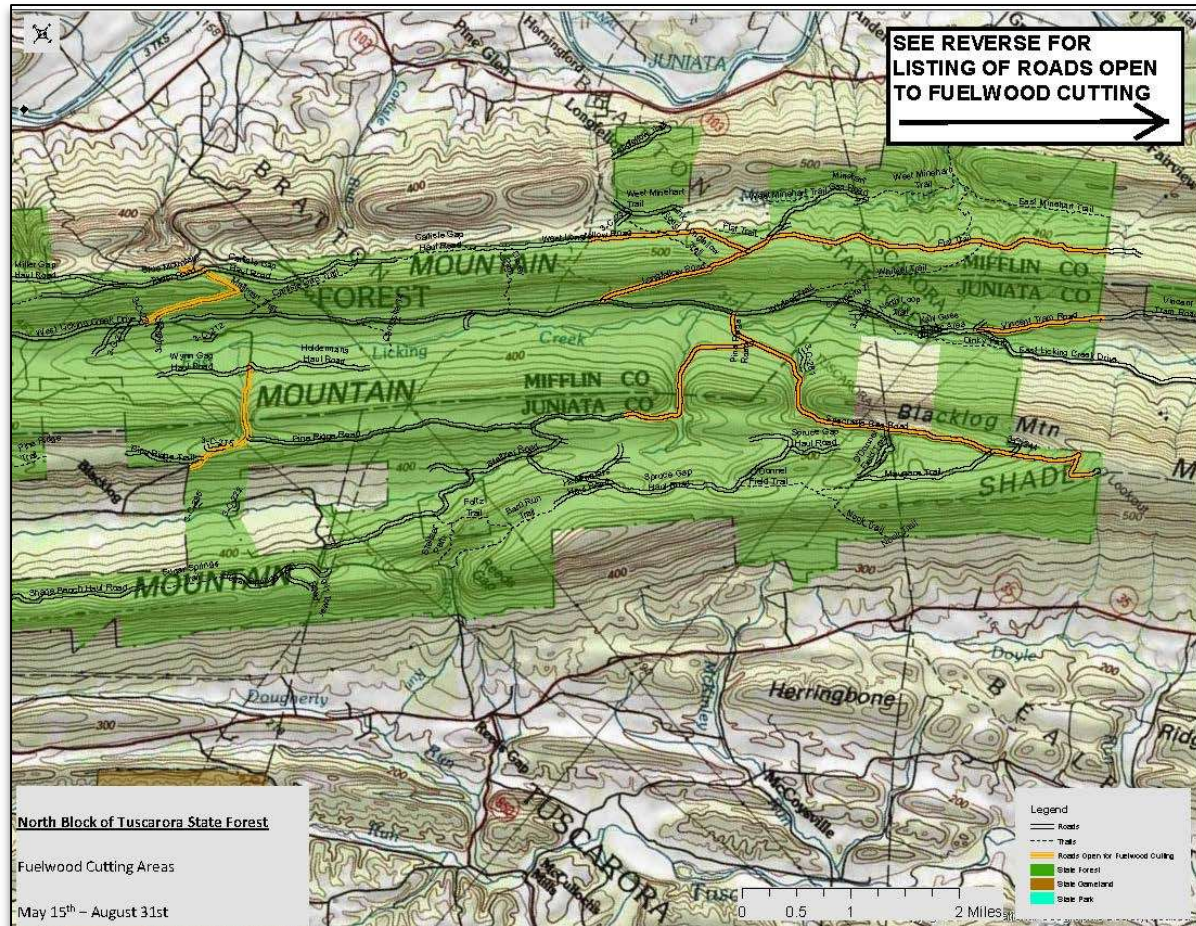


Figure 2. Firewood brochure example from Rothrock State Forest, with restrictions highlighted.





#### Roads Open to Fuelwood Cutting (North Block) May 15<sup>th</sup> – August 31<sup>st</sup>

**McVeytown Road**

**Wynn Gap Road** (Only south of Holderman Haul Road to the private land boundary) – see reverse map

**Longfellow Road** (Only between Licking Creek Drive and Flat Trail) – see reverse map

**Flat Trail**

**West Longfellow Road**

**Vincent Tram Road**

**Spectacle Gap Road**

**Pine Ridge Road** (Only to the gate on the east end) – see reverse map

Figure 3. Tuscarora State Forest map depicting roads open to cutting firewood. Roads that had greater than 30% of their length in high quality modeled Indiana bat habitat are not open to cutting.

## Appendix F. FSC-SFI Audit Results

DUE TO THE CONFIDENTIAL NATURE OF SOME OF THE INFORMATION INCLUDED IN THIS APPENDIX, THE FSC AUDIT REPORT HAS BEEN REDACTED FROM THE PUBLIC VERSION. THE SFI PUBLIC REPORT IS ALSO ACCESSIBLE FROM DCNR'S WEBSITE, [HERE](#).



## **Pennsylvania Department of Conservation and Natural Resources 2022 SFI® Forest Management Public Summary Audit**

### **Introduction**

The Pennsylvania Department of Conservation and Natural Resources has demonstrated conformance to SFI® 2022 Forest Management Standard in accordance with the NSF certification process.

Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry is responsible for management of approximately 2.2 million acres of state forest lands. The Bureau of Forestry's mission is to ensure long-term health, viability and productivity of the commonwealth's forests and to conserve native wild plants. The bureau will accomplish this mission by:

- Managing state forests under sound ecosystem management, to retain their wild character and maintain biological diversity while providing pure water, opportunities for low-density recreation, habitats for forest plants and animals, sustained yields of quality timber, and environmentally sound utilization of mineral resources.
- Protecting forestlands, public and private, from damage and/or destruction by fires, insects, diseases, and other agents.
- Promoting forestry and the knowledge of forestry by advising and assisting other government agencies, communities, landowners, forest industry, and the general public in the wise stewardship and utilization of forest resources.
- Protecting and managing native wild flora resources by determining status, classifying, and conserving native wild plants.

The audit was performed by NSF on October 4-6, 2022, by an audit team headed by Tucker Watts, Lead Auditor. Audit team members fulfill the qualification criteria for conducting audits contained in SFI 2022 Procedures and Auditor Qualifications and Accreditation.

The objective of the audit was to assess conformance of the bureau's SFI Program to the requirements of the SFI Forest Management Standard.

The scope of the audit included forest management operations. Forest practices that were the focus of field inspections included those that have been under active management over the planning period of the past 3 years. In addition, practices conducted earlier were also reviewed as appropriate (regeneration and BMP issues, for example), SFI obligations to promote sustainable forestry practices, to seek legal compliance, and to incorporate continual improvement systems were also within the scope of the audit.

The SFI Standard was used without modifying any requirements.

### **Audit Process**

The audit was governed by a detailed audit plan designed to enable the audit team to efficiently determine conformance with the applicable requirements. The plan provided for the assembly and review of audit evidence consisting of documents, interviews, and on-site inspections of ongoing or completed forest practices.

During the audit NSF reviewed a sample of the written documentation assembled to provide objective evidence of conformance. NSF also selected field sites for inspection based upon the risk of environmental impact, likelihood of occurrence, special features, and other criteria outlined in the NSF protocols. NSF selected and interviewed stakeholders such as contract loggers, landowners and other interested parties, and interviewed employees within the organization to confirm that the SFI Standard was understood and actively implemented.

The possible findings of the audit included conformance, major non-conformance, minor non-conformance, opportunities for improvement, and practices that exceeded the requirements of the standard.

### **Overview of Audit Findings**

Pennsylvania Department of Conservation and Natural Resources was found to be in conformance with the standard. NSF determined that there were no non-conformances or opportunities for improvement.

The next audit is tentatively scheduled for October 2023.





## General Description of Conformity to SFI 2022 Forest Management Standard Objectives

A summary of the evidence of the organization's conformance to the SFI 2022 Forest Management Standard Objectives follows:

### Objective 1. Forest Management Planning

To ensure forest management plans include long-term sustainable harvest levels and measures to avoid forest conversion or afforestation of ecologically important areas.

Why it Matters: Ensures that we grow more trees than we harvest, guaranteeing that forests will last for future generations.

Notes: Not reviewed during 2022 audit.

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### Objective 2. Forest Health and Productivity

To ensure long-term forest productivity and conservation of forest resources through prompt reforestation, afforestation, deploying integrated pest management strategies, minimized chemical use, soil conservation, and protecting forests from damaging agents.

Why it Matters: Ensures that forests remain healthy and resilient which means better forest productivity including providing a reliable and renewable source of sustainably managed fiber for consumer products.

Notes: Not reviewed during 2022 audit.

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### Objective 3. Protection and Maintenance of Water Resources

To protect the water quality and water quantity of rivers, streams, lakes, wetlands, and other water bodies.

Why it Matters: Protects water quality and quantity helps provide safe and abundant drinking water for all.

Notes: Observations of field sites confirm design, construction and maintenance of all public, temporary-access and seasonal harvesting roads. Main skid trails and harvest roads were maintained and water-bars, seeding, rock and wing ditches were observed to minimize soil erosion and protect water quality. Streamside Management Zones/Riparian Management Zones were utilized to create filter for additional protection of water and minimize soil disturbance.

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### Objective 4. Conservation of Biological Diversity

To maintain or advance the conservation of biological diversity at the stand- and landscape-level and across a diversity of forest and vegetation cover types and successional stages including the conservation of forest plants and animals, aquatic species, threatened and endangered species, Forests with Exceptional Conservation Value, old-growth forests and ecologically important sites.

Why it Matters: Ensures that forests are managed to protect wildlife habitat and conserve biological diversity.

Notes: A comprehensive Silviculture Manual, environmental assessment for harvest sales, collaboration with the Natural Heritage Program, State Wildlife Action Plan, District Management Plans, and development of a bat HCP were evidence used to assess the requirements involved in biodiversity conservation.

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### Objective 5. Management of Visual Quality and Recreational Benefits

To manage the visual impact of forest operations and provide recreational opportunities for the public.

Why it Matters: Ensures that the public can continue to enjoy the aesthetic values and recreation opportunities of forests.

Notes: Not reviewed during 2022 audit.

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### Objective 6. Protection of Special Sites

To manage lands that are geologically or culturally important in a manner that takes into account their unique qualities.

Why it Matters: Protects special sites that have important geological or cultural values.

Notes: Field observations of completed operations, records of special sites, and interviews were evidence for the protection of special sites.

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### Objective 7. Efficient Use of Fiber Resources

To minimize waste and ensure the efficient use of fiber resources.

Why it Matters: Ensures the economic well-being of communities that live and work near forests.

Notes: Field observations of completed operations, contract clauses, and interviews with field foresters and wood suppliers provided evidence.

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## **Objective 8. Recognize and Respect Indigenous Peoples' Rights**

To recognize and respect Indigenous Peoples' rights and traditional knowledge.

Why it Matters: Recognizing and respecting the Indigenous Peoples' rights supports relationship building and shared benefits from sustainably managed forests.

Notes: Not reviewed during 2022 audit.

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## **Objective 9: Climate Smart Forestry**

To ensure forest management activities address climate change adaptation and mitigation measures.

Why it Matters: Ensures that SFI-certified forests make an important contribution to addressing the effects of climate change.

Notes: Development and implementation of an adaptation and mitigation plan by the various bureaus in the PA DCNR provide the framework. Implementation was witnessed during field site visits.

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## **Objective 10. Fire Resilience and Awareness**

To limit susceptibility of forests to undesirable impacts of wildfire and to raise community awareness of fire benefits, risks, and minimization measures.

Why It Matters: Ensures that forests are managed proactively relative to fire risk in the face of climate change, so that they can continue to store carbon, provide habitat for wildlife, and are a source of clean air and water while protecting public safety and human health.

Notes: PA DCNR has a legal mandate to mitigate wildfire. Interviews confirm PA DCNR is responsible for wildfire suppression and the training of volunteers. Documentation confirmed involvement and providing of equipment. Interviews also confirm involvement with awareness training in schools and in public venues.

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## **Objective 11. Legal and Regulatory Compliance**

To comply with all applicable laws and regulations including, international, federal, provincial, state, and local.

Why it Matters: Compliance with all laws ensures the protection of the environmental and social values of forests.

Notes: Not reviewed during 2022 audit.

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## **Objective 12. Forestry Research, Science and Technology**

To invest in research, science, and technology, upon which sustainable forest management decisions are based.

Why it Matters: Forest research means healthier, more productive forests.

Notes: Not reviewed during 2022 audit.

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## **Objective 13. Training and Education**

To improve the implementation of sustainable forestry through appropriate training and education programs.

Why it Matters: Training and educating foresters means forest management plans are more accurately implemented, ensuring the well-being of our forests.

Notes: Not reviewed during 2022 audit.

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## **Objective 14. Community Involvement and Landowner Outreach**

To broaden the practice of sustainable forestry through public outreach, education, and involvement, and to support the efforts of SFI Implementation Committees.

Why it Matters: Outreach and education improves the public's understanding of how important sustainable forestry is to local and global issues.

Notes: Not reviewed during 2022 audit.

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### Objective 15. Public Land Management Responsibilities

To participate and implement sustainable forest management on public lands.

Why it Matters: Protects the environmental, social, and economic values of public forests.

Notes: State and District Forest Management Plans are publicly available on websites. Stakeholder input during development of management plans is documented and comments are reviewed and addressed. PA DCNR maintains exceptional resources for public involvement in all aspects of forest management confirmed during audit.

### Objective 16. Communications and Public Reporting

To increase transparency and to annually report progress on conformance with the SFI Forest Management Standard.

Why it Matters: Reporting the results of third-party audits increases the public's understanding of forest certification.

Notes: Review of SFI website confirmed Public Summary Reports are available for public review. Annual Progress Report was submitted as required.

### Objective 17. Management Review and Continual Improvement

To promote continual improvement in the practice of sustainable forestry by conducting a management review and monitoring performance.

Why it Matters: Encourages continual improvement of sustainable forestry practices, a cornerstone of sustainable forestry.

Notes: Internal Audit and Management Review were conducted utilizing virtual communication tools and field site visits. Evidence observed met requirements and items were identified for continual improvement.

### Contact Information

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<a href="mailto:dfreeman@nsf.org">dfreeman@nsf.org</a>	<a href="mailto:mmatteo@nsf.org">mmatteo@nsf.org</a>	<a href="mailto:abjamison@pa.gov">abjamison@pa.gov</a>