



Forest Ecosystem Management

1692 East Road * Deary, ID 83823
(406) 490-7427 * Pamtown30@gmail.com

Northern Spotted Owl Assessment

Miller THP/Conversion

Napa County

Report Completed by: Pamela Town, Consulting
Wildlife Biologist on November 16, 2021

The enclosed information regarding northern spotted owl (*Strix occidentalis caurina*), or NSOs, follows USFWS recommendations to avoid the incidental take of the federally listed northern spotted owl, through timber operations on private lands in California.

This information can be submitted with the Miller THP for plan approval through California Department of Forestry and Fire Protection (CalFire) or required documentation for assessing Northern Spotted Owls for Napa County. The Miller THP falls within the inland timber operations region and therefore follows USFWS Take Avoidance and Analysis and Guidance for Northern Spotted Owls, commonly referred to as Attachment B (Attachment #1).

General Project Information

Project Address: 3906 Silverado Trail; Calistoga, California (Attachment #2)

Legal Description: Portions of Section 10, T08N, R06W MDB&M

County: Napa County

APN: 021-030-006

Access: Silverado Trail

Proposed Project:

- Timberland Conversion of 6 Acres (Attachment #3)

Known Northern Spotted Owl Territories

According to the California Department of Fish & Wildlife's spotted owl viewer dated 22OCT21, there are no known northern spotted owl territories within 1.3 miles of the Property (Attachment #4). The 1.3-mile assessment area was created by USFWS for a Take Avoidance of northern spotted owls within the California Interior (outside the redwood zone). Although Napa County does have redwoods, the environmental conditions in the area are hotter/drier than the coastal redwood zone; therefore, the 1.3-mile assessment area was used for this Project. The closest known NSO territory is NAP005 that is located over 2 miles and across Napa Valley from the Property Boundary.

As there are no known northern spotted owl territories within 1.3 miles of this THP, no habitat maps for specific activity centers are being submitted at this time. If a new territory is identified, habitat maps will be required.

Northern Spotted Owl Habitat

Northern Spotted Owl Take Avoidance Analysis – Interior (Attachment B) dated 27FEB08 defines NSO habitat as follows:

- o High Quality Nesting/Roosting Habitat: Mixed tree species with basal area of 210+ ft² and $\geq 15''$ quadratic mean diameter, and ≥ 8 trees per acre of trees $\geq 26''$ in diameter at breast height, and $\geq 60\%$ canopy closure.
- o Suitable Nesting/Roosting Habitat: Mixed tree species with basal area ranging from 150 - 180+ ft² and $\geq 15''$ quadratic mean diameter, and ≥ 8 trees per acre of trees $\geq 26''$ in diameter at breast height, and $\geq 60\%$ canopy closure.
- o Suitable Foraging Habitat: Mixed tree species with basal area ranging from 120 - 180+ ft² and $\geq 13''$ quadratic mean diameter, and ≥ 5 trees per acre of trees $\geq 26''$ in diameter at breast height, and a mix of $\geq 40\%$ to 100% canopy closure.
- o Low Quality Foraging Habitat: Mixed tree species with basal area ranging from 80 - 120+ ft² and $\geq 11''$ quadratic mean diameter, and $\geq 40\%$ canopy closure.

2020 Glass Wildfire: In the early fall of 2020, the Glass Wildfire occurred within Napa Valley and engulfed portions of Napa and Sonoma Counties, including the Miller THP Area. The Miller Property had the majority of the overstory vegetation burned on the northern region of the property, with the oaks near Silverado Road spared. During the late summer of 2021, a Notice of Emergency Timber Operations was completed to remove the dead/dying trees after the wildfire. This Emergency Notice removed approximately 40% of the overstory canopy cover within the Project Area and 20% of the overstory canopy cover outside the project area due to dead/dying trees.

Due to this unprecedented event, surveys and mitigation measures for northern spotted owls addressed in this assessment anticipate conditions that, prior to the wildfire and given enough time, could have potentially reestablished when the THP area converted back to the pre-fire vegetative state and not converted to a vineyard.

The Miller THP/Conversion is divided into 4 separate blocks (Attachment #5).

- Block A is an existing 1-acre vineyard that was put in without permits by a previous landowner. The current property owner is including this portion within the permitting process. Using historical aerial photos, it appears the vineyard was put in June/July of 2009. Prior to that date, using aerials back to December 1985, this area was primarily grass with a few trees scattered. The site would not have been considered northern spotted owl habitat in 1985 due to lack of overstory canopy cover.
- Block B1 is pre-harvest unsuitable NSO habitat. This site is primarily made up of live oak and madrones. It is considered unsuitable habitat due to tree species composition and overstory canopy cover.

- Block B2 is a mix of foraging and unsuitable habitat. The foraging habitat is a mixed Douglas-fir stand with madrone and oaks scattered throughout. The unsuitable habitat is primarily live oak with some white oak scattered throughout. Even prior to the 2020 Glass Wildfire, the area was “park-like” with very little understory. The landowner used much of this area for storage of equipment and firewood production. The foraging habitat improves as the slope becomes steeper on the western side of the property; however, the Glass wildfire burned a good portion of the overstory canopy. Post wildfire and emergency exemption, the entire block area would be unsuitable for NSOs due to lack of overstory canopy cover.
- Block B2a is considered foraging habitat. This area is primarily Douglas-fir with some madrone scattered throughout. Post wildfire and emergency exemption, the entire block area would be unsuitable for NSOs due to lack of overstory canopy cover.

Northern Spotted Owl Habitat for Miller THP/Conversion

Description	Pre-Harvest/Wildfire	Post-Wildfire	Post-Harvest
Nesting/Roosting Habitat	0	0	0
Foraging Habitat	1.5	0	0
Unsuitable Habitat	4.5	6	6
TOTAL	6 Acres	6 Acres	6 Acres
Attachments	6	7 & Figure #1	8

The 1.3-mile assessment area surrounding the property (Attachment #9) is a mix of open agriculture (Napa Valley), residential houses, commercial wineries, shrub-land, with a scattered forested landscape. The forested landscape is primarily Douglas-fir forests, with a component of pines, tanoak, and madrone; as well as oak woodlands (Live Oak, Valley Oak, White Oak) and California Bay. The majority of the landscape is unsuitable northern spotted owl habitat and includes grassland/agricultural, small bodies of water, residential houses, scrub-land, and development within the Napa Valley. The landscape may possess forested stands that meet the definition of northern spotted owl habitat; however, much of the suitable habitat is within patches or islands of forests that are most likely too small to support a resident northern spotted owl. So, although it is unlikely a resident northern spotted owl would be found, the area could be used by dispersing (floating owl), or displaced northern spotted owls or foraging resident NSOs outside the 1.3-mile assessment area.

The above description described pre-glass wildfire conditions. The majority of the 1.3-mile assessment area occurs within the Glass Wildfire Perimeter. Portions of the assessment area were severely burned, with all vegetation including overstory trees dead/dying, to patches of live trees where the fire had little impact. This Biologist observed during the 2021 NSO breeding season, the wildfire may have pushed northern spotted owls into marginal habitat due to loss of preferred habitat. Therefore, surveying live forested areas within this project, even less desirable habitat, will determine whether northern spotted owls are utilizing the immediate landscape.

Northern Spotted Owl Surveys

Northern Spotted Owl Take Avoidance Scenarios: For the purpose of review of this Project, the following scenario could be used by USFWS to determine whether a take is likely to occur for spotted owls.

Scenario 3:

- A. Suitable habitat within harvest units, and
- B. Protocol surveys are complete, and
 - a. No owls are detected within 1.3 miles of timber operations AND
 - b. No historic NSO activity centers within 1.3 miles of timber operations.

Northern Spotted Owl Surveys: The Project Area was surveyed in 2020 (prior to the Glass wildfire) and 2021. Two survey stations were used, one on the northern and one on the southern end of the property (Attachment #10). No northern spotted owls or barred owls were detected. **Surveys are valid for the breeding season in which they were completed, with protocol surveys required prior to all yearly timber harvest operations for the life of the Timber Harvest Plan/Conversion.**

Northern Spotted Owl Surveys for Miller Project

<u>Date</u>	<u>Station</u>	<u>Survey Time</u>	<u>Results</u>
18MAR20	1	1952 – 2002	N/R
Survey #1	2	2007 – 2017	N/R
09APR20	1	0205 – 0220	N/R - Turkeys
Survey #2	2	0223 – 0233	N/R - Quiet
20APR20	1	2010 – 2020	N/R – Turkeys and Traffic
Survey #3	2	2027 – 2037	N/R – Distant Cars
28APR20	1	2133 – 2143	N/R - Traffic
Survey #4	2	2147 – 2157	N/R - Traffic
13MAY20	2	2150 – 2200	N/R
Survey #5	1	2203 - 2213	N/R
04JUN20	1	0042 – 0052	N/R – Car and airplane
Survey #6	2	0055 – 0105	N/R – Crickets and Cars
15MAR21	1	1922 – 1932	N/R – Raven, Traffic and frogs
Survey #1	2	1934 – 1944	N/R – Traffic and frogs
29MAR21	1	2018 – 2028	N/R – Frogs, turkeys, crickets
Survey #2	2	2032 – 2042	N/R – Traffic, dogs, crickets
20APR21	1	2239 – 2249	N/R – Very quiet
Survey #3	2	2251 – 2301	N/R – Very quiet
27APR21	1	2039 – 2049	N/R - Traffic
Survey #4	2	2053 – 2103	N/R - Sheep

10MAY21	1	2248 – 2258	N/R - Cars
Survey #5	2	2301 – 2311	N/R – Dogs and cars
03JUN21	1	2214 – 2224	N/R - Cars
Survey #6	2	2226 – 2236	N/R – Cars and crickets

Surveyors: Scott Butler, RPF
Heather Morrison, Botanist & RPF
Pamela Town, Consulting Wildlife Biologist

Northern Spotted Owl Protection Measures

- Complete 3 survey visits in 2022 and amend into the approved THP prior to timber operations.
 - A current years' surveys are valid for operations that would occur between the completion of surveys (and amended into THP) and the beginning of the next NSO breeding season (01FEB). Operations after the 01FEB date, require a current year survey effort. Surveys will no longer be required when timber operations are complete.
- If a new northern spotted owl territory is located within 1.3 miles of this project/THP prior to trees being removed; an assessment of this new territory will be required and will follow the protection measures set forth under Attachment B: Take Avoidance Analysis-Interior before operations commence (see Attachment #1).
- If a northern spotted owl is heard or observed during harvest operations of this THP, all operations will cease until new mitigation measures can be proposed and applied.

Attachments

Attachment #1 – NSO Take Avoidance and Guidance for Private Lands in CA Summary (4 pages)
Attachment #2 – Topographical Map – Project Location and NSOs within 1.3 Miles (1 page)
Attachment #3 – Engineer's Plans for Miller Project
Attachment #4 – CA Fish & Wildlife Spotted Owl Sites Found – Report #1 (1 page)
Attachment #5 – Aerial Photo of Project Area (1 page)
Attachment #6 - Pre-Harvest/Pre-Wildfire NSO Habitat on Project (1 page)
Attachment #7 – Google Earth – Post Wildfire Landscape (1 page)
Attachment #8 - Post-Harvest NSO Habitat on Project (1 page)
Attachment #9 – NSO Habitat within 1.3 miles of Miller Project (1 page)
Attachment #10 – Northern Spotted Owl Survey Station Map (1 page)

Figure 1 – Pictures from Post Glass Wildfire

Northern Spotted Owl Contact Information

Questions or comments regarding this NSO information can be directed to:

Pamela Town
Consulting Wildlife Biologist & SOE
Forest Ecosystem Management, PLLC
(406) 490-7427
Pamtown30@gmail.com

Other Information

Definitions:

- o Activity Center: Area of concentrated activity of either a pair of NSOs or a single territorial NSO, represented by a mapped location (usually a nest tree) that occurs within, but not necessarily in the exact center of, the core area. Where clusters of site centers exist in a core area a geographic centroid or nearest neighbor calculation may be used as a designated activity center for habitat analysis purposes. A single territory may also have more than one designated activity center.
- o Territory: A spatial area of landscape that is defended by a single resident or pair of northern spotted owls. Specific NSO territories generally refer to a fixed geographic area. Over time, individual spotted owls may occupy different territories (i.e. breeding dispersal, interference competition with barred owls, changes in habitat or prey availability, etc.).
- o Home Range: In the absence of site-specific data, the home range is a 1.3-mile radius circle centered on the activity center.
- o Territory Identification Number (NAP0005): A number generated by the California Department of Fish & Wildlife assigned to a geographic area currently and/or historically occupied by northern spotted owls.
- o Suitable Habitat: Areas meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- o Unsuitable Habitat: Areas not meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- o NSO Breeding Season: February 1 to August 31st within the inland ecotype.
- o Survey Season: March 15 to August 31st within the inland ecotype.
- o Degrade Habitat: Signifies when treatments have a negative influence on the quality of habitat due to the removal or reduction of NSO habitat elements but not to the degree where the existing habitat function is changed.
- o Downgrade Habitat: Treatments that reduce habitat elements to the degree the habitat will not function in the capacity that exists pre-treatment, but the activities will not remove habitat entirely.
- o Assessment Area: The area used to address northern spotted owls includes 1) Project Footprint; 2) Area within ¼ mile of Project Footprint; 3) 1.3 miles from Project Footprint.

References:

Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish & Wildlife Service. February 2, 2011 and Revised January 9, 2012.

Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry & Fire Protection. February 2008.

Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California. Attachment B: Take Avoidance Analysis – Interior. United States Department of Interior Fish & Wildlife Service. November 1, 2019.

Northern Spotted Owl Viewer (BIOS CA Natural Diversity Database). Managed by California Department of Fish & Wildlife.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White, eds. 1988 – 1990. California's Wildlife. Vol. I – III. California Department of Fish & Game, Sacramento, CA.

Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California

Attachment B – Take Avoidance Analysis-Interior

This information provides the United States Fish and Wildlife Service's (USFWS) guidelines to avoid the incidental take, as defined in the Endangered Species Act of 1973 of Northern Spotted Owls (*Strix occidentalis caurina*, NSO), that may result from timber operations within the range of NSOs within California outside the coastal redwood zone. This is an overview of Attachment B, hi-lighting the primary requirements to protect NSOs. See the reference material listed below for the complete Take Avoidance Guidance.

Referenced from:

- Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry and Fire Protection. February 2008. Sacramento, CA.
 - Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California. Attachment B – Take Avoidance Analysis-Interior. United States Fish and Wildlife Service. November 2019. Sacramento, CA
 - Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the USFWS. February 2, 2011 and Revised January 9, 2012.
-

I. Accuracy of NSO Activity Center Location, Status, and Mapping

Accurately mapping the location of NSO activity centers is critical for avoiding take of NSO. Activity center locations are more accurate when plotted as a result of current surveys rather than solely relying on using the locations found in the California Department of Fish & Wildlife (CDFW) Spotted Owl Observation Database (SPOWDB). Multiple activity centers for an NSO pair are possible. If one core use area does not encompass all known activity centers, then multiple core use areas may need to be protected. When several years of survey records including positive and negative survey results are available, it may be possible to more precisely map a logical core use area and home range that captures important habitat available to NSOs. This is particularly true in the interior portion of the NSO range in California (as in Napa County) because NSOs tend to remain in the same areas over time. NSOs in these hotter and drier portions of their range rely on topographical features (canyons and lower slopes) to provide relatively stable micro-climates that are within NSO thermal tolerances. In addition, south facing slopes in the interior are often naturally devoid of dense forests.

Home ranges and core use areas for NSOs in the interior are often more accurately depicted by non-circular polygons that often follow drainages where higher quality habitat is present compared to upslope areas.

The analysis of take avoidance should apply to all activity centers listed in the SPOWDB and other available sources within 1.3 miles of the proposed project. If it can be demonstrated that the site does not qualify for protection (i.e., abandoned or non-valid site determination) then consulting with the appropriate regulatory agency is required. When a site can no longer support an NSO due to changes in habitat as the result of fire, timber harvesting, or other disturbances and there is interest to deem the site abandoned, then consultation with the appropriate regulatory agency is required. If an activity center is considered unoccupied for the year after adequate surveys and suitable habitat is present, alternatives to the full protection measures (i.e., harvesting within seasonal restrictions) may be allowed but requires consultation with the appropriate regulatory agency.

II. Flexibility in Survey Protocol

There are 3 areas where flexibility for landowners exists and where take can still be reasonable be avoided: 1) Spot Check Surveys; 2) Modifying the number of required survey visits, and 3) Modifying the survey area.

In most cases in Napa County, the surrounding landscape is privately owned and access is limited; therefore, deviations to the survey protocol are often required (i.e. cannot survey the entire 1.3-mile assessment area). To account for this, as the 2012 protocol was not followed completely, any attempts to use the 2019 flexibility to surveys should not be completed without prior approval from the appropriate regulatory agency.

III. Habitat Typing

Habitat definitions are intended for application at the scale of around 20 acres. This means that within any given 20 acres that serve as NSO habitat, the forest stand structure (QMD, basal area, canopy closure) may be variable, but the average values should meet the appropriate standards.

NSO habitat is described both in vegetative structure (tree size, density, canopy closure) and spatial extent and proximity to other habitat. Small patches (less than 100 acres) of forests with large trees and dense canopy are not likely to function as NSO habitat if they are less than 100 yards (300') wide or separated by more than ½ mile from other NSO habitat.

The highest quality NSO habitat available should be identified and retained over lesser-quality habitat. Prioritization includes:

- Tree Species composition and existing habitat quality
 - Highest quality existing habitat should be prioritized for retention
 - Mixed conifer stands should be selected over pure pine stands
 - Retained areas should feature multi-layered, multi-species stand structure with abundant large woody debris on the forest floor.
- Abiotic Considerations
 - Distance to nest – retain habitat as close as possible to nest or roost trees
 - Contiguity – retain habitat should be as contiguous as possible
 - Slope Position – retain habitat on the lower 1/3 of slopes

- Aspect – habitats on northerly or easterly aspects provide more optimal vegetation composition and cooler site conditions.

IV. Habitat Protection

In the absence of site-specific information, the follow requirements apply within the 1.3-mile radius of each activity enter:

- Within 1,000 feet of an Activity Center
 - Outside breeding season (01SEP – 31JAN), no timber operations other than the use of existing roads.
 - During the breeding season (01FEB – 31AUG), no timber operations other than the use of existing, permanent, year-round roads.
- Within ½ mile radius (502 acres) centered on an Activity Center – Core Use Area
 - Retention of habitat using Habitat Typing recommendations above
 - At least 250 acres nesting/roosting habitat present, as follows:
 - 100 acres of high-quality nesting/roosting habitat, and
 - 150 acres nesting/roosting habitat AND
 - At least 150 acres of foraging habitat, or better, must be present, as follows:
 - 100 acres foraging habitat, and
 - 50 acres of low-quality foraging habitat
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP
- Between ½ mile and 1.3-mile radius circles (3,397 acres) centered on an Activity Center
 - Retention of habitat using Habitat Typing recommendations above
 - At least 935 acres of suitable habitat must be present, as follows:
 - At least 655 acres of foraging habitat or better, and
 - At least 280 acres of low-quality foraging habitat or better
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP.

Non-circular delineations can be used using site-specific data, abiotic variables, NSO detections, barred owl detections, and habitat configurations using the best available NSO habitat. Project proponents are encouraged to work with adjacent landowners whose property may be affected and to pre-consult with regulatory agencies when proposing to use non-circular habitat assessment areas.

For unoccupied activity centers, the habitat retention standards above should be maintained. NSOs are known to reoccupy used sites eight or more years after they were last detected and modifications to previously occupied sites may preclude NSOs returning to these sites. If barred owls have been detected within 1.3 miles of an activity center, extra caution should be applied in determining occupancy.

V. Road Use

To avoid take of NSO from noise disturbance, no road maintenance or use within ¼ mile of an occupied NSO activity center during the breeding season should occur, unless:

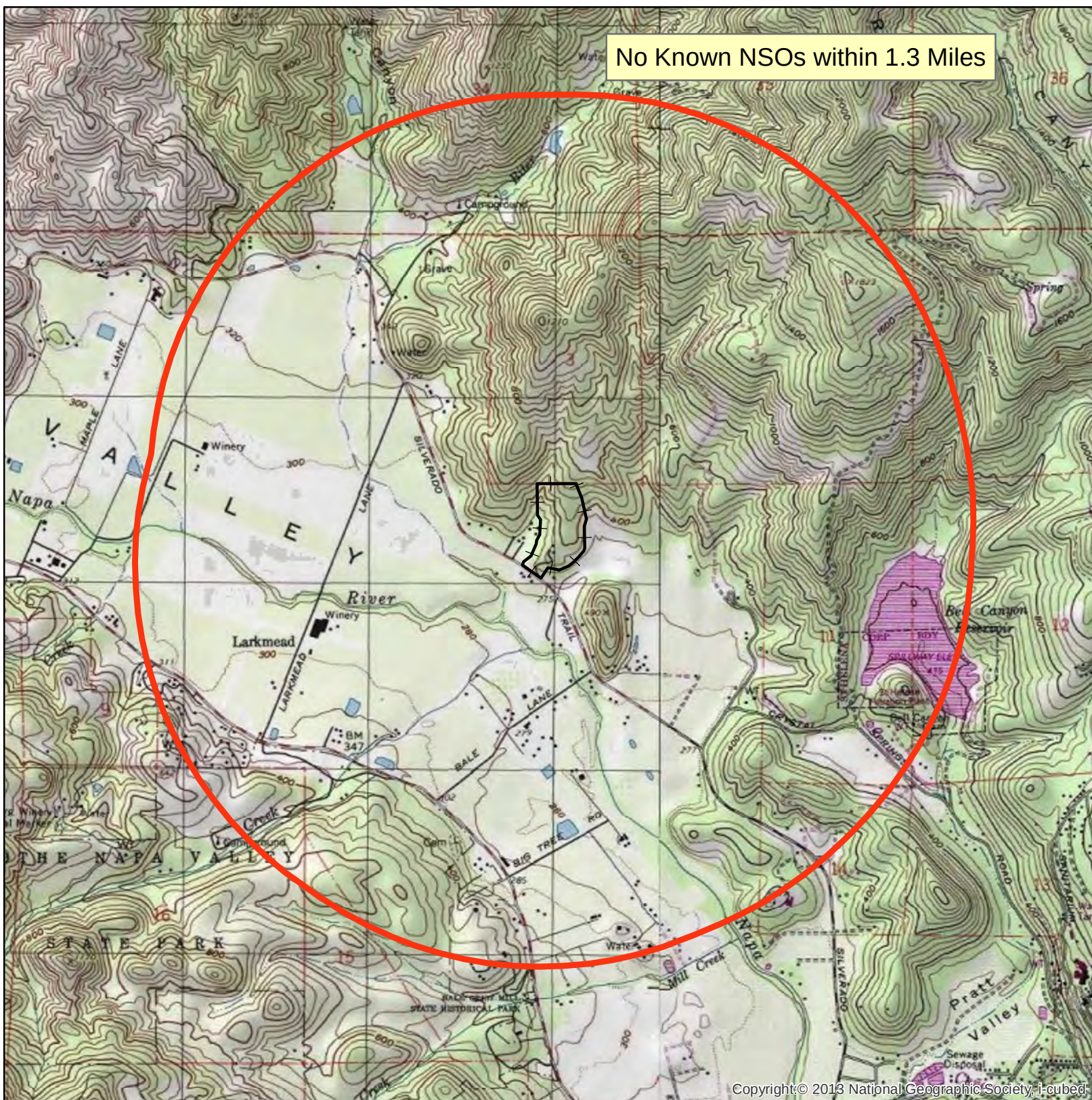
- Protocol monitoring has determined that NSOs are not nesting or nesting has failed.
- The road receives year-round use and proposed operations will not exceed ambient noise conditions.
- Proposals to use or maintain roads within ¼ mile of an activity center during the breeding season require approval by the appropriate regulatory agency.

Deviations to the road use guidelines may be proposed depending on noise minimization measures (speed limits, compression braking restrictions), duration, extent, frequency, and distance of the noise source to the activity center. Additionally, topography, dense vegetation, or other factors may be considered and noise restrictions may be waived or minimized by regulatory agencies.

Northern Spotted Owls within 1.3 Miles of Miller Project

Attachment #2

No Known NSOs within 1.3 Miles



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Legend

-  Property Boundary
-  NSO Assessment Area

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

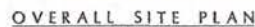
Forest Ecosystem Management



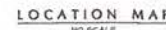
1 inch = 2,945 feet

Date: 10/22/2021

OPPORTUNITIES AND CONSTRAINTS EXHIBITS



SCALE: 1" = 100'



PROPERTY OWNER

PROPERTY APPLICANT:
SILVERADO FARMING, INC.
C/O PETE RICHMOND
390 TAYLOR STREET
NAPA, CA 94559
(707) 251-9081

ASSESSOR'S PARCEL NUMBER
021-030-006

FARCEL SIZE:
27.76± ACRES

PARCEL ZONING
AW

SHEET INDEX:

SHEET 1	OVERALL SITE PLAN
SHEET 2	SLOPE ANALYSIS
SHEET 3	70% VEGETATION RETENTION EXHIBIT
SHEET 4	CONCEPTUAL VINEYARD LAYOUT
SHEET 5	WATER AVAILABILITY ANALYSIS

SOIL TYPE LEGEND:

104 - SILE CLAY LOAM, 0% TO 2% SLOPES
107 - BOONER LOAM, VOLCANIC BEDROCK, 2% TO 3% SLOPES
108 - BOONER GRAVELLY LOAM, VOLCANIC BEDROCK, 3% TO 4% SLOPES
109 - BOONER GRAVELLY LOAM, VOLCANIC BEDROCK, 4% TO 6% SLOPES

SYMBOL LEGEND:

FEMA FLOOD ZONE LIMITS
 SOIL CLASSIFICATION BOUNDARY
 EDGE OF POTENTIAL VINEYARD AVENUE
 EDGE OF POTENTIAL VINEYARD BLOCK

FEMA FLOOD DATA:

SOUTHERN MOST CORNER OF THIS PARCEL IS LOCATED WITHIN A FLOODPLAIN PER FLOOD INSURANCE RATE MAP (FIRM) PANEL NO. 0605560245E, DATED SEPTEMBER 26, 2006. ZONE "X" IS DETERMINED TO BE INSIDE THE 0.2% ANNUAL CHANCE FLOOD IN AN UNINCORPORATED AREA OF WAPA COUNTY.

NOTES

THE 2008 AERIAL PHOTOGRAPH USED AS A BASE FOR THIS PLAN WAS PROVIDED BY NAPA COUNTY. ALL PROPERTY LINES, BUILDINGS, UTILITIES, WASTEWATER SYSTEM LOCATIONS, DIMENSIONS, AND DESCRIPTIONS SHOWN HEREON ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD.



PAUL N. BARTEL

R.C.E. 45104

DATE: OCTOBER 2011

20-A3

SHEET NO. 4

1.7

SILVERADO FARMING - MILLER VINEYARD
OVERALL SITE PLAN

[illegible]

© 2005 Blackwell Publishing Ltd, *Journal of Internal Medicine* 258: 285–293

Drop Block C

Data Version Date:
09/28/2021
Report Generation Date:
10/22/2021

Report #1 - Spotted Owl Sites Found
Known Spotted Owl sites having observations
within the search area.



Meridian, Township, Range, Section (MTRS) searched:

M_09N_06W Sections(32,33,34,35);

M_08N_06W Sections(02,03,04,05,08,09,10,11,14,15,16,17,20,21,22,23);

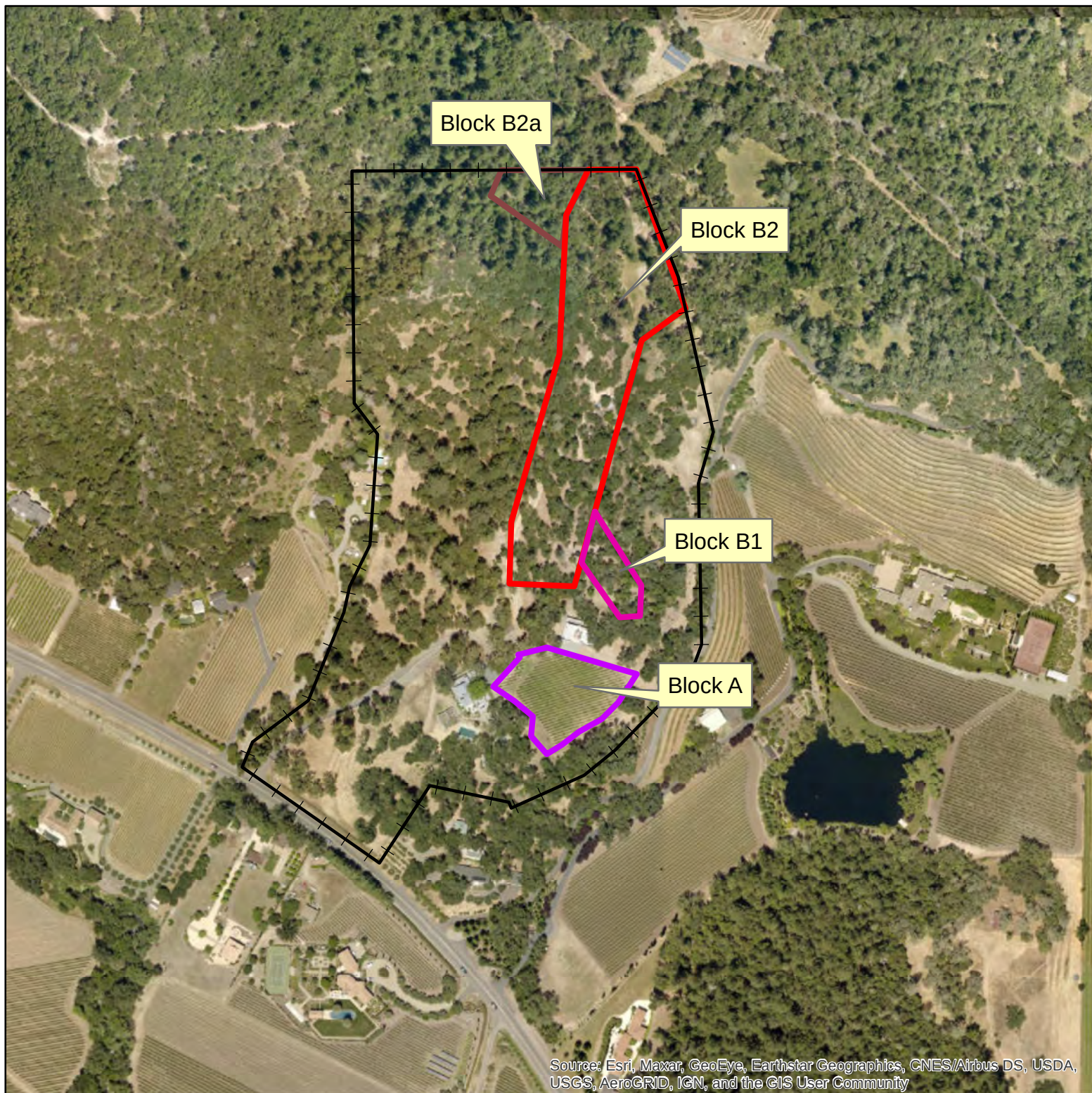
NOTES:

Miller

Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
NAP0001	NORTHERN	38.539867	-122.546050	M 08N 06W 17	Contributor 2.6M
NAP0005	NORTHERN	38.532391	-122.521177	M 08N 06W 22	Contributor 2.3M

Owls
within 1.3 Miles
None

Miller Project Area - Pre-Glass Wildfire



Legend

- Property Boundary
- Vineyard Block A
- Vineyard Block B1
- Vineyard Block B2
- Vineyard Block B2a

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management



1 inch = 417 feet

Date: 10/25/2021

Pre-Harvest Northern Spotted Owl Habitat Miller Project



Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County



1 inch = 417 feet

Forest Ecosystem Management

Date: 11/16/2021

Miller Project Area - Post 2020 Glass Wildfire

Section 10 T08N, R06W MDB&M - Napa County

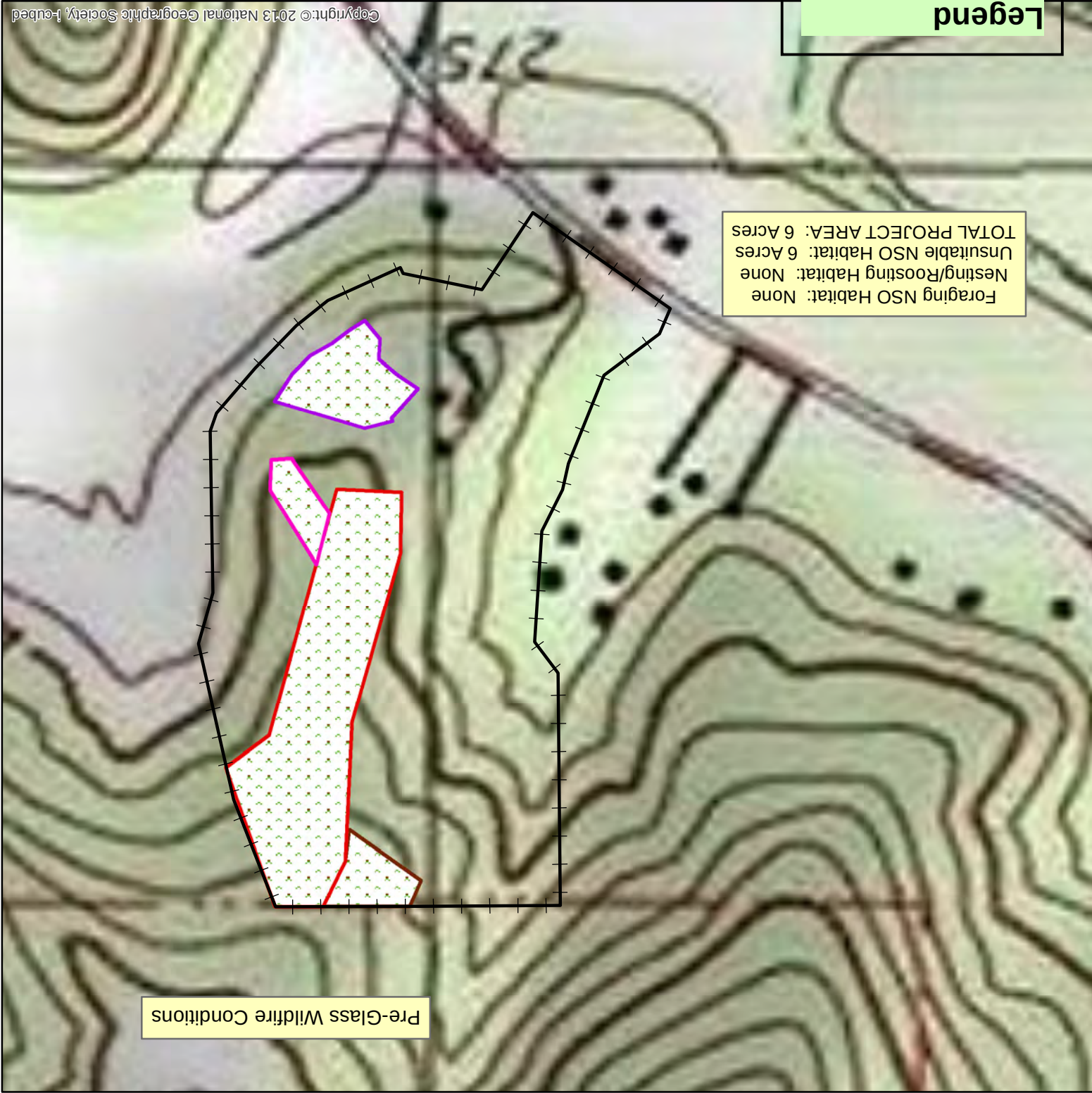
[Attachment #7](#)

Legend

 Miller property boundary

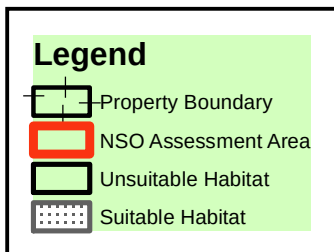


Post-Harvest Northern Spotted Owl Habitat Miller Project



Northern Spotted Owl Habitat within 1.3 Miles of Miller Project

Attachment #9



Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management

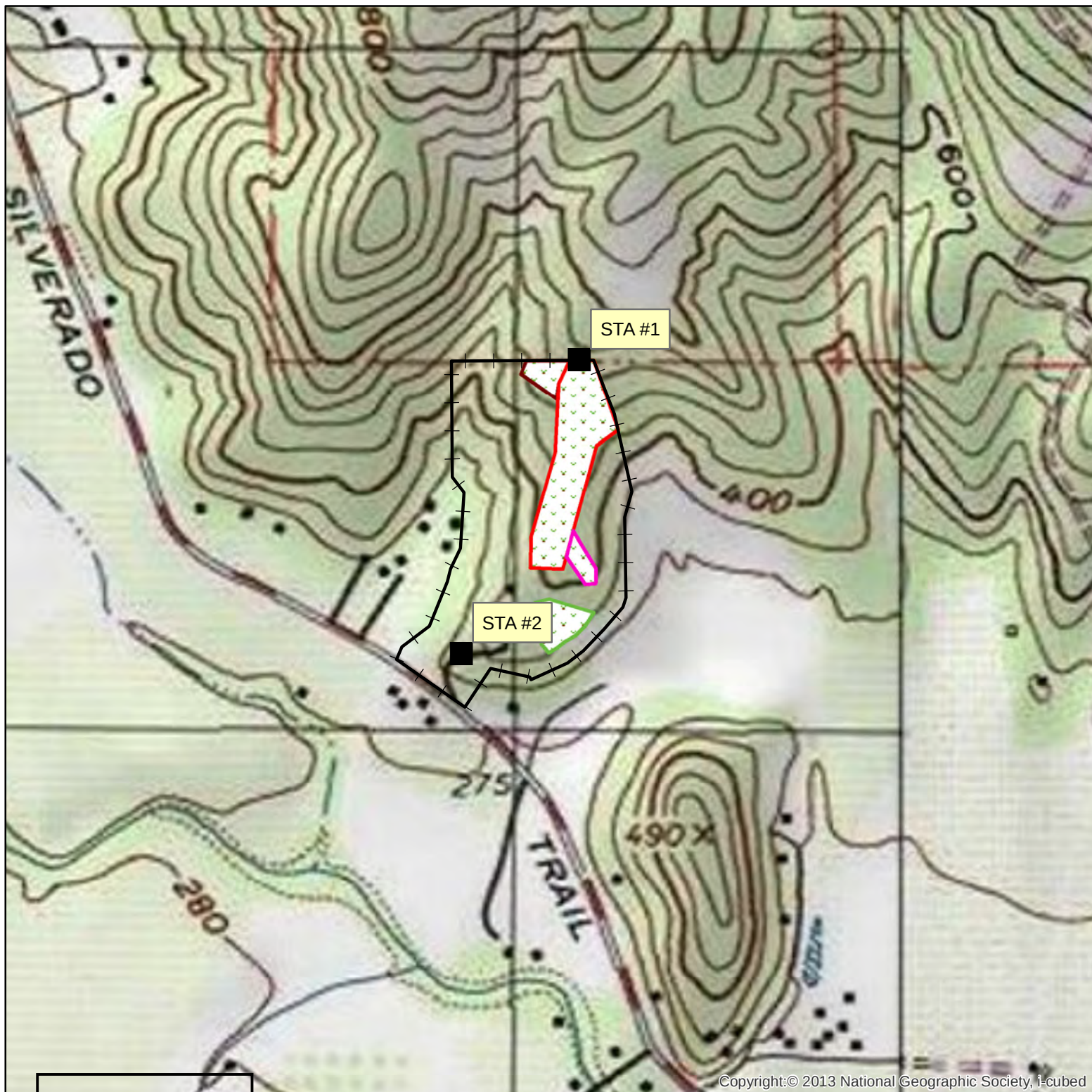


1 inch = 2,500 feet

Date: 10/25/2021

Northern Spotted Owl Survey Stations for Miller Project

Attachment #10



Copyright:© 2013 National Geographic Society, i-cubed

Legend

- Property Boundary
- NSO Survey Station
- Vineyard Block A
- Vineyard Block B1
- Vineyard Block B2
- Vineyard Block B2a

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management



1 inch = 833 feet

Date: 10/25/2021

Figure #1

Miller Project Area

Looking into Block B2 (Photo Taken 26APR21)



Western Property Boundary looking toward Silverado Trail (Photo Taken 26APR21)



Looking West (Photo Taken 26APR21)



From Access Road (Photo Taken 26APR21)



From Access Road looking west – Pre-Glass Wildfire (Photo Taken April 2020)



From Northern Portion of Property looking south – Pre-Glass Wildfire (Photo Taken April 2020)





Forest Ecosystem Management

1692 East Road * Deary, ID 83823
(406) 490-7427 * Pamtown30@gmail.com

Northern Spotted Owl Assessment

Miller Project

Napa County

Report Completed by: Pamela Town, Consulting
Wildlife Biologist on February 22, 2023

The enclosed information regarding northern spotted owl (*Strix occidentalis caurina*), or NSOs, follows USFWS recommendations to avoid the incidental take of the federally listed northern spotted owl, through timber operations on private lands in California. This information updates any previous northern spotted owl assessments completed for this parcel.

This information can be submitted with the Timber Harvest Plan (THP) for plan approval through California Department of Forestry and Fire Protection (CalFire) or required documentation for assessing Northern Spotted Owls for Napa County. The Miller Project falls within the inland timber operations region and therefore follows USFWS Take Avoidance and Analysis and Guidance for Northern Spotted Owls, commonly referred to as Attachment B (Attachment #1).

General Project Information

Project Address: 3906 Silverado Trail; Calistoga, California (Attachment #2)

Legal Description: Portions of Section 10, T08N, R06W MDB&M

County: Napa County

APN: 021-030-006

Access: Silverado Trail

Proposed Project:

- Conversion of approximately 6 Acres (Attachment #3)

Known Northern Spotted Owl Territories

According to the California Department of Fish & Wildlife's spotted owl viewer dated 22FEB23, there are no known northern spotted owl territories within 1.3 miles of the Property (Attachment #4). The 1.3-mile assessment area was created by USFWS for a Take Avoidance of northern spotted owls within the California Interior (outside the redwood zone). Although Napa County does have redwoods, the environmental conditions in the area are hotter/drier than the coastal redwood zone; therefore, the

1.3-mile assessment area was used for this Project. The closest known NSO territory is located over 2 miles and across Napa Valley from the Property Boundary.

As there are no known northern spotted owl territories within 1.3 miles of this THP, no habitat maps for specific activity centers are being submitted at this time. If a new territory is identified, habitat maps will be required.

Northern Spotted Owl Habitat

Northern Spotted Owl Take Avoidance Analysis – Interior (Attachment B) dated 27FEB08 defines NSO habitat as follows:

- High Quality Nesting/Roosting Habitat: Mixed tree species with basal area of 210+ ft² and $\geq 15''$ quadratic mean diameter, and ≥ 8 trees per acre of trees $\geq 26''$ in diameter at breast height, and $\geq 60\%$ canopy closure.
- Suitable Nesting/Roosting Habitat: Mixed tree species with basal area ranging from 150 - 180+ ft² and $\geq 15''$ quadratic mean diameter, and ≥ 8 trees per acre of trees $\geq 26''$ in diameter at breast height, and $\geq 60\%$ canopy closure.
- Suitable Foraging Habitat: Mixed tree species with basal area ranging from 120 - 180+ ft² and $\geq 13''$ quadratic mean diameter, and ≥ 5 trees per acre of trees $\geq 26''$ in diameter at breast height, and a mix of $\geq 40\%$ to 100% canopy closure.
- Low Quality Foraging Habitat: Mixed tree species with basal area ranging from 80 - 120+ ft² and $\geq 11''$ quadratic mean diameter, and $\geq 40\%$ canopy closure.

2020 Glass Wildfire: In the early fall of 2020, the Glass Wildfire occurred within Napa Valley and engulfed portions of Napa and Sonoma Counties, including the Miller Property. The Miller Property had the majority of the overstory vegetation burned on the northern region of the property, with the oaks near Silverado Road spared. A CalFire Notice of Emergency Timber Operations was completed to remove the dead/dying trees after the wildfire. This Emergency Notice removed approximately 40% of the overstory canopy cover within the Project Area and 20% of the overstory canopy cover outside the project area due to dead/dying trees (per Scott Butler, RPF).

The Miller Project is divided into 4 separate blocks (Attachment #3).

- Block A is an existing 1-acre vineyard that was established without permits by a previous landowner. The current property owner is including this portion within the permitting process. Using historical aerial photos, it appears the vineyard was established in June/July of 2009. Prior to that date, using aeriels back to December 1985, this area was primarily grass with a few trees scattered. The site would not have been considered northern spotted owl habitat in 1985 due to lack of overstory canopy cover.
- Block B1 is pre-harvest unsuitable NSO habitat. This site is primarily made up of live oak and madrones. It is considered unsuitable habitat due to tree species composition and lack of overstory canopy cover.
- Block B2 was a mix of foraging and unsuitable habitat prior to the 2020 Glass wildfire. The foraging habitat was a mixed Douglas-fir stand with madrone and oaks scattered throughout. The unsuitable habitat is primarily live oak with some white oak scattered throughout. Even prior to the 2020 Glass Wildfire, the area was "park-like" with very little understory. The landowner used much of this area for storage of equipment and firewood

production. The foraging habitat improved as the slope becomes steeper on the western side of the property; however, the Glass wildfire burned a good portion of the overstory canopy. Post wildfire and emergency exemption, the entire block area would be unsuitable for NSOs due to lack of overstory canopy cover and live forest size.

- Block B2a was considered foraging habitat prior to the 2020 Glass wildfire. This area was primarily Douglas-fir with some madrone scattered throughout. Post wildfire and emergency exemption, the entire block would be unsuitable for NSOs due to lack of overstory canopy cover and live forest size.

Northern Spotted Owl Habitat for Miller Project (Attachment #5)

<u>Habitat Type</u>	<u>Pre-Harvest/Wildfire</u>	<u>Post-Wildfire & Emergency Notice</u>	<u>Post-Harvest</u>
Nesting/Roosting Habitat	0	0	0
Foraging Habitat	1.5	0	0
Unsuitable Habitat	4.5	6	6
TOTAL	6 Acres	6 Acres	6 Acres

The 1.3-mile assessment area surrounding the property (Attachment #6) was a mix of open agriculture (Napa Valley), residential houses, commercial wineries, shrub-land, and a scattered forested landscape. The forested landscape was primarily Douglas-fir forests, with a component of pines, tanoak, and madrone; as well as oak woodlands (Live Oak, Valley Oak, White Oak) and California Bay. The majority of the landscape was burned during the 2020 Glass wildfire, with a few small patches of live trees left (along Napa River, within Bothe Napa Valley State Park, and small patches of private forestlands). These small patches of live forest may not be large enough to support a resident northern spotted owl.

Northern Spotted Owl Surveys

Pre-Glass wildfire, it is unlikely that a resident northern spotted owl would occur within the ownership due to habitat conditions of the property and watershed; however, it was possible a “floater” might temporarily use the area, so NSO surveys began in 2020 (pre-fire). Post fire, the area was even less suitable for northern spotted owls; however, surveys have continued as the impacts of the recent large-scaled wildfires on northern spotted owl movement are unknown and owls may be forced into less suitable habitat.

The Project Area was surveyed in 2020 (prior to the Glass wildfire), 2021 (post burn and prior to CalFire Emergency Notice), and 2022 (post wildfire and emergency notice). Two survey stations were used, one on the northern and one on the southern end of the property (Attachment #7). No northern spotted owls or barred owls were detected. **Surveys are valid for the breeding season in which they were completed. Protocol surveys are required prior to all yearly timber harvest operations for the life of a CalFire Timber Harvest Plan/Conversion.**

Northern Spotted Owl Surveys for Miller Project

<u>Date</u>	<u>Weather & Surveyor</u>	<u>Station</u>	<u>Survey Time</u>	<u>Results</u>
18MAR20	Sprinkles & calm	1	1952 – 2002	N/R
Survey #1	S. Butler	2	2007 – 2017	N/R
09APR20	Overcast & calm	1	0205 – 0220	N/R - Turkeys
Survey #2	S. Butler	2	0223 – 0233	N/R - Quiet
20APR20	Ptly cloudy & lt breeze	1	2010 – 2020	N/R – Turkeys and Traffic
Survey #3	P. Town	2	2027 – 2037	N/R – Distant Cars
28APR20	Clear & calm	1	2133 – 2143	N/R - Traffic
Survey #4	H. Morrison	2	2147 – 2157	N/R - Traffic
13MAY20	High fog & calm	2	2150 – 2200	N/R
Survey #5	S. Butler	1	2203 - 2213	N/R
04JUN20	Clear & calm	1	0042 – 0052	N/R – Car and airplane
Survey #6	S. Butler	2	0055 – 0105	N/R – Crickets and Cars
15MAR21	Clear & lt breeze	1	1922 – 1932	N/R – Raven, Traffic and frogs
Survey #1	H. Morrison	2	1934 – 1944	N/R – Traffic and frogs
29MAR21	Clear & calm	1	2018 – 2028	N/R – Frogs, turkeys, crickets
Survey #2	H. Morrison	2	2032 – 2042	N/R – Traffic, dogs, crickets
20APR21	Ptly cloudy & calm	1	2239 – 2249	N/R – Very quiet
Survey #3	S. Butler	2	2251 – 2301	N/R – Very quiet
27APR21	Clear, calm & warm	1	2039 – 2049	N/R - Traffic
Survey #4	P. Town	2	2053 – 2103	N/R - Sheep
10MAY21	Clear & calm	1	2248 – 2258	N/R - Cars
Survey #5	S. Butler	2	2301 – 2311	N/R – Dogs and cars
03JUN21	Clear, calm, warm	1	2214 – 2224	N/R - Cars
Survey #6	S. Butler	2	2226 – 2236	N/R – Cars and crickets
16MAR22	Clear & calm	1	2140 – 2150	N/R – GHOW Valley floor & crickets
Survey #1	S. Butler	2	2152 - 2202	N/R - cars
02APR22	Clear & calm	1	2234 – 2244	N/R – guard dog for sheep
Survey #2	S. Butler	2	2246 – 2256	N/R – cars and guard dog for sheep

14APR22	High fog & calm	1	2304 – 2314	N/R – dog barking, crickets, cool
Survey #3	S. Butler	2	2316 – 2326	N/R – frogs, crickets, cars
03MAY22	Clear, warm, calm	1	2223 – 2233	N/R
Survey #4	S. Butler	2	2236 – 2246	N/R – dog barking
15MAY22	Clear & breeze	1	2355 – 0005	N/R – turkeys, crickets
Survey #5	S. Butler	2	0008 – 0018	N/R
04JUN22	Overcast & cool	1	0041 – 0051	N/R – frogs & drizzle
Survey #6	S. Butler	2	0053 – 0103	N/R – frogs & drizzle

N/R – No Response from northern spotted owls

Surveyors: Scott Butler, RPF

Heather Morrison, Botanist

Pamela Town, Consulting Wildlife Biologist

Northern Spotted Owl Protection Measures

Pre-Glass wildfire, some of the ownership was considered marginal foraging northern spotted owl habitat. The habitat was downgraded due to the Glass Wildfire, with dead/dying overstory trees subject to removal under a CalFire Emergency Notice of Operations throughout portions of the project area and ownership. As there are some patches of live overstory trees that survived the fire (Attachment #7a), the impacts of the recent large-scaled wildfires on northern spotted owl movement are not known, and a portion of this project is for a conversion of forestland; it is recommended that protocol surveys are met prior to timber operations for this project. Therefore, the following is recommended:

- Surveys completed are valid until the beginning of the next years' breeding season (01FEB).
 - The surveys for this project were valid until 01FEB23.
 - Timber operations after 01FEB23, or in order to keep surveys up-to-date, require NSO surveys.
- Complete NSO Protocol Surveys within years of proposed timber operations for this project. Once timber operations are complete, surveys would no longer be required. Using current survey history:
 - 2023: Complete at least 3 spot check surveys.
- No operations, other than the use and maintenance of existing roads, will occur within 1,000' of any occupied spotted owl activity center. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- Seasonal disturbance buffers (1/4 mile) will be observed for occupied sites during the breeding season (01FEB – 31AUG) or at least until protocol surveys support probable absence, non-nesting, nest failure, or fledgling flight can be determined. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- If Project Description changes from that listed within this Assessment, a new NSO Assessment may be required.

Attachments

Attachment #1 – NSO Take Avoidance and Guidance for Private Lands in CA Summary
Attachment #2 – Topographical Map – Project Location and NSOs within 1.3 Miles (1 page)
Attachment #3 – Project Area (topographic and aerial) (2 pages)
Attachment #4 – CA Fish & Wildlife Spotted Owl Sites Found – Report #1 (1 page)
Attachment #5 – Pre & Post Harvest NSO Habitat on Project (1 page)
Attachment #6 – NSO Habitat within 1.3 miles of Miller Project (1 page)
Attachment #7 – Northern Spotted Owl Survey Station Map (1 page)
Attachment #7a – Live Trees within ¼ mile of the Project Area (1 page)

Northern Spotted Owl Contact Information

Questions or comments regarding this NSO information can be directed to:

Pamela Town
Consulting Wildlife Biologist & SOE
Forest Ecosystem Management, PLLC
(406) 490-7427
Pamtown30@gmail.com

Other Information

Definitions:

- Activity Center: Area of concentrated activity of either a pair of NSOs or a single territorial NSO, represented by a mapped location (usually a nest tree) that occurs within, but not necessarily in the exact center of, the core area. Where clusters of site centers exist in a core area a geographic centroid or nearest neighbor calculation may be used as a designated activity center for habitat analysis purposes. A single territory may also have more than one designated activity center.
- Territory: A spatial area of landscape that is defended by a single resident or pair of northern spotted owls. Specific NSO territories generally refer to a fixed geographic area. Over time, individual spotted owls may occupy different territories (i.e. breeding dispersal, interference competition with barred owls, changes in habitat or prey availability, etc.).
- Home Range: In the absence of site-specific data, the home range is a 1.3-mile radius circle centered on the activity center.
- Territory Identification Number (NAP0005): A number generated by the California Department of Fish & Wildlife assigned to a geographic area currently and/or historically occupied by northern spotted owls.
- Suitable Habitat: Areas meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- Unsuitable Habitat: Areas not meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- NSO Breeding Season: February 1 to August 31st within the inland ecotype.
- Survey Season: March 15 to August 31st within the inland ecotype.

- Degrade Habitat: Signifies when treatments have a negative influence on the quality of habitat due to the removal or reduction of NSO habitat elements but not to the degree where the existing habitat function is changed.
- Downgrade Habitat: Treatments that reduce habitat elements to the degree the habitat will not function in the capacity that exists pre-treatment, but the activities will not remove habitat entirely.
- Assessment Area: The area used to address northern spotted owls includes 1) Project Footprint; 2) Area within ¼ mile of Project Footprint; 3) 1.3 miles from Project Footprint.

References:

Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish & Wildlife Service. February 2, 2011 and Revised January 9, 2012.

Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry & Fire Protection. February 2008.

Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California. Attachment B: Take Avoidance Analysis – Interior. United States Department of Interior Fish & Wildlife Service. November 1, 2019.

Northern Spotted Owl Viewer (BIOS CA Natural Diversity Database). Managed by California Department of Fish & Wildlife.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White, eds. 1988 – 1990. California's Wildlife. Vol. I – III. California Department of Fish & Game, Sacramento, CA.

Attachment #1

Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California Attachment B – Take Avoidance Analysis-Interior

This information provides the United States Fish and Wildlife Service's (USFWS) guidelines to avoid the incidental take, as defined in the Endangered Species Act of 1973 of Northern Spotted Owls (*Strix occidentalis caurina*, NSO), that may result from timber operations within the range of NSOs within California outside the coastal redwood zone. This is an overview of Attachment B, hi-lighting the primary requirements to protect NSOs. See the reference material listed below for the complete Take Avoidance Guidance.

Referenced from:

- Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry and Fire Protection. February 2008. Sacramento, CA.
- Northern Spotted Owl Take Avoidance and Guidance for Private Lands in California. Attachment B – Take Avoidance Analysis-Interior. United States Fish and Wildlife Service. November 2019. Sacramento, CA
- Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the USFWS. February 2, 2011 and Revised January 9, 2012.

I. Accuracy of NSO Activity Center Location, Status, and Mapping

Accurately mapping the location of NSO activity centers is critical for avoiding take of NSO. Activity center locations are more accurate when plotted as a result of current surveys rather than solely relying on using the locations found in the California Department of Fish & Wildlife (CDFW) Spotted Owl Observation Database (SPOWDB). Multiple activity centers for an NSO pair are possible. If one core use area does not encompass all known activity centers, then multiple core use areas may need to be protected. When several years of survey records including positive and negative survey results are available, it may be possible to more precisely map a logical core use area and home range that captures important habitat available to NSOs. This is particularly true in the interior portion of the NSO range in California (as in Napa County) because NSOs tend to remain in the same areas over time. NSOs in these hotter and drier portions of their range rely on topographical features (canyons and lower slopes) to provide relatively stable micro-climates that are within NSO thermal tolerances. In addition, south facing slopes in the interior are often naturally devoid of dense forests.

Home ranges and core use areas for NSOs in the interior are often more accurately depicted by non-circular polygons that often follow drainages where higher quality habitat is present compared to upslope areas.

The analysis of take avoidance should apply to all activity centers listed in the SPOWDB and other available sources within 1.3 miles of the proposed project. If it can be demonstrated that the site does not qualify for protection (i.e., abandoned or non-valid site determination) then consulting with the appropriate regulatory agency is required. When a site can no longer support an NSO due to changes in habitat as the result of fire, timber harvesting, or other disturbances and there is interest to deem the site abandoned, then consultation with the appropriate regulatory agency is required. If an activity center is considered unoccupied for the year after adequate surveys and suitable habitat is present, alternatives to the full protection measures (i.e., harvesting within seasonal restrictions) may be allowed but requires consultation with the appropriate regulatory agency.

II. Flexibility in Survey Protocol

There are 3 areas where flexibility for landowners exists and where take can still be reasonable be avoided: 1) Spot Check Surveys; 2) Modifying the number of required survey visits, and 3) Modifying the survey area.

In most cases in Napa County, the surrounding landscape is privately owned and access is limited; therefore, deviations to the survey protocol are often required (i.e. cannot survey the entire 1.3-mile assessment area). To account for this, as the 2012 protocol was not followed completely, any attempts to use the 2019 flexibility to surveys should not be completed without prior approval from the appropriate regulatory agency.

III. Habitat Typing

Habitat definitions are intended for application at the scale of around 20 acres. This means that within any given 20 acres that serve as NSO habitat, the forest stand structure (QMD, basal area, canopy closure) may be variable, but the average values should meet the appropriate standards.

NSO habitat is described both in vegetative structure (tree size, density, canopy closure) and spatial extent and proximity to other habitat. Small patches (less than 100 acres) of forests with large trees and dense canopy are not likely to function as NSO habitat if they are less than 100 yards (300') wide or separated by more than ½ mile from other NSO habitat.

The highest quality NSO habitat available should be identified and retained over lesser-quality habitat. Prioritization includes:

- Tree Species composition and existing habitat quality
 - Highest quality existing habitat should be prioritized for retention
 - Mixed conifer stands should be selected over pure pine stands
 - Retained areas should feature multi-layered, multi-species stand structure with abundant large woody debris on the forest floor.
- Abiotic Considerations
 - Distance to nest – retain habitat as close as possible to nest or roost trees
 - Contiguity – retain habitat should be as contiguous as possible
 - Slope Position – retain habitat on the lower 1/3 of slopes

- Aspect – habitats on northerly or easterly aspects provide more optimal vegetation composition and cooler site conditions.

IV. Habitat Protection

In the absence of site-specific information, the follow requirements apply within the 1.3-mile radius of each activity enter:

- Within 1,000 feet of an Activity Center
 - Outside breeding season (01SEP – 31JAN), no timber operations other than the use of existing roads.
 - During the breeding season (01FEB – 31AUG), no timber operations other than the use of existing, permanent, year-round roads.
- Within ½ mile radius (502 acres) centered on an Activity Center – Core Use Area
 - Retention of habitat using Habitat Typing recommendations above
 - At least 250 acres nesting/roosting habitat present, as follows:
 - 100 acres of high-quality nesting/roosting habitat, and
 - 150 acres nesting/roosting habitat AND
 - At least 150 acres of foraging habitat, or better, must be present, as follows:
 - 100 acres foraging habitat, and
 - 50 acres of low-quality foraging habitat
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP
- Between ½ mile and 1.3-mile radius circles (3,397 acres) centered on an Activity Center
 - Retention of habitat using Habitat Typing recommendations above
 - At least 935 acres of suitable habitat must be present, as follows:
 - At least 655 acres of foraging habitat or better, and
 - At least 280 acres of low-quality foraging habitat or better
 - No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP.

Non-circular delineations can be used using site-specific data, abiotic variables, NSO detections, barred owl detections, and habitat configurations using the best available NSO habitat. Project proponents are encouraged to work with adjacent landowners whose property may be affected and to pre-consult with regulatory agencies when proposing to use non-circular habitat assessment areas.

For unoccupied activity centers, the habitat retention standards above should be maintained. NSOs are known to reoccupy used sites eight or more years after they were last detected and modifications to previously occupied sites may preclude NSOs returning to these sites. If barred owls have been detected within 1.3 miles of an activity center, extra caution should be applied in determining occupancy.

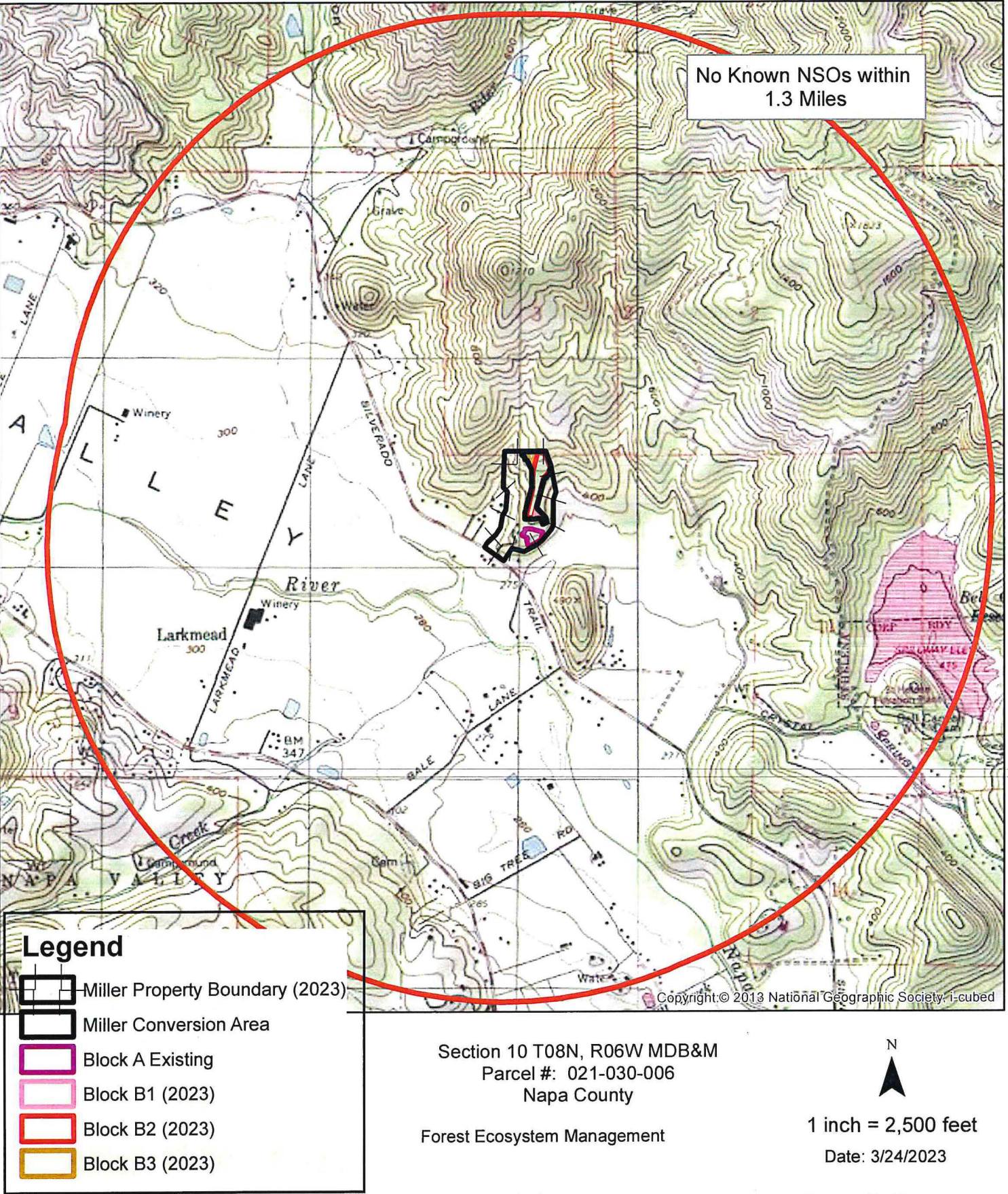
V. Road Use

To avoid take of NSO from noise disturbance, no road maintenance or use within ¼ mile of an occupied NSO activity center during the breeding season should occur, unless:

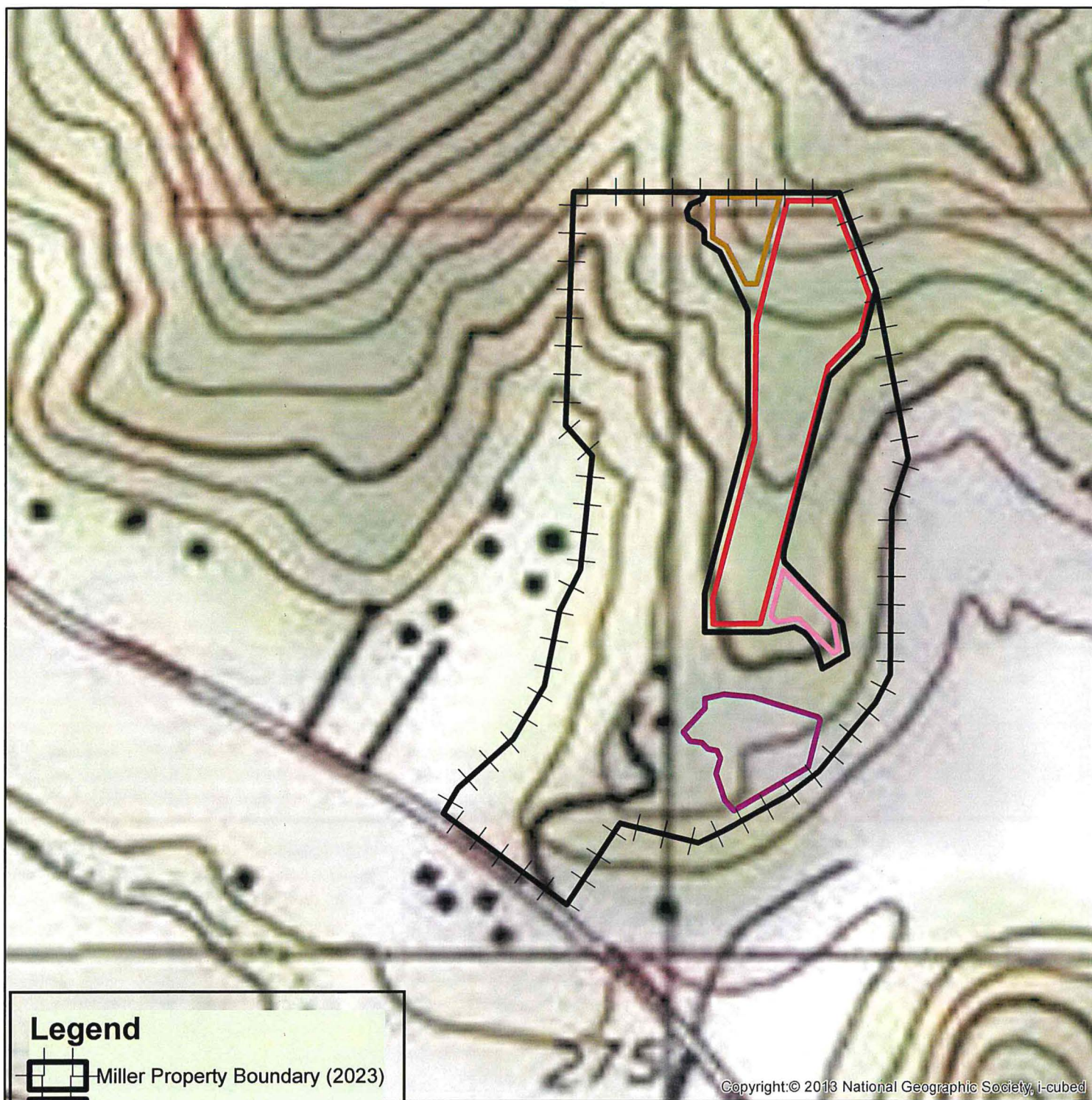
- Protocol monitoring has determined that NSOs are not nesting or nesting has failed.
- The road receives year-round use and proposed operations will not exceed ambient noise conditions.
- Proposals to use or maintain roads within ¼ mile of an activity center during the breeding season require approval by the appropriate regulatory agency.

Deviations to the road use guidelines may be proposed depending on noise minimization measures (speed limits, compression braking restrictions), duration, extent, frequency, and distance of the noise source to the activity center. Additionally, topography, dense vegetation, or other factors may be considered and noise restrictions may be waived or minimized by regulatory agencies.

Northern Spotted Owls within 1.3 Miles Miller Project



Miller Project Area



Legend

-  Miller Property Boundary (2023)
-  Miller Conversion Area
-  Block A Existing
-  Block B1 (2023)
-  Block B2 (2023)
-  Block B3 (2023)

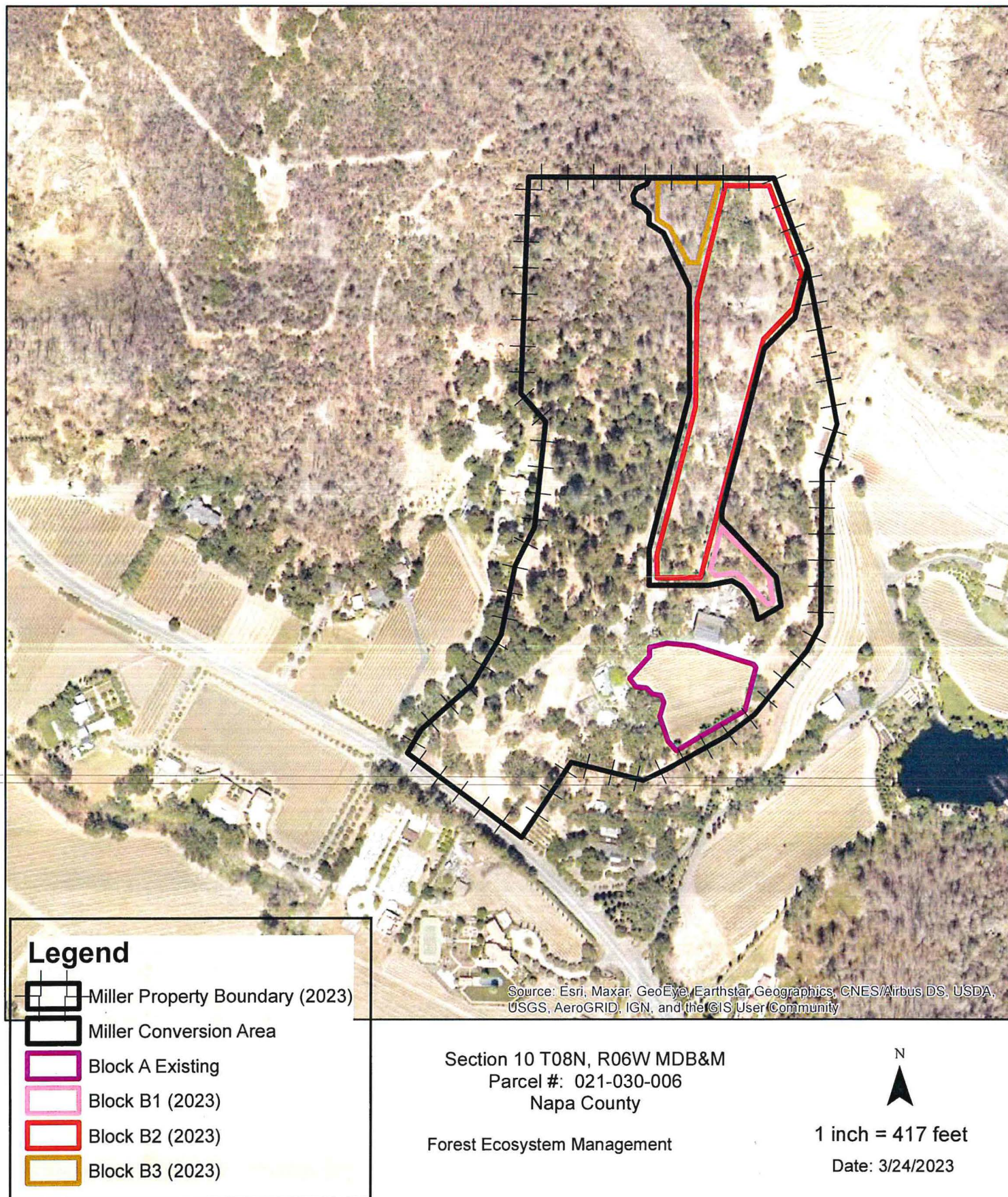
Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management



1 inch = 417 feet
Date: 3/24/2023

Miller Project Area



Data Version Date:
02/01/2023Report Generation Date:
2/22/2023**Report #1 - Spotted Owl Sites Found**
Known Spotted Owl sites having observations
within the search area.

Meridian, Township, Range, Section (MTRS) searched:

M_09N_06W Sections(33,34,35,36);

M_08N_06W Sections(01,02,03,04,09,10,11,12,13,14,15,16);

NOTES:

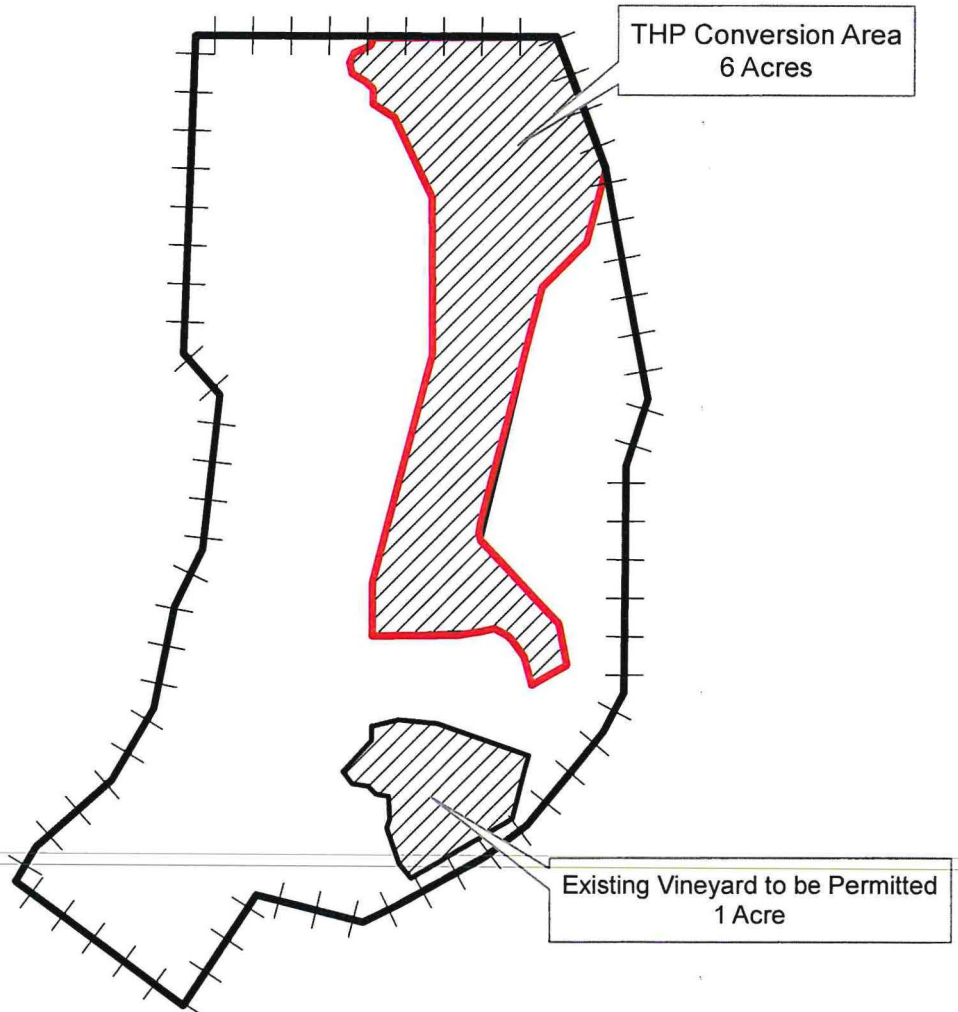
Miller Project Area

Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
NAP0001	NORTHERN	38.539867	-122.546050	M 08N 06W 17	Contributor

over
2 Miles0.45
in 1.5 Miles
NORTHERN

Pre & Post Harvest NSO Habitat - Miller Project Area

NSO Habitat (2023)
All Unsuitable NSO Habitat within Project Area



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- Project Unsuitable NSO Habitat

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

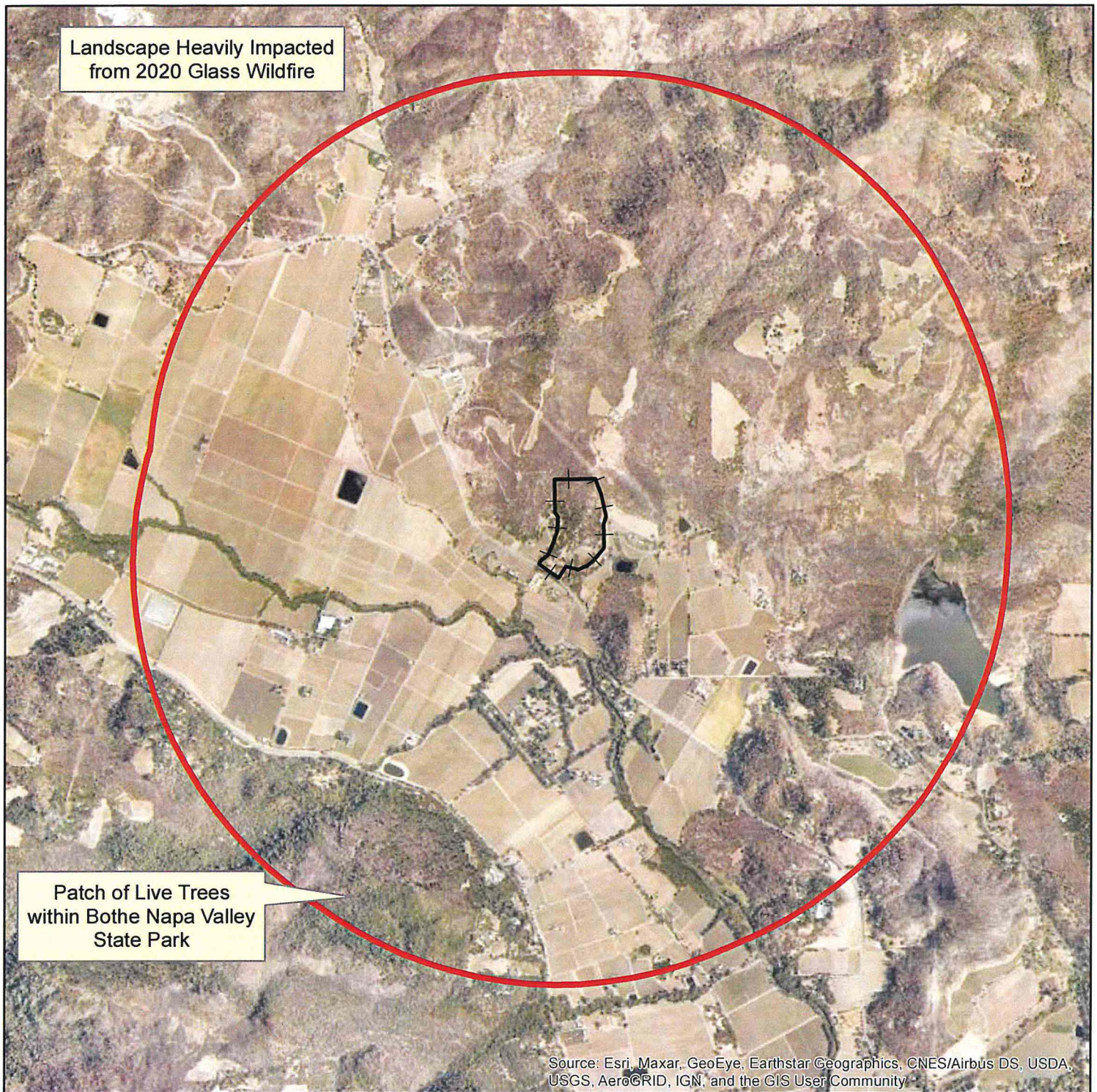
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

NSO Habitat within 1.3 Miles of Miller Project Area



Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management
Page 147

Legend

- Property Boundary
- NSO Assessment Area

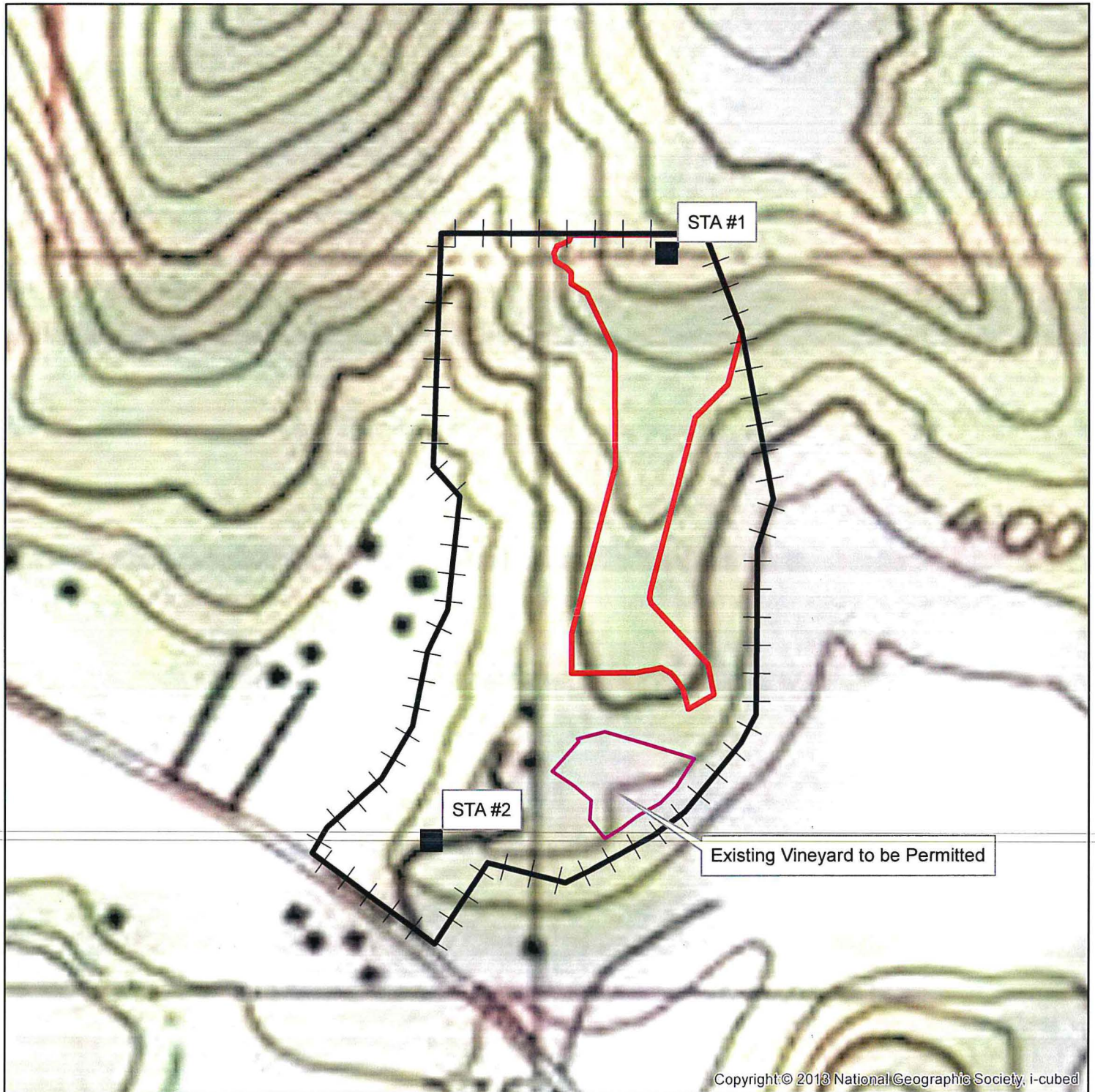
N

1 inch = 2,917 feet

Date: 2/22/2023

Appendix B

Northern Spotted Owl Survey Stations for Miller Project



Legend

- Miller Property Boundary (2023)
- Miller Conversion Area
- NSO Survey Station

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

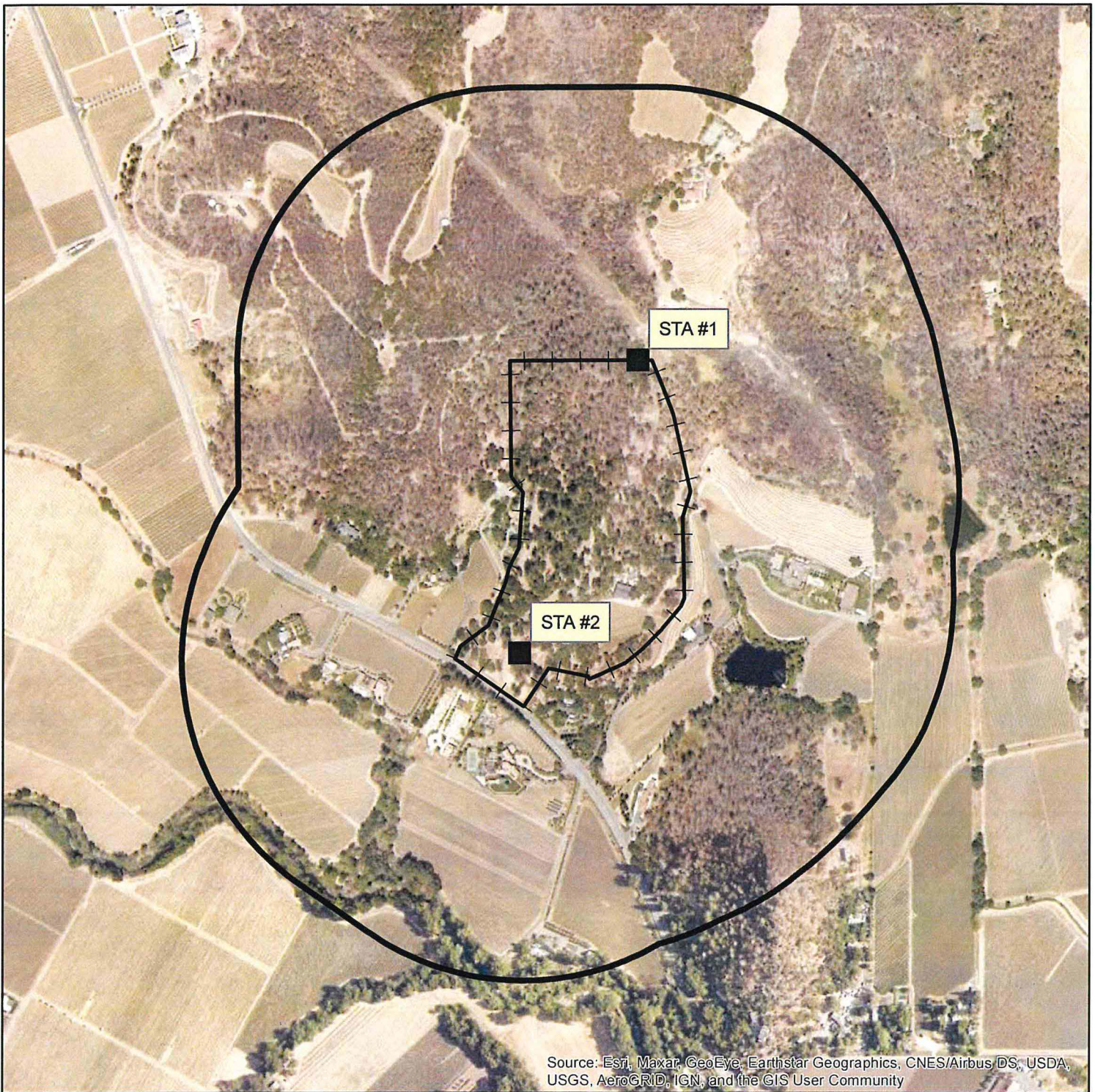
Forest Ecosystem Management



1 inch = 417 feet

Date: 3/24/2023

Miller Project - Survey Area



Legend

-  Property Boundary
-  Survey Assessment Area (1/4 Mile)
-  NSO Survey Station

Section 10 T08N, R06W MDB&M
Parcel #: 021-030-006
Napa County

Forest Ecosystem Management
Page 149

N



1 inch = 833 feet

Date: 2/22/2023

Appendix B

