TRUNORTH

E.Northern Spotted Owl Assessment

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

Northern Spotted Owl Assessment For Misty Mountain Properties (Shire Area)

Completed by: Pamela Town, Consulting Wildlife Biologist
June 6, 2025

Northern Spotted Owls (*Strix occidentalis caurina)*

Northern Spotted Owls (NSO) are listed as Threatened under both the Federal Endangered Species Act (ESA) and California State Endangered Species Act (CESA), as well as Sensitive under California Department of Forestry and Fire Protection (CalFire). They are a common to uncommon owl in the coniferous forest of the Pacific Northwest (PNW), ranging from southern British Columbia south to Marin County in northwestern California.

The northern spotted owl is a subspecies of spotted owl (*Strix occidentalis)* found in western North America. They are medium-sized (16 to 20 inches) dark brown owls with a barred tail, white spots on their head and breast, and dark brown eyes surrounded by a prominent facial disk. The northern spotted owl is a permanent resident in suitable habitat residing in dense, old-growth, and multi-layered second-growth stands of mixed conifer, redwood, and Douglas-fir habitats.

Northern Spotted Owls are rodent specialists, primarily feeding on woodrats (*Neotoma fuscipes*), deer mice (*Peromyscus spp*.), Sonoma tree voles (*Arborimus pomo*), voles (*Microtus spp.),* and northern flying squirrels (*Glaucomys sabrimus*); but have been known to consume small birds, bats, amphibians, and large arthropods. Foraging is completed by searching for prey from a perch and swooping/pouncing on the prey. NSOs usually nest in stick nests (mistletoe clump, abandoned raptor, or squirrel nest), in a cavity tree or snag, or in the broken top of a large tree. In the interior region of their range (as seen in Napa County), there appears to be a preference for well-shaded habitat in narrow, steep-sided canyons with north or east-facing slopes to assist in thermoregulatory needs, as they are intolerant of high temperatures.

Spotted owl life-history traits suggest coevolution with late-seral, old-growth forests, and second-growth forests with scattered late-seral characteristics. They are relatively long-lived and have high adult survival, low reproductive output, and high parental investment in offspring.

Threats to the northern spotted owl include increased competition and perhaps predation from the barred owl (*Strix varia).* In addition to the threats from the barred owls, spotted owl populations may also be negatively impacted by large-scale wildfires and unregulated activities that modify habitat and introduce toxic substances into the environment and food chain (i.e., illegal logging, development, marijuana cultivation, etc.).

This Assessment is for the Misty Mountains Project (Shire Area) located off Spring Mountain Road in St. Helena, CA, within Napa County, which occurs within the range of the Northern Spotted Owl.

Project General Information (Attachment #1)

Project Location: off Spring Mountain Road, St. Helena, CA
Legal Description of Parcel: Portions of Sections 21 & 28, T08N, R06W MDB&M
APN: 022-140-054
Total APN Acres: 40.81 acres
County: Napa County

Proposed Project: Install 3 contiguous vineyard blocks on 6-acre +/- conversion area (Attachment #2 Aerial)

Known Northern Spotted Owl Territories

According to the California Department of Fish & Wildlife's spotted owl viewer dated 06JUN25, there are two known northern spotted owl territories (NAP0005 and NAP0033) within 1.3 miles of the Property Boundary (Attachment #3). The 1.3-mile assessment area was created by USFWS for Take Avoidance of northern spotted owls within the California Interior (outside the redwood zone). Although Napa County has redwood, the area is hotter/drier than the coastal redwood zone; therefore, the 1.3-mile assessment area was used for this Project. The following briefly discusses what is known regarding these territories:

> NAP0005: This territory was first identified in 1983, with the activity center based upon a 1989 pair with young. According to the database, the latest known owl detection is 1998. This territory is located approximately .7 miles to the north of the Project Area.
>
> NAP0033: This territory was first identified in 1995, with the activity center based upon a 2008 pair. According to the database, the latest known owl detection is 2012. This territory is located approximately .8 miles to the south of the Project Area.

Northern Spotted Owl Habitat

The attributes of northern spotted owl habitat include a forest with:

- Dense, multi-layered canopy of several tree species.
- Trees of varying sizes and ages.
- Abundant logs, snags/cavity trees, and trees with broken tops or platform-like substrates (i.e., broken tops, mistletoe, debris piles, or old raptor/squirrel nests).
- Open spaces among lower branches to allow flight under the canopy.
- A prey base source.

The specific definitions of NSO habitat from USFWS include:

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

Project Area:

The Property is located off Spring Mountain Road in St. Helena, CA (Attachment #1), with the Project Area on flatter upper slopes (Attachment #2). Before the 2020 Glass Wildfire, the Project Area was a mix of chamise and coastal mixed hardwood with a Douglas-fir forest type to the north. This area was impacted by the 2020 Glass Wildfire that burned through the chamise habitat and portions of the adjacent forest. The NSO habitat within the proposed vineyard area is considered unsuitable (open areas and burned areas lacking forest canopy), and a small portion is low-quality foraging (due to forest stand characteristics and canopy closure). Immediately north of the Project Area is considered suitable NSO habitat; however, due to the lack of steep canyons and development (roads, vineyards, houses, commercial property), it is considered marginal.

Northern Spotted Owl Surveys

Three survey stations were established to survey the Misty Mountains Project Area and the surrounding habitat (Attachment #4). Surveys began in 2025, with 6 survey visits completed. No northern spotted owls or barred owls were detected.

Surveys were completed on 17MAR25, 01APR25 (02APR25), 16APR25, 28APR25 (29APR25), 11MAY25 (14MAY25), and 02JUN25 (Attachment #5). Surveys are valid until the beginning of the next year's

breeding season (01FEB), and will have to be continued in each year of anticipated timber operations. In 2026, 6 survey visits would be required, with at least 1 survey completed on or after 01JUN26.

Northern Spotted Owl Protection Measures

The Project Area occurs along the edge of marginal suitable northern spotted owl habitat, and there is suitable habitat within ¼ mile of the Project Boundary. There are two historic northern spotted owl territories within 1.3 miles of the Project Boundary. Therefore, the following Protection Measures are recommended:

- Protocol surveys are required within the suitable habitat, both within the Project Area and ¼ mile of the Project Boundary, before any trees are removed.
    - Year 1 = 2025 – 6 survey visits required – no timber operations
    - Year 2 = 2026 – 6 survey visits required – timber operations allowed after surveys have been completed.
- If a northern spotted owl is detected during protocol surveys, the appropriate protection measures as set forth by USFWS and CDFW will be followed.

Attachments

Attachment #1 – Misty Mountain Project Area and known NSOs within 1.3 miles
Attachment #2 – Aerial photo of Project Area
Attachment #3 - NSO Database Report
Attachment #4 – Northern Spotted Owl Survey Stations – Map
Attachment #5 – 2025 Northern Spotted Owl Surveys

Additional Information

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

Pamela Town – Consulting Wildlife Biologist: Pam received a BS in Wildlife Management from the University of Vermont in 1993 and an MS in Forest Resources from the University of Idaho in 1996. Pam has over 25 years of experience using interdisciplinary approaches to natural resource and land use management projects in northern California (Mendocino, Sonoma, Lake, and Napa Counties). She has experience working with a diversity of nongame wildlife species and their habitat, including but not limited to songbirds, hawks, owls, turtles, amphibians, bats, small mammals, and listed species. She has worked with a variety of partners including state and federal regulatory agencies (CDFW, CalFire, USFWS), private and industrial landowners, small and large business owners, and natural resource

professionals; to provide technical leadership and guidance in dealing with the effects of various land use projects on listed/sensitive wildlife species and their habitat.

Specific to Northern Spotted Owls: I began working with northern spotted owls in May 1996 at Jackson Demonstration State Forest while working as a Scientific Aid for the California Department of Fish & Game (Wildlife) for Theodore Wooster. In the Spring of 1997, I began working as a Private Wildlife Biological Consultant in Mendocino, Sonoma, Lake, and Napa Counties and have been working with this species since. I am qualified as a Spotted Owl Expert. Surveys and assessments are based upon professional experience as well as guidance from:

- Protocol for Surveying Proposed Management Activities that may impact Northern Spotted Owls. Endorsed by USFWS. February 2, 2011 (Revised 09JAN12).

- Northern Spotted Owl Take Avoidance Analysis and Guidance for Private Lands in California. Attachment A: Take Avoidance Analysis – Coast Redwood Regions and Attachment B – Take Avoidance Analysis – Interior. Fish & Wildlife Service – Pacific Southwest Region. 15MAR11 (Revised 01NOV19).

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

- Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls in Northwestern California. Fish & Wildlife Service – Arcata Fish & Wildlife Office. 01OCT20

NSO Surveys: Surveys for this Project were completed by:

- Scott Butler, Registered Professional Forester. Scott has been surveying northern spotted owls since 1988 and is qualified as a Spotted Owl Expert.
- Dana Riggs, Consulting Wildlife Biologist. In 2024, Scott Butler began training Dana as an Owl Caller/Surveyor.

References:

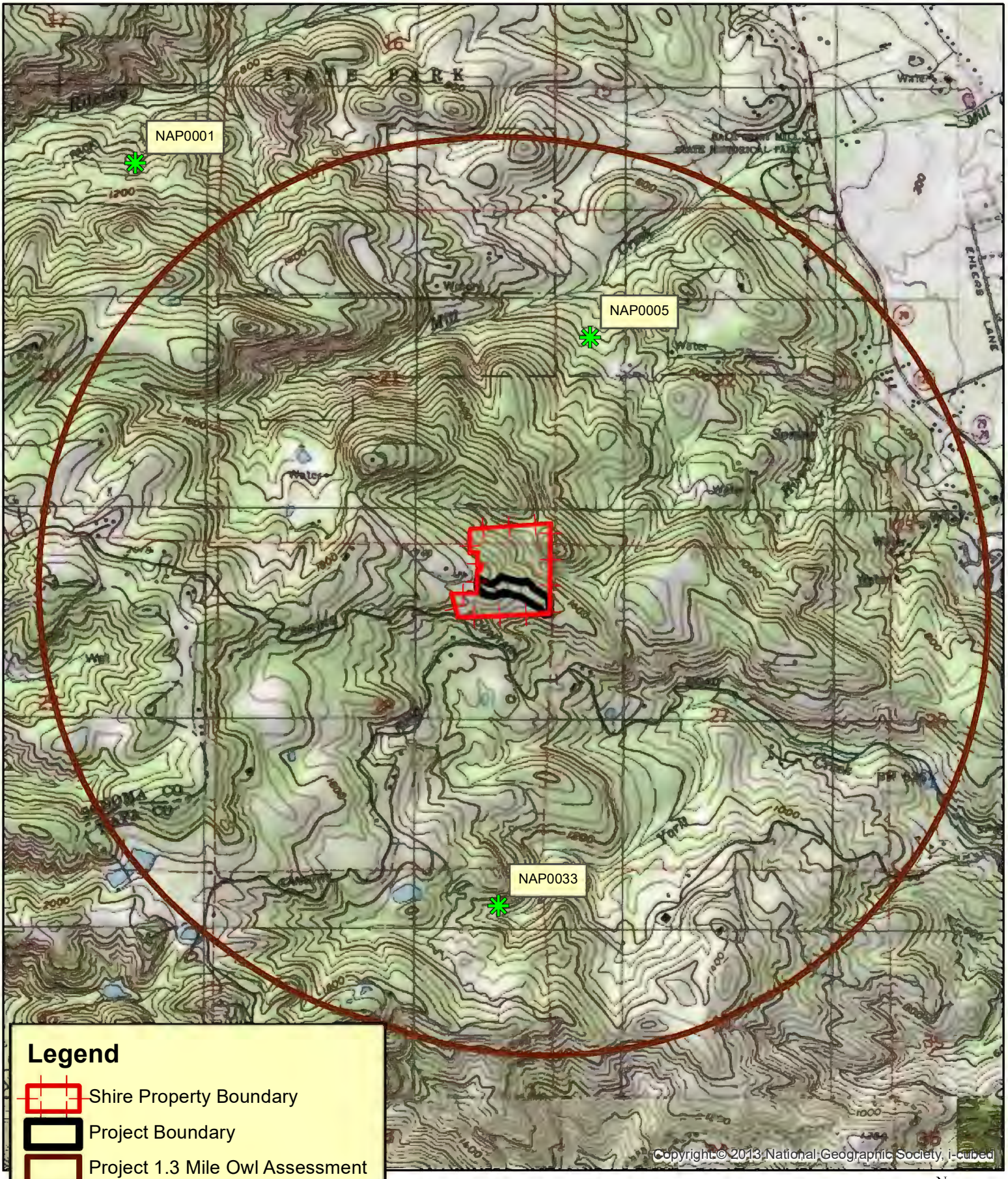
Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish & Wildlife Service. February 2, 2011, and Revised January 9, 2012.

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

Misty Mountains Project Area - Shire



Sections 21 & 28 T08N, R06W MDB&M
Napa County

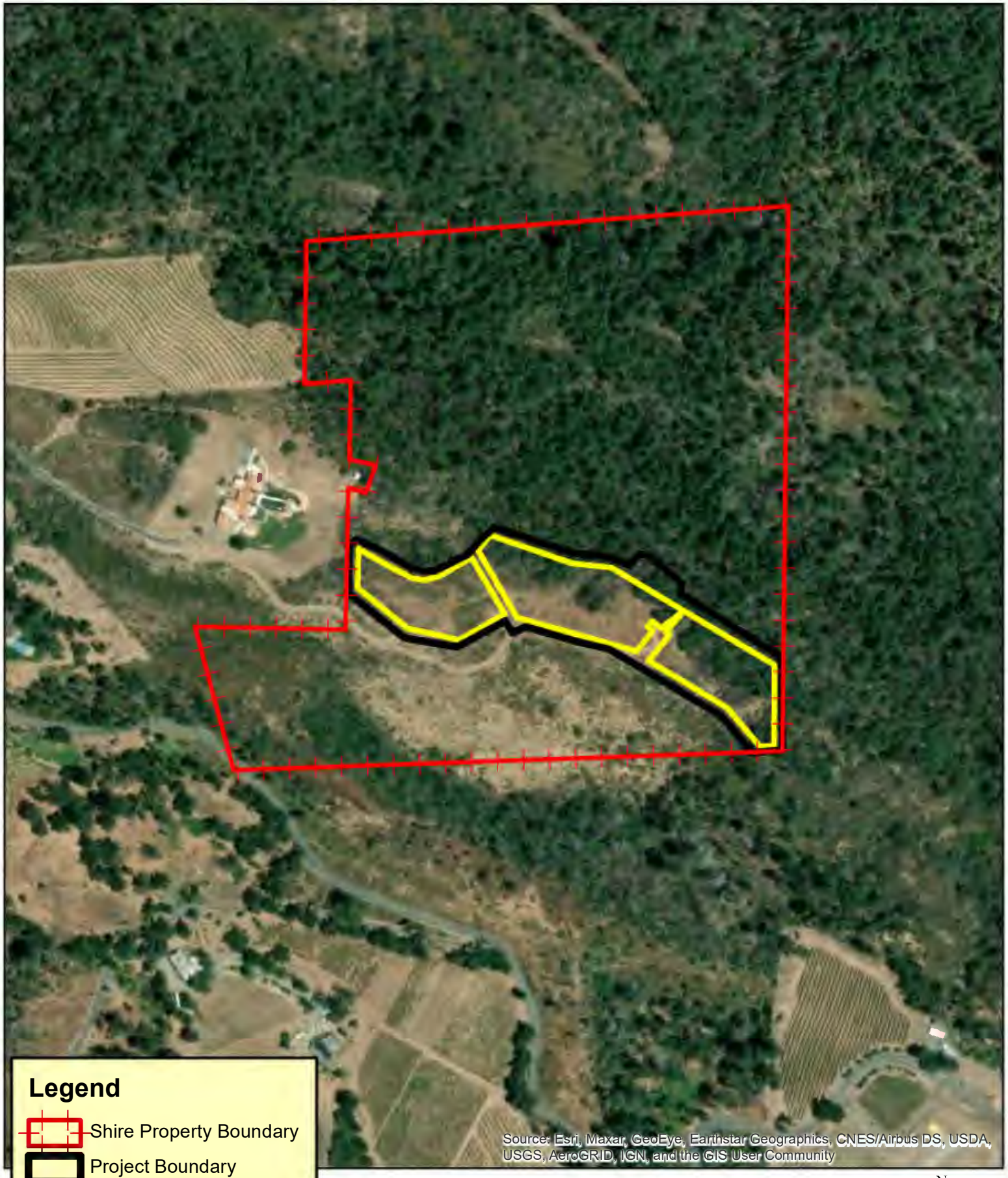
Date: 6/6/2025

1 in = 2,500 ft

N

Attachment #2

Misty Mountains Project Area - Shire



Sections 21 & 28 T08N, R06W MDB&M
Napa County

Date: 6/6/2025

1 in = 417 ft

N

Data Version Date:
05/28/2025

Report Generation Date:
6/6/2025

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

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

M_08N_06W Sections(14,15,16,17,20,21,22,23,26,27,28,29,32,33,34,35);

NOTES:

Mystic Mountain (shire)

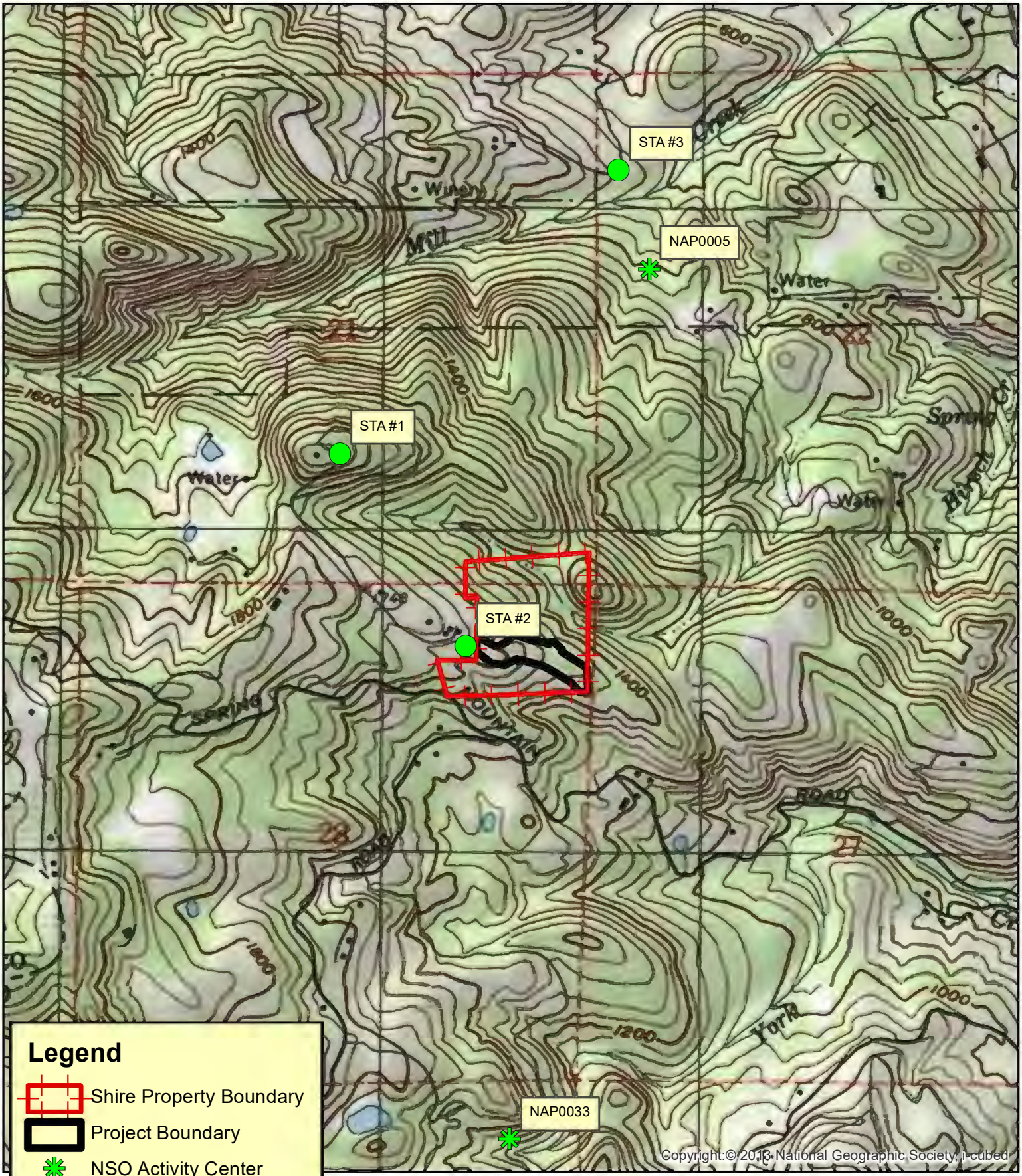
Masterowl	*Subspecies*	*LatDD NAD83*	*LonDD NAD83*	*MTRS*	*AC Coordinate Source*	
NAP0001	NORTHERN	38.539867	-122.546050	M 08N 06W 17	Contributor	1.6 M
NAP0005	NORTHERN	38.532391	-122.521177	M 08N 06W 22	Contributor	.7 M
NAP0033	NORTHERN	38.508038	-122.526177	M 08N 06W 33	Contributor	.8 M

Owls within 1.3 Miles of Project

NAP0005
NAP0033

Attachment #4 - Stations

Misty Mountains Project (Shire)
Northern Spotted Owl Survey Stations



Legend

- Shire Property Boundary
- Project Boundary
- NSO Activity Center
- NSO Survey Station

Sections 21 & 28 T08N, R06W MDB&M
Napa County

Date: 6/6/2025

1 in = 1,667 ft

N

NORTHERN SPOTTED OWL SURVEY FORM
2025 Breeding Season

Project/General Location: Misty Mountains Visit #: 1 Date: 17MAR25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Dana Riggs
Survey Type: NPS
Weather Description: Partly cloudy with light breeze (occasional mist)

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
STA #1	2120	2130	N/R			
STA #2	2202	2212	N/R			Planes flying over
STA #3	0207	0217	N/R			

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Project/General Location: Misty Mountains Visit #: 2 Date: 01/02APR25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Dana Riggs
Survey Type: NPS
Weather Description: Partly cloudy with light breeze

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
01APR25						
STA #3	0133	0143	N/R			
02APR25	Clear &	Calm				
STA #2	2024	2034	N/R			Water noise and dog barking
STA #1	2107	2117	N/R			

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Project/General Location: Misty Mountains Visit #: 3 Date: 16APR25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Scott Butler
Survey Type: NPS
Weather Description: High overcast, calm to slight breeze

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
STA #1	0009	0022	N/R			cold
STA #2	0031	0041	N/R			Light mist
STA #3	0115	0125	N/R			cold

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Project/General Location: Misty Mountains Visit #: 4 Date: 28/29APR25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Dana Riggs
Survey Type: NPS
Weather Description: Clear and Very light breeze

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
28APR25						
STA #3	0145	0155	N/R			Crickets
29APR25	Clear &	Calm				
STA #2	0145	0155	GHOW			Great Horned Owl about ¼ mile due south
STA #1	0214	0224	WSOW			Western Screech Owl and machine/turbine noise

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Project/General Location: Misty Mountains Visit #: 5 Date: 11/14MAY25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Dana Riggs
Survey Type: NPS
Weather Description: Partly cloudy and light breeze

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
11MAY25						
STA #3	0020	0030	N/R			
14MAY25	Clear &	Calm				
STA #2	2016	2026	N/R			
STA #1	2036	2046	N/R			Dog Barking

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Project/General Location: Misty Mountains Visit #: 6 Date: 02JUN25
Legal: T08N, R06W, Section 21 & 28 County: Napa
NSO Detection: No **Barred Owl Detection**: No
Surveyor: Scott Butler
Survey Type: NPS
Weather Description: Clear, intermittent breeze

Station #	Start Time	End Time	Owl Response	NSO Sex	Owl Location	Comments
STA #3	2312	2322	N/R			No breeze
STA #2	2348	2358	N/R			Light breeze, crickets, rabbit
STA #1	0013	0023	N/R			Light breeze

Survey Type: NPS = Nocturnal Protocol Survey, SCS = Spot Check Survey, DS = Disturbance Survey, ACS = Activity Stand Search, CC = Continuous Calling, SS = Stand Search, AV = Additional Visit, FV = Follow-Up Visit, RV = Reproductive Visit, OPP = Opportunistic Sighting
Owl Response: N/R = No Response from NSO, V = Vocal Response, O = Observed NSO, B = Both Vocal and Observed, BAR = Barred Owl
NSO Sex: M = Male, F = Female, U = Unknown Sex **NSO Age:** A = Adult, S = Subadult, J = Juvenile
Owl Location: Where is owl (bearing & distance) or brief description **Comments:** Other important information or owl species identified

Forest Ecosystem Management
PO Box 366 * Seeley Lake, MT 59868
(406) 490-7427 * Pamtown30@gmail.com

Northern Spotted Owl Update for Misty Mountain (Shire Area)

Completed by: Pamela Town,
Consulting Wildlife Biologist
May 18, 2026

This Northern Spotted Owl Update is for the Misty Mountain (Shire Area) located off Spring Mountain Road in St. Helena, CA, within Napa County, which occurs within the range of the Northern Spotted Owl.

Project Location: off Spring Mountain Road, St. Helena, CA
Legal Description of Parcel: Portions of Sections 21 & 28, T08N, R06W MDB&M
APN: 022-140-054
Total APN Acres: 40.81 acres
County: Napa County

Proposed Project: Less than 3 acre conversion

Known Northern Spotted Owls: There are 2 known northern spotted owl territories within 1.3 miles of the Property Boundary (NAP0005 and NAP0033). The closest territory is NAP0005 which is located approximately 0.7 miles to the north of the Project Area. NAP0033 is located approximately 0.8 miles to south of the Project.

2026 Surveys: The Project Area is being surveying for northern spotted owls using United States Fish & Wildlife Service's, Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls (February 2, 2011, and Revised January 9, 2012).

As of this date, 4 of the required 6 survey visits have been completed on this Project. No northern spotted owls have been detected. Surveys will continue and be completed within the survey window of 15MAR – 31AUG.

If you have any questions regarding this update, please do not hesitate to contact Pam Town @ (406) 490-7427 or Pamtown30@gmail.com.