

| DOCKETED | |
|-------------------------|-----------------------------------|
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| Project Title: | Fountain Wind Project |
| TN #: | 248309-4 |
| Document Title: | 2021 spotted owl memo |
| Description: | N/A |
| Filer: | Caitlin Barns |
| Organization: | Stantec Consulting Services, Inc. |
| Submitter Role: | Applicant Consultant |
| Submission Date: | 1/4/2023 11:30:38 AM |
| Docketed Date: | 1/4/2023 |



TECHNICAL MEMORANDUM

DATE: October 29, 2021

TO: John Kuba - ConnectGen

FROM: Joel Thompson and Samantha Hanson - WEST, Inc.

RE: 2021 California Spotted Owl Survey Results, Fountain Wind Project, Shasta County, CA

Introduction

CG Fountain Wind LLC contracted Western EcoSystems Technology, Inc. (WEST) to provide biological survey support for the development of the proposed Fountain Wind Project (Project). The Project is located on approximately 29,500 acres (11,938 hectares) of private land in central Shasta County, California. The primary land use within the Project area is commercial timber production. The dominant vegetation type in the Project area is early seral mixed coniferous forest (post-fire and unburned), with smaller amounts of mixed montane chaparral, and mixed montane riparian forest/scrub. Dominant overstory species include a combination of white fir (*Abies concolor*), Douglas fir (*Pseudotsuga menziesii*), incense cedar (*Calocedrus decurrens*), ponderosa pine (*Pinus ponderosa*), sugar pine (*P. lambertiana*), and California black oak (*Quercus kelloggii*). Late seral forest is largely absent from the Project area due to both historical wildfire and commercial timber harvest activities.

California spotted owl (spotted owl; *Strix occidentalis occidentalis*) is currently designated as a California Species of Special Concern (CDFW 2021). WEST completed a risk assessment (Hutchison and Chatfield, 2020) that discussed the potential for Project impacts to spotted owls and their habitats, including assessments of historical spotted owl activity centers and potentially suitable spotted owl habitat within or near the Project. Although historical spotted owl activity centers exist within and adjacent the Project vicinity (Figure 1), there has been no documented spotted owl activity within the Project area in the last two decades (CNNDB 2018). Additionally, much of the potentially suitable spotted owl habitat in close proximity to the Project has been harvested in recent years under one or more approved timber harvest plans.

This memo provides the methods and results of spotted owl surveys conducted in accordance with Mitigation Measure 3.4-7 of Shasta County's Environmental Impact Report for the Project (Shasta County 2021).

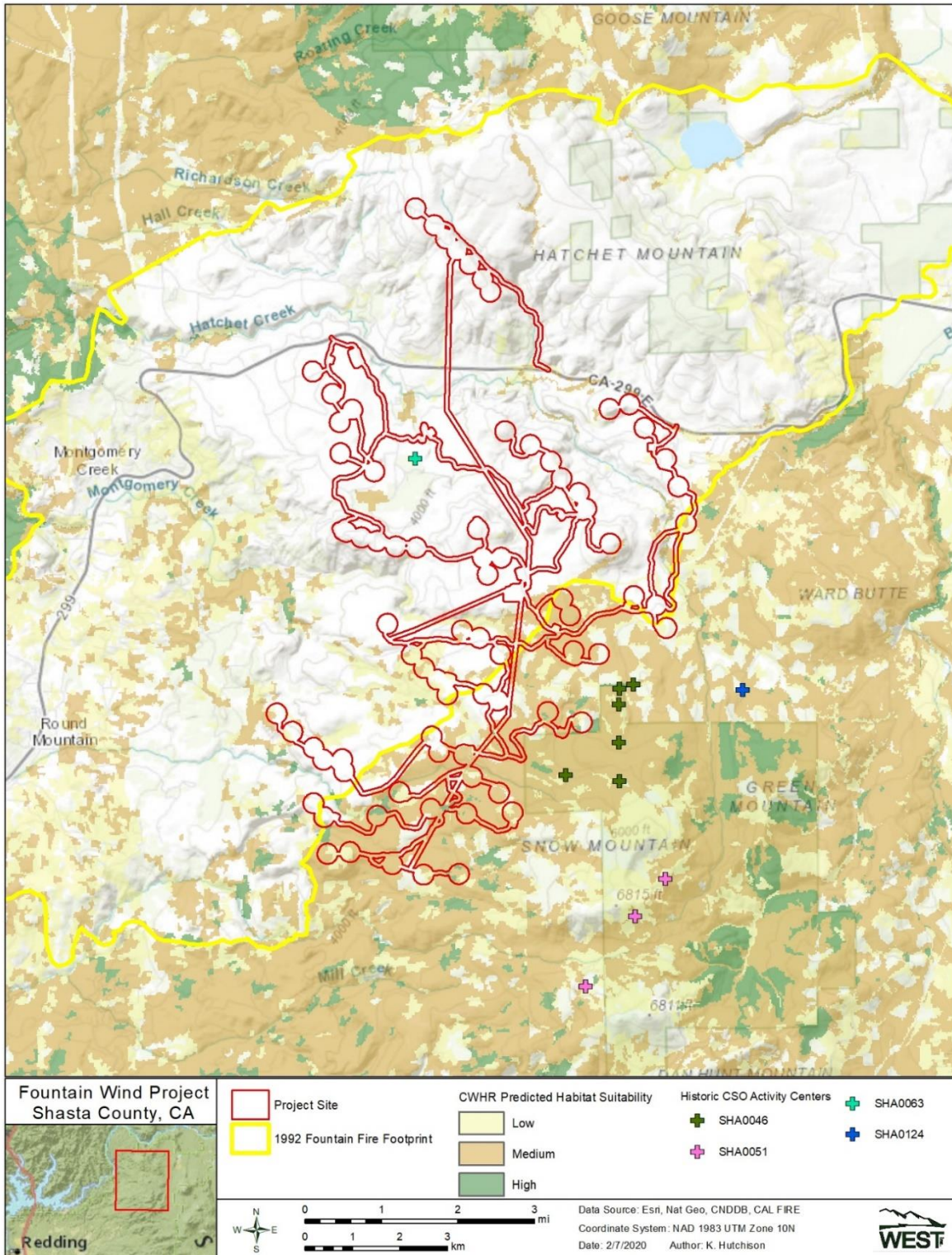


Figure 1. Historical California spotted owl (CSO) occurrences and predicted suitable spotted owl habitat near the Fountain Wind Project in Shasta County, California, as obtained from the California Natural Diversity Database (CNDDDB) and California Wildlife Habitat Relationships (CWHR).

Methods

Surveys for spotted owls were conducted in 2021 to ensure that spotted owls were not nesting in areas that may be impacted by Project construction activities. Spotted owl surveys were conducted during the nesting season (March – August) in medium-high suitability nesting and roosting habitat located within a 0.25-mile of potential disturbance areas associated with proposed Project infrastructure (e.g., roads, underground collection, turbine pads, etc.). Field surveys aligned with the USFWS endorsed *Protocol for Surveying Proposed Management Activities that may Impact Northern Spotted Owls – 2012 Revision* (USFWS 2012).

Project infrastructure was buffered by 0.25 mi and survey stations established in proximity to forest patches of medium-high suitability for use by spotted owls, which occur primarily in the southern and eastern portions of the Project (Figures 1 and 2). Surveys were conducted from 36 fixed survey stations (Figure 2) spaced such that they provided coverage of all targeted medium-high suitability habitat patches. Six rounds of surveys were conducted at each survey station between the months of March and August 2021. Each survey consisted of a 10-minute session of acoustic playback of spotted owl vocalizations. In the event of a spotted owl detection, a daytime follow-up visit was conducted to determine nesting status.

Results

Surveys were conducted between May 6 and July 20, 2021 (Table 1). Survey datasheets and a map of all detections are included as Appendix A. On May 6, 2021, a spotted owl was heard during surveys, its location estimated to be approximately 0.25 mi southeast of the nearest proposed turbine. A daytime follow-up visit was conducted the next day (May 7) to relocate the spotted owl and determine its residency/nesting status. The follow-up visit resulted in the discovery of a spotted owl pair and nest on US Forest Service land approximately 0.4 mi northeast of the nearest proposed turbine (Figure 2). On July 6, a pair of spotted owls was detected less than 1.0 mi from the owl detection and nest documented on May 6 and 7. The male from the pair was relocated during a daytime follow-up visit conducted the following day (July 7) and it was determined that, based on the color-coded leg band observed, it was the male from the nesting pair previously documented on May 7. The same male spotted owl was again heard on July 19 and its leg band confirmed when the bird was visually observed approximately 0.3 mi from the nearest proposed turbine (see Appendix A).

Table 2. Results of California spotted owl (CSO) acoustic playback surveys conducted between May 6 and July 20, 2021 at the Fountain Wind Project, Shasta County, California.

| Survey Dates | Result |
|--------------------|---|
| May 6 – 7, 2021 | Pair / Nest confirmed 0.4 mi from Project |
| May 19 – 20, 2021 | No CSO detected |
| June 14 – 15, 2021 | No CSO detected |
| June 27 – 28, 2021 | No CSO detected |
| July 6 – 8, 2021 | Pair heard / male confirmed as part of nesting pair |
| July 19 – 20, 2021 | Male heard and confirmed as part of nesting pair |

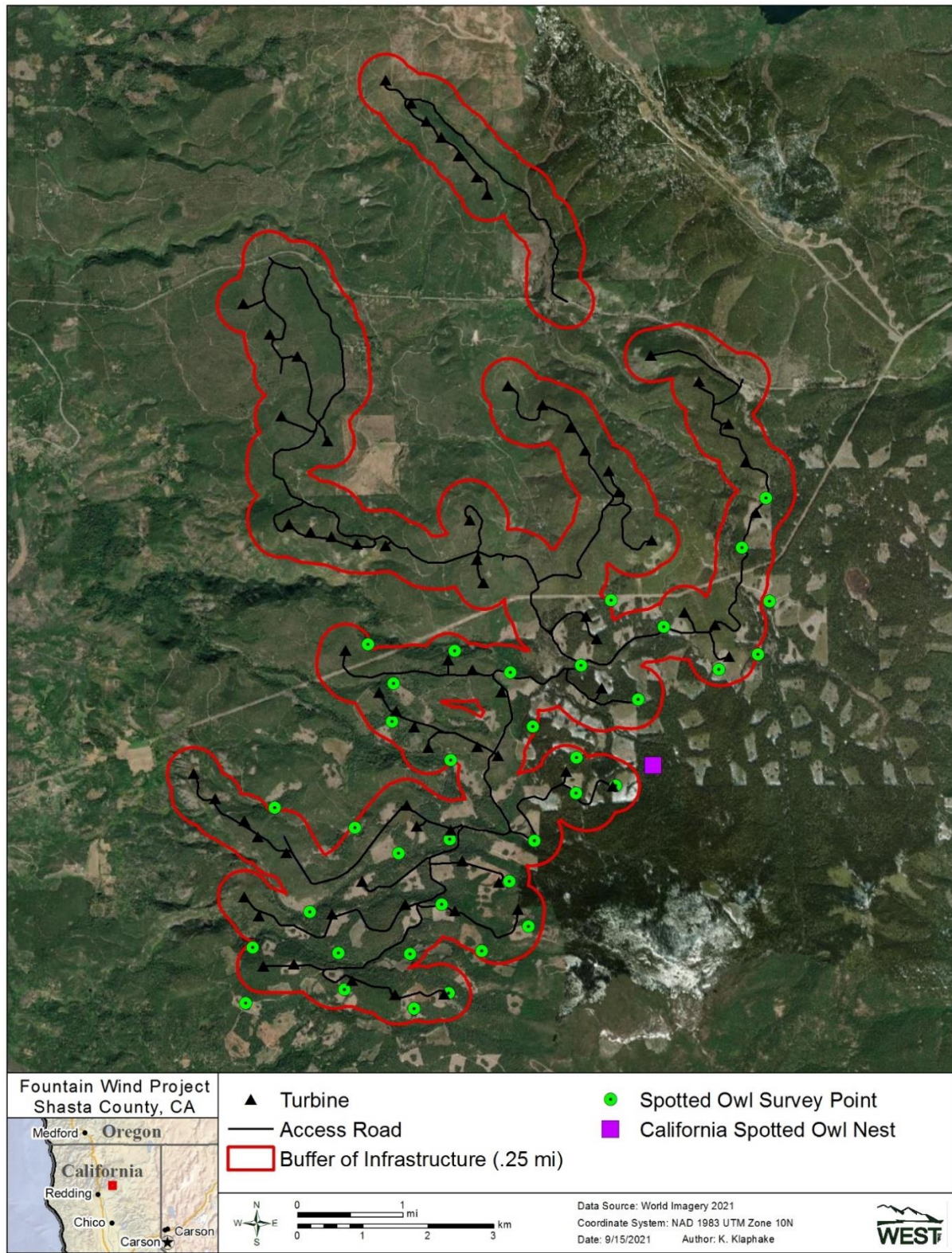


Figure 2. Spotted owl nest site and survey stations located in areas of older forest considered suitable for use by nesting spotted owls at the Fountain Wind Project, Shasta County, California. Northern and western portions of the Project do not include suitable spotted owl nesting habitat and were not surveyed.

Discussion and Conclusions

Based on the results of surveys conducted in areas of moderate-high suitability habitat in 2021, the likelihood of spotting owls nesting within the Project area or surrounding 0.25-mi buffer appears to be low. This data supports the historical data and prior risk assessment (Hutchison and Chatfield 2020), which indicated a low risk of impacts to spotted owls given the minimal amounts of habitat present and the lack of spotted owl activity documented in the Project vicinity in recent years.

References

- California Department of Fish and Wildlife, Natural Diversity Database (CDFW). April 2018. Special Animals List. Periodic Publication. 66pp.
- Shasta County Department of Resource Management Planning Division (Shasta County). 2021. Fountain Wind Project, Final Environmental Impact Report. Use Permit No. UP 16-007. Available online at: <https://www.co.shasta.ca.us/index/drm/planning/eir/fountain-wind-project>
- US Fish and Wildlife Services (USFWS). 2012. 2011 NSO Survey Protocol – 2012 Revision. Protocol for Surveying Proposed Management Activities that may Impact Northern Spotted Owls. February 2, 2011, Revised January 9, 2012.

Fountain (FWS) Spotted Owl Survey Form

Survey Area: _____

Owl Site(s): _____

Visit # 1

Contractor: WEST, Inc

Crew: D. GARZA

Month: 5 Day: 06, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 1 | | 2003 | 2013 | N | | | | | | | | |
| CSO 2 | | 2016 | 2026 | N | | | | | | | | |
| CSO 3 | | 2029 | 2039 | N | | | | | | | | |
| CSO 4 | | 2046 | 2056 | A | U | U | AEAC | Stan | 2054 | 2056 | 284 | 500 |
| CSO 5 | | 2102 | 2112 | N | | | | | | | | |
| CSO 9 | | 2119 | 2129 | N | | | | | | | | |
| CSO 6 | | 2135 | 2145 | N | | | | | | | | |
| CSO 7 | | 2147 | 2157 | N | | | | | | | | |
| CSO 8 | | 2200 | 2210 | A | U | U | MEKE | Stan | 2208 | 2210 | 208 | 175 |
| CSO 11 | | 2214 | 2224 | N | | | | | | | | |
| CSO 12 | | 2228 | 2238 | N | | | | | | | | |
| CSO 14 | | 2243 | 2253 | N | | | | | | | | |
| CSO 13 | | 2257 | 2307 | A | F | U | STOC | A | 2305 | 2307 | 120 | 1150 |
| CSO 20 | | 2325 | 2335 | N | | | | | | | | |
| CSO 19 | | 2345 | 2355 | N | | | | | | | | |
| CSO 18 | | 2359 | 2409 | A | U | U | AEAC | Stan | 2400 | 2409 | 214 | 1300 |
| CSO 17 | | 2412 | 2422 | N | | | | | | | | |
| CSO 15 | | 2425 | 2435 | A | U | U | BUVI | Stan | 2427 | 2435 | 308 | 1230 |
| CSO 16 | | 2441 | 2451 | N | | | | | | | | |
| CSO 10 | | 2459 | 0109 | N | | | | | | | | |

Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
Species Codes: STOC = Northern Spotted Owl, STVA = Barred Owl, STRIX = Strix-species unknown, BUVI = Great Horned Owl, AEAC = Northern Saw-whet Owl, MEKE = Western Screech Owl, GLCA = Northern Pygmy Owl, FLOW = Flammulated Owl
Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls

Fountain (SCT)

Spotted Owl Day-Visit Form

Visit # 1 Start Time 1815 End Time 2026

Total Time 131 (minutes)

Survey Area: Fountain Location: CSO 13

Month: 5 Day: 7

2021

Contractor: WEST, Inc

Crew: D. GARZA

Weather (code): 46, Clear

Wind (code): 1

Survey Method: Electronic

| | Spotted owls | | | | Other (specify): |
|----------------|--------------|---------|---------|---------|------------------|
| | Male | Female | Juvi #1 | Juvi #2 | |
| Initial Audio | 1923 | 2020 | | | |
| Audio Type | 4-Note | Contact | | | |
| Initial Visual | 1930 | 2020 | | | |
| Final Contact | 2026 | 2026 | | | |

| Mouse # | Out | TIME Taken | Fate | OWL | | Behavior Code | Notes |
|---------|------|------------|------|-----|-----|---------------|-------------------------|
| | | | | Sex | Age | | |
| 1 | 1933 | 1935 | C | M | A | | cached mouse in tree |
| 2 | 1946 | 1948 | E | M | A | | ate mouse |
| 3 | 1955 | 2010 | N | M | A | | took mouse to nest tree |
| | | | | | | | |
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Behavior Codes: E = eats C = caches I = ignores D = drops then ignores H = holds until observer leaves N = takes mouse to nest
L = leaves with mouse & relocated w/o mouse X = leaves with mouse & not relocated T = takes mouse to another owl O = explain in notes
Sex Codes: M = male F = female U = unknown **Age Codes:** A = adult S = subadult J = juvenile or fledgling U = unknown

| OWL AND NEST LOCATIONS | | | | | | | |
|------------------------|---------|------|-------|------|-----|------|------|
| Species | Sex/Age | Town | Range | Sect | 1/4 | 1/16 | 1/64 |
| CSO | M/A | 34N | 02E | 18 | SW | SW | NE |
| CSO | F/U | 34N | 02E | 18 | SW | SW | NE |
| Nest | | 34N | 02E | 18 | SW | SW | NE |

| BANDING STATUS | | | |
|----------------|------------------|------------|------------------------------------|
| Sex/Age | Observation Type | Left Leg | Right Leg |
| M/A | VB | Blue Metal | White background / Black triangles |
| F/U | VN | | |

Type Codes: VN=visual, no bands read UB=visual, unbanded VB=color bands read, bird free CB=bands read, bird in hand
BB=first banding BR=band replaced VI=banded, incomplete read

NOTES: Survey follow-up of 5/6/21 female detection. Male roosting in stand of > 6ft at base Douglas, white, Pines, about 100m uphill from nest tree. Male took mouse 3 to nest tree, then heard female in tree, they both emerged from tree. Female returned to nest after 1-2 min. Too dark to see more than silhouette of female. Nest tree is huge Doug-fir > 8ft diameter at base, not broken top. Nest is side cavity about 2/3 to top of tree, facing downhill side. Located on North side of draw at 601413E, 4517321N.

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 2 (including maps)

Survey Area: _____

Owl Site(s): _____

Visit # 2

Contractor: WEST, Inc

Crew: D. GARZA

Month: 05 Day: 19, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 32 | | 2008 | 2018 | N | | | | | | | | |
| CSO 36 | | 2022 | 2032 | N | | | | | | | | |
| CSO 35 | | 2035 | 2045 | N | | | | | | | | |
| CSO 33 | | 2049 | 2059 | N | | | | | | | | |
| CSO 24 | | 2105 | 2115 | N | | | | | | | | |
| CSO 23 | | 2120 | 2130 | N | | | | | | | | |
| CSO 25 | | 2135 | 2145 | N | | | | | | | | |
| CSO 22 | | 2150 | 2200 | N | | | | | | | | |
| CSO 20 | | 2203 | 2213 | N | | | | | | | | |
| CSO 14 | | 2218 | 2228 | N | | | | | | | | |
| CSO 12 | | 2230 | 2240 | N | | | | | | | | |
| CSO 11 | | 2243 | 2253 | N | | | | | | | | |
| CSO 10 | | 2256 | 2306 | N | | | | | | | | |
| CSO 17 | | 2309 | 2319 | N | | | | | | | | |
| CSO 15 | | 2322 | 2332 | N | | | | | | | | |
| CSO 16 | | 2339 | 2349 | N | | | | | | | | |
| CSO 18 | | 2355 | 2405 | N | | | | | | | | |
| CSO 19 | | 2409 | 2419 | N | | | | | | | | |
| CSO 8 | | 2429 | 2439 | N | | | | | | | | |
| CSO 7 | | 2442 | 2452 | N | | | | | | | | |

Time: All times are in military format (midnight to 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
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Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____

Owl Site(s): _____

Contractor: WEST, Inc

Crew: D. GARZA

Visit # 3
Month: 6 Day: 14, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CS0 20 | | 2028 | 2038 | N | | | | | | | | |
| CS0 14 | | 2042 | 2052 | | | | | | | | | |
| CS0 12 | | 2055 | 2105 | | | | | | | | | |
| CS0 11 | | 2108 | 2118 | | | | | | | | | |
| CS0 10 | | 2121 | 2131 | | | | | | | | | |
| CS0 19 | | 2140 | 2150 | | | | | | | | | |
| CS0 18 | | 2154 | 2204 | | | | | | | | | |
| CS0 15 | | 2210 | 2220 | | | | | | | | | |
| CS0 16 | | 2226 | 2236 | | | | | | | | | |
| CS0 17 | | 2240 | 2250 | | | | | | | | | |
| CS0 08 | | 2256 | 2306 | | | | | | | | | |
| CS0 07 | | 2308 | 2318 | | | | | | | | | |
| CS0 06 | | 2320 | 2330 | | | | | | | | | |
| CS0 09 | | 2341 | 2351 | | | | | | | | | |
| CS0 05 | | 2402 | 2412 | | | | | | | | | |
| CS0 04 | | 2417 | 2427 | | | | | | | | | |
| CS0 02 | | 2435 | 2445 | | | | | | | | | |
| CS0 01 | | 2448 | 2458 | | | | | | | | | |
| CS0 03 | | 0102 | 0112 | | | | | | | | | |
| | | | | | | | | | | | | |

Time: All times are in military format (midnight is 2400).
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Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
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Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-*Strix* owls

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____

Owl Site(s): _____

Contractor: WEST, Inc

Crew: D. GARZA

Visit # 3

Month: 6 Day: 15, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 36 | | 2024 | 2034 | N | | | | | | | | |
| CSO 32 | | 2039 | 2049 | ↓ | | | | | | | | |
| CSO 34 | | 2052 | 2102 | ↓ | | | | | | | | |
| CSO 31 | | 2106 | 2116 | A | U | Y | MEKE | stan | 2109 | 2116 | 260 | 328 |
| CSO 30 | | 2119 | 2129 | N | | | | | | | | |
| CSO 29 | | 2133 | 2143 | ↓ | | | | | | | | |
| CSO 26 | | 2146 | 2156 | ↓ | | | | | | | | |
| CSO 27 | | 2159 | 2209 | ↓ | | | | | | | | |
| CSO 28 | | 2213 | 2223 | ↓ | | | | | | | | |
| CSO 21 | | 2232 | 2242 | ↓ | | | | | | | | |
| CSO 22 | | 2248 | 2258 | ↓ | | | | | | | | |
| CSO 25 | | 2303 | 2313 | ↓ | | | | | | | | |
| CSO 23 | | 2317 | 2327 | ↓ | | | | | | | | |
| CSO 24 | | 2331 | 2341 | ↓ | | | | | | | | |
| CSO 33 | | 2348 | 2358 | ↓ | | | | | | | | |
| CSO 35 | | 2401 | 2411 | ↓ | | | | | | | | |
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Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response **Sex:** M = male, F = female, U = unknown **Age:** A = adult, S = subadult, J = juvenile
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Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____

Owl Site(s): _____

Visit # 4

Contractor: WEST, Inc

Crew: D. GARZA

Month: 6 Day: 27, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) | |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|--|
| | | Begin | End | | | | | | Initial | Final | | | |
| CSO 20 | | 2017 | 2027 | N | | | | | | | | | |
| CSO 14 | | 2033 | 2043 | | | | | | | | | | |
| CSO 12 | | 2045 | 2055 | | | | | | | | | | |
| CSO 11 | | 2059 | 2109 | | | | | | | | | | |
| CSO 10 | | 2112 | 2122 | | | | | | | | | | |
| CSO 17 | | 2126 | 2136 | | | | | | | | | | |
| CSO 15 | | 2141 | 2151 | | | | | | | | | | |
| CSO 16 | | 2158 | 2208 | | | | | | | | | | |
| CSO 18 | | 2213 | 2223 | | | | | | | | | | |
| CSO 19 | | 2227 | 2237 | | | | | | | | | | |
| CSO 8 | | 2246 | 2256 | | | | | | | | | | |
| CSO 7 | | 2259 | 2309 | | | | | | | | | | |
| CSO 6 | | 2311 | 2321 | | | | | | | | | | |
| CSO 9 | | 2326 | 2336 | | | | | | | | | | |
| CSO 5 | | 2345 | 2355 | | | | | | | | | | |
| CSO 4 | | 2400 | 2410 | | | | | | | | | | |
| CSO 1 | | 2419 | 2429 | | | | | | | | | | |
| CSO 2 | | 2431 | 2441 | | | | | | | | | | |
| CSO 3 | | 2443 | 2453 | | ↓ | | | | | | | | |
| | | | | | | | | | | | | | |

Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response **Sex:** M = male, F = female, U = unknown **Age:** A = adult, S = subadult, J = juvenile
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Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____

Owl Site(s): _____

Visit # 4

Contractor: WEST, Inc

Crew: D. GARZA

Month: 6 Day: 28, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 36 | | 2032 | 2042 | N | | | | | | | | |
| CSO 32 | | 2046 | 2056 | | | | | | | | | |
| CSO 34 | | 2059 | 2109 | | | | | | | | | |
| CSO 31 | | 2113 | 2123 | | | | | | | | | |
| CSO 30 | | 2125 | 2135 | | | | | | | | | |
| CSO 29 | | 2139 | 2149 | | | | | | | | | |
| CSO 26 | | 2152 | 2202 | | | | | | | | | |
| CSO 28 | | 2205 | 2215 | | | | | | | | | |
| CSO 27 | | 2219 | 2229 | | | | | | | | | |
| CSO 21 | | 2242 | 2252 | | | | | | | | | |
| CSO 22 | | 2300 | 2310 | | | | | | | | | |
| CSO 25 | | 2315 | 2325 | | | | | | | | | |
| CSO 23 | | 2329 | 2339 | | | | | | | | | |
| CSO 24 | | 2344 | 2354 | | | | | | | | | |
| CSO 33 | | 2400 | 2410 | | | | | | | | | |
| CSO 35 | | 2414 | 2424 | ✓ | | | | | | | | |
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Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
Species Codes: STOC = Northern Spotted Owl, STVA = Barred Owl, STRIX = *Strix*-species unknown, BUVI = Great Horned Owl, AEAC = Northern Saw-whet Owl, MEKE = Western Screech Owl, GLCA = Northern Pygmy Owl, FLOW = Flammulated Owl
Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-*Strix* owls

Fountain (FWS) Spotted Owl Survey Form

Survey Area: _____

Owl Site(s): _____

Visit # 5

Contractor: WEST, Inc

Crew: D. GARZA

Month: 7 Day: 6, 2021

Weather (circle): Clear Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 10 | | 2034 | 2044 | N | | | | | | | | |
| CSO 17 | | 2047 | 2057 | | | | | | | | | |
| CSO 15 | | 2100 | 2110 | | | | | | | | | |
| CSO 16 | | 2115 | 2125 | | | | | | | | | |
| CSO 18 | | 2132 | 2142 | | | | | | | | | |
| CSO 19 | | 2145 | 2155 | | | | | | | | | |
| CSO 20 | | 2200 | 2210 | | | | | | | | | |
| CSO 14 | | 2215 | 2225 | | | | | | | | | |
| CSO 12 | | 2228 | 2238 | | | | | | | | | |
| CSO 11 | | 2241 | 2251 | | | | | | | | | |
| CSO 8 | | 2255 | 2305 | | | | | | | | | |
| CSO 7 | | 2308 | 2318 | | | | | | | | | |
| CSO 6 | | 2320 | 2330 | | | | | | | | | |
| CSO 9 | | 2337 | 2347 | | | | | | | | | |
| CSO 5 | | 2354 | 2404 | ↓ | | | | | | | | |
| CSO 4 | | 2411 | 2421 | A | F/M | U | STOC | W/4 | 0017 | 0018 | 212 | 2500 |
| CSO 2 | | 2439 | 2449 | N | | | | | | | | |
| CSO 1 | | 0102 | 0102 | ↓ | | | | | | | | |
| CSO 3 | | 0107 | 0117 | ↓ | | | | | | | | |

Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
Species Codes: STOC = Northern Spotted Owl, STVA = Barred Owl, STRIX = *Strix*-species unknown, BUVI = Great Horned Owl, AEAC = Northern Saw-whet Owl, MEKE = Western Screech Owl, GLCA = Northern Pygmy Owl, FLOW = Flammulated Owl
Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-*Strix* owls

Heard pair calling

Fountain (SCT)

Spotted Owl Day-Visit Form

Visit # 5 Start Time 1910 End Time 2150 Total Time 160 (minutes)

Survey Area: Fountain Location: CS04 Month: 7 Day: 7, 2021

Contractor: WEST, Inc Crew: D. GARZA

Weather (code): 59°F, Clear

Wind (code): 1

Survey Method: Electronic

| | Spotted owls | | | | Other (specify): |
|----------------|--------------|--------|---------|---------|------------------|
| | Male | Female | Juvi #1 | Juvi #2 | |
| Initial Audio | 2007 | | | | |
| Audio Type | 4-Note | | | | |
| Initial Visual | 2030 | | | | |
| Final Contact | 2120 | | | | |

| Mouse # | TIME | | | OWL | | Behavior Code | Notes |
|---------|------|-------|------|-----|-----|---------------|-----------|
| | Out | Taken | Fate | Sex | Age | | |
| 1 | 2040 | 2045 | E | M | A | | Ate mouse |
| 2 | 2047 | 2107 | E | M | A | | Ate mouse |
| 3 | 2110 | 2119 | E | M | A | | Ate mouse |
| 4 | 2123 | 2145 | E | M | A | | Ate mouse |
| | | | | | | | |
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Behavior Codes: E = eats C = caches I = ignores D = drops then ignores H = holds until observer leaves N = takes mouse to nest
L = leaves with mouse & relocated w/o mouse X = leaves with mouse & not relocated T = takes mouse to another owl O = explain in notes
Sex Codes: M = male F = female U = unknown **Age Codes:** A = adult S = subadult J = juvenile or fledgling U = unknown

| OWL AND NEST LOCATIONS | | | | | | | |
|------------------------|---------|------|-------|------|-----|------|------|
| Species | Sex/Age | Town | Range | Sect | 1/4 | 1/16 | 1/64 |
| CS0 | M/A | 34N | 02E | 18 | SW | NE | SE |
| | | | | | | | |
| | | | | | | | |
| Nest | | | | | | | |

| BANDING STATUS | | | |
|----------------|------------------|------------|----------------------------------|
| Sex/Age | Observation Type | Left Leg | Right Leg |
| M/A | VB | Blue Metal | White Background/Black Triangles |
| | | | |
| | | | |

Type Codes: VN=visual, no bands read UB=visual, unbanded VB=color bands read, bird free CB=bands read, bird in hand
BB=first banding BR=band replaced VI=banded, incomplete read =

NOTES: Survey follow-up of 7/6/21 Pair detection. Male roosting in drainage 051°, 513m from Nest tree found on 5/7/21, Roosting at 601811, 4517642. Female not detected. No fledglings detected. Behavior of male did not indicate young nearby (no looking around, no vocalizations, etc.) All mice eaten.

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____

Owl Site(s): _____

Visit # 5

Contractor: WEST, Inc

Crew: D. GARZA

Month: 7 Day: 8, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 35 | | 2030 | 2040 | N | | | | | | | | |
| CSO 32 | | 2046 | 2056 | | | | | | | | | |
| CSO 33 | | 2101 | 2111 | | | | | | | | | |
| CSO 24 | | 2117 | 2127 | | | | | | | | | |
| CSO 23 | | 2132 | 2142 | | | | | | | | | |
| CSO 25 | | 2147 | 2157 | | | | | | | | | |
| CSO 22 | | 2202 | 2212 | | | | | | | | | |
| CSO 21 | | 2219 | 2229 | | | | | | | | | |
| CSO 26 | | 2237 | 2247 | | | | | | | | | |
| CSO 28 | | 2250 | 2300 | | | | | | | | | |
| CSO 27 | | 2304 | 2314 | | | | | | | | | |
| CSO 29 | | 2322 | 2332 | | | | | | | | | |
| CSO 30 | | 2336 | 2346 | | | | | | | | | |
| CSO 31 | | 2348 | 2358 | | | | | | | | | |
| CSO 34 | | 2402 | 2412 | | | | | | | | | |
| CSO 36 | | 2416 | 2426 | | | | | | | | | |
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Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
Species Codes: STOC = Northern Spotted Owl, STVA = Barred Owl, STRIX = Strix-species unknown, BUVI = Great Horned Owl, AEAC = Northern Saw-whet Owl, MEKE = Western Screech Owl, GLCA = Northern Pygmy Owl, FLOW = Flammulated Owl
Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls

Fountain (FWS) Spotted Owl Survey Form

Survey Area: _____

Owl Site(s): _____

Visit # 6

Contractor: WEST, Inc

Crew: D. GARZA

Month: 7 Day: 19, 2021

Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Time Begin | Time End | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|---------------|-------------|---------------|-----|-----|---------|--------------|--------------|-------|----------------------|----------------|
| | | | | | | | | Initial | Final | | |
| CSO 20 | 2028 | 2038 | N | | | | | | | | |
| CSO 14 | 2042 | 2052 | | | | | | | | | |
| CSO 12 | 2054 | 2104 | | | | | | | | | |
| CSO 11 | 2107 | 2117 | | | | | | | | | |
| CSO 10 | 2120 | 2130 | | | | | | | | | |
| CSO 17 | 2133 | 2143 | | | | | | | | | |
| CSO 15 | 2146 | 2156 | | | | | | | | | |
| CSO 16 | 2203 | 2213 | | | | | | | | | |
| CSO 18 | 2219 | 2229 | | | | | | | | | |
| CSO 19 | 2232 | 2242 | | | | | | | | | |
| CSO 8 | 2252 | 2302 | | | | | | | | | |
| CSO 7 | 2305 | 2315 | | | | | | | | | |
| CSO 6 | 2317 | 2327 | | | | | | | | | |
| CSO 9 | 2333 | 2343 | | | | | | | | | |
| CSO 5 | 2352 | 2402 | B | M | A | STOC | 4 | 2355 | 0009 | 240 | 750 |
| CSO 4 | 2412 | 2422 | N | | | | | | | | |
| CSO 1 | 2431 | 2441 | | | | | | | | | |
| CSO 2 | 2443 | 2453 | | | | | | | | | |
| CSO 3 | 2455 | 0105 | | | | | | | | | |

Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
Species Codes: STOC = Northern Spotted Owl, STVA = Barred Owl, STRIX = Strix-species unknown, BUVI = Great Horned Owl, AEAC = Northern Saw-whet Owl, MEKE = Western Screech Owl, GLCA = Northern Pygmy Owl, FLOW = Flammulated Owl
Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls

FWS Company Proprietary Information

located owl at 602247, 4518659
 Visual on Band: Right leg - white Background / Black triangles

Fountain (FWS) Spotted Owl Survey Form

Page 1 of 1 (including maps)

Survey Area: _____ Owl Site(s): _____ Visit # 6

Contractor: WEST, Inc Crew: D. GARZA Month: 7 Day: 20, 2021

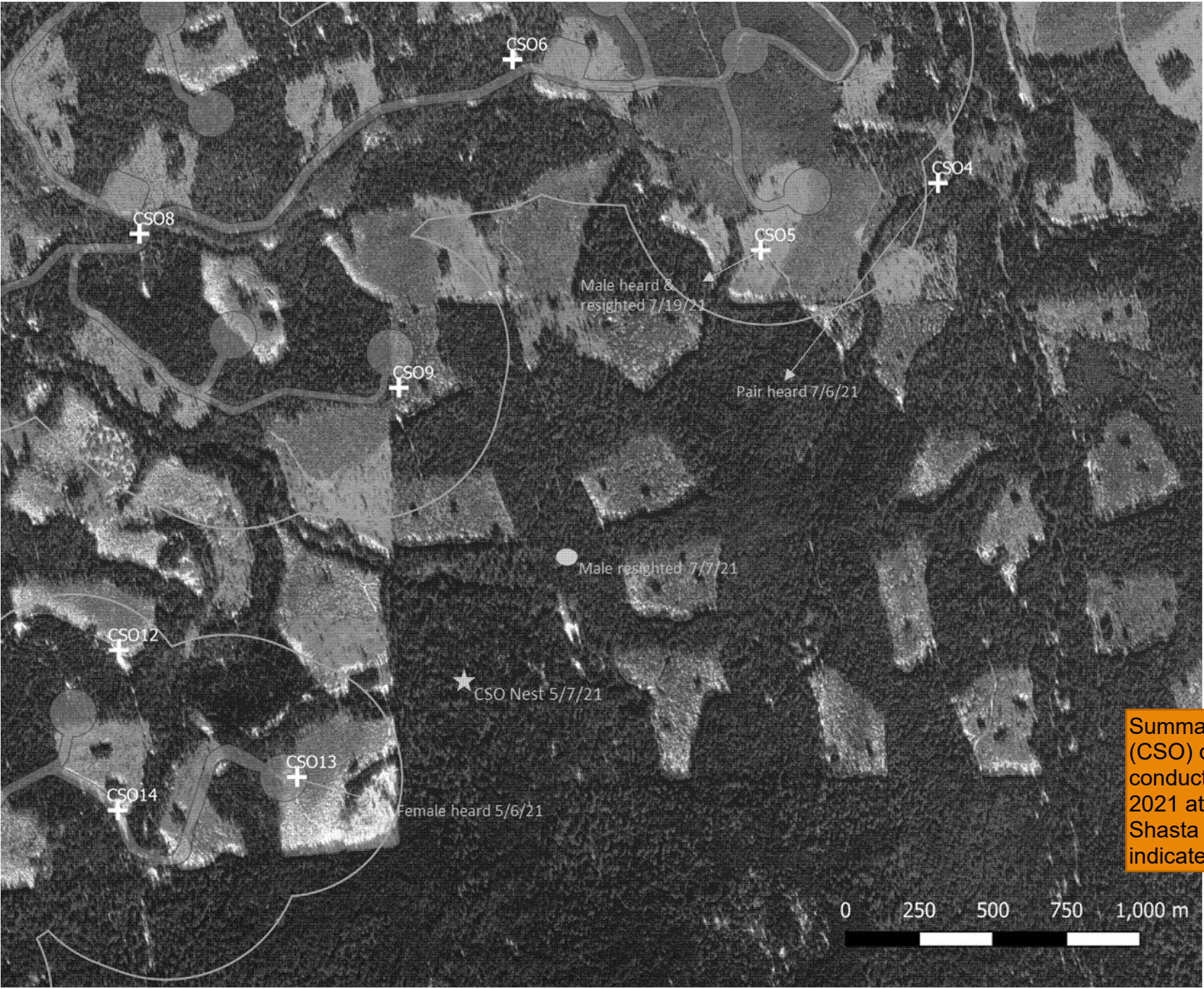
Weather (circle): Clear, Fog, Partly Cloudy, Overcast, Drizzle, Rain, Snow

Method: Electronic

Wind (circle): Calm (<1 mph), Light air (1-3 mph), Light breeze (4-7 mph), Gentle breeze (8-12 mph), Unsuitable (13+ mph)

| ST# | Hike | Time | | Resp. code | Sex | Age | Species | Call Type(s) | Contact Time | | Bearing (Azimuth) | Dist (feet) |
|--------|------|-------|------|------------|-----|-----|---------|--------------|--------------|-------|-------------------|-------------|
| | | Begin | End | | | | | | Initial | Final | | |
| CSO 30 | | 2010 | 2020 | | | | | | | | | |
| CSO 32 | | 2026 | 2036 | | | | | | | | | |
| CSO 35 | | 2040 | 2050 | | | | | | | | | |
| CSO 33 | | 2053 | 2103 | A | U | U | MEKE | stan | 2101 | 2102 | 130 | 160 |
| CSO 24 | | 2108 | 2118 | | | | | | | | | |
| CSO 23 | | 2121 | 2131 | | | | | | | | | |
| CSO 25 | | 2137 | 2147 | | | | | | | | | |
| CSO 22 | | 2152 | 2202 | | | | | | | | | |
| CSO 21 | | 2209 | 2219 | | | | | | | | | |
| CSO 26 | | 2226 | 2236 | | | | | | | | | |
| CSO 27 | | 2240 | 2250 | | | | | | | | | |
| CSO 28 | | 2252 | 2302 | | | | | | | | | |
| CSO 29 | | 2308 | 2318 | | | | | | | | | |
| CSO 31 | | 2320 | 2330 | | | | | | | | | |
| CSO 34 | | 2334 | 2344 | | | | | | | | | |
| CSO 36 | | 2347 | 2357 | | | | | | | | | |
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Time: All times are in military format (midnight is 2400).
Resp. Codes: N = no owl response, A = audio response only, V = visual response only, B (or A, V) = both audio and visual response
Sex: M = male, F = female, U = unknown
Age: A = adult, S = subadult, J = juvenile
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Call Type(s): 4 = 4 Note Call (STOC Only), A = Agitated, B = Bark, beg = begging, C = Continuous, W = Whistle, 8 = 8 Note call (STVA only), Stan = other non-Strix owls



Summa
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2021 at
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indicate

