



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Arcata Fish and Wildlife Office

1655 Heindon Road

Arcata, California 95521

Phone: (707) 822-7201 FAX: (707) 822-8411

In Reply Refer To:
AFWO-11B0128-16TA0207

JUN 16 2016

Ms. Leslie Markham
Deputy Chief, Forest Practice
California Department of Forestry and Fire Protection
135 Ridgeway Avenue
Santa Rosa, California 95402

Subject: Response to Request for Technical Assistance Regarding S&W Properties (Eggert Tracts) 1-03NTMP-013 HUM, Humboldt County, California

Dear Ms. Markham:

This responds to a request for U.S. Fish and Wildlife Service (Service) technical assistance, received in our office on June 2, 2016, on the above non-industrial timber management plan (NTMP). The Service's responsibilities include administering the Endangered Species Act of 1973, as amended (Act). Section 3(19) of the Act defines take to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Incidental take is defined as take that is incidental to, but not the purpose of, carrying out an otherwise lawful activity. At issue in the request is the potential for incidental take of the federally threatened northern spotted owl (*Strix occidentalis caurina*) as a result of operations conducted as proposed on the above NTMP. After review of the information pertaining to this request, the Service provides the following technical assistance.

The S & W Properties (Eggert Tracts) NTMP (1-97NTMP-035 HUM) encompasses 596 acres (selection/group selection) and is located in Sections 10, 15, 22, and 23; Township 4 North; Range 1 West; H.B. & M., in Humboldt County, California. There is one northern spotted owl activity center (HUM0550) located in Management Unit 6 in the Eggert North tract of the above NTMP (identified on maps in the technical assistance request). At least one northern spotted owl from the HUM0550 pair has been detected at the activity center since monitoring began in 1990. The pair produced two young in 2008, and the activity center was confirmed occupied in 2009 and 2010. In the past, no northern spotted owls have been detected in the South tract.

Three-visit northern spotted owl surveys were conducted on the NTMP in 2009, 2010, and 2011. Six-visit surveys were conducted in 2012 and 2013, and spot check surveys were conducted in 2014, following the Service's revised *Protocol for Surveying Proposed Management Activities that may Impact Northern Spotted Owls*, dated January 9, 2012 (2012 Survey Protocol). In 2011, 2012, and 2013, barred owls (*Strix varia*) were detected at the HUM0550 northern spotted owl activity center. In 2014, no barred owls or northern spotted owls were detected at HUM0550. Based on surveys in 2011, 2012, and 2013, the HUM0550 northern spotted owl pair may have

moved almost a mile north, off the NTMP property, and onto the Eureka Municipal Golf Course property. This northern spotted owl pair, presumed to be the former HUM0550 pair, but possibly a new owl pair, has been described as “2011 New AC.” In 2015, a single adult northern spotted owl was detected at “2011 New AC.” In addition, a pair of barred owls occupied the HUM0550 activity center. There were also numerous barred owl detections in the north and south tracts of the NTMP. On March 4, 2016, the HUM0550 activity center was occupied by a northern spotted owl pair. By May 4, 2016, the pair was exhibiting nesting behavior at the nest tree. Barred owls were also detected in the area (i.e., to the north and south of the NTMP area). On April 16, 2016, and May 3, 2016, a single northern spotted owl was detected along the west boundary of the southern tract of the NTMP. Follow-up searches were conducted, but no northern spotted owls were detected.

Proposed timber harvest operations will include: (1) no operations within 1,000 feet, or within the 100-acre core area, of the HUM0550 activity center and nest tree; (2) no operations within 0.25 mile of the HUM0550 during the breeding/nesting season (February 1-July 31), unless non-nesting or nest failure has been determined after May 15, following the most recent northern spotted owl survey protocol. The post-harvest acreage within 0.7 mile of the HUM0550 activity center will be nesting/roosting (400 acres) and foraging (339 acres), which exceeds the recommendations of Attachment A. These post-harvest acreages will maintain habitat as per the recommendations in Attachment A, and meet the recommendations for nesting/roosting/foraging canopy cover, diameter at breast height, and basal area.

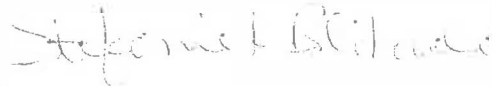
Based on the above information, including protocol northern spotted owl surveys, nesting information, and retention of adequate northern spotted owl habitat, operations as proposed on the Eggert Tracts NTMP (1-97NTMP-035 HUM) are not likely to result in incidental take of northern spotted owls, provided operations are complete prior to February 1, (i.e., the beginning of the breeding season) of each year. To monitor and avoid the likelihood of incidental take of northern spotted owls we recommend conducting surveys for northern spotted owls in 2017, 2018, and 2019 using the most recent survey protocol. Results of these surveys should be sent to the Service and California Department of Forestry and Fire Protection (CALFIRE) within 10 days of completion of the surveys. Furthermore, if proposed timber harvesting activities change from what was described in your June 2016 technical assistance request, or in a manner that may result in incidental take of a northern spotted owl, or if future surveys reveal that a northern spotted owl has established an activity center not evaluated in this technical assistance request, CALFIRE should request additional technical assistance from the Service. In addition, we recommend habitat in association with northern spotted owl activity centers be retained, roads will be used, and timber harvest operations (including no February extensions in each year) will be conducted as described in Attachment A, dated March 15, 2011, or the most current version of this document. Finally, we recommend that the Registered Professional Forester, forestry consultant, or landowner contact the Service in 2019 for technical assistance in developing measures intended to avoid incidental take so that such measures are tailored to current habitat conditions.

The Service’s 2012 northern spotted owl survey protocol was designed to be implemented across the entire geographic range of the northern spotted owl. However, under some circumstances, site-specific habitat conditions and past northern spotted owl survey information may justify

deviations from the current survey protocol, through coordination between foresters/forestry consultants and the Service. Thus, technical assistance recommendations from the Service may differ slightly from recommendations contained in the recent survey guidance.

All maps and data used to provide this technical assistance are on file at this office. If you have questions regarding this response, please contact Mr. Steven Kramer at the Arcata Fish and Wildlife Office (707) 822-7201.

Sincerely,



Bruce Bingham
Field Supervisor

cc:

Stoneman Forestry Services, Eureka, CA 95502-6177 (Attn: Mr. Charll Stoneman)

Stoneman Forestry Services

P.O. Box 6177 • Eureka, CA 95502-6177 • (707) 442-9209 • Cell: (707) 498-2302 • Email: stoneman_forestry@sbcglobal.net

June 1, 2016

U.S. Fish and Wildlife Service
Attn: Steve Kramer
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, CA 95521

Re: 1-14-2003-TA-1784 (AFWO-11B0128)/Harvest Plan 1-03NTMP-013 HUM / S&W NTMP; Request for NSO Technical Assistance for Notice of Timber Operations (NTO #5).

Northern spotted owl (NSO) surveys (as outlined per the *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls, USFWS, February 2, 2011 and Revised January 9, 2012*) for the above referenced Nonindustrial Timber Management Plan (NTMP) were completed in 2015 and 2016 as full 6 calling sets that covered the NTMP area and accessible NSO habitat within 0.7 miles of the project; see attached map and NSO calling survey summary sheets. From the beginning of established protocol NSO surveys that started on the property in 1990, and with initial documentation of NSO activity center (HUM550) at that time, the northern tract (i.e., Eggert North) of the NTMP has consistently supported an NSO pair.

Activity center searches (ACS) of NSO Activity Center (AC) HUM550 as recent as 2009 and 2010 indicated the center still to be occupied by a pair of NSOs. However, subsequent activity center searches of HUM550 performed in 2011, 2012, 2013, 2014, and in the beginning of the 2015 breeding season confirmed that the historic NSO activity center/territory was now occupied by a pair of barred owls. The pair of northern spotted owls that did inhabit the HUM550 territory apparently had been displaced almost a mile north and appeared to be establishing a new use area in the vicinity of Calling Station 10a on the far northern portion of the NTMP and in the timber stands immediately off the property to the north (i.e., Eureka Municipal Golf Course). However, pair monitoring and stand searches in this new use area never yield signs of nesting behavior or a nest structure.

2015 Calling Results

As documented by Hohman & Associates on 3/6/2015 and 3/16/2015 (through personal communication) for an adjacent harvest project, early March 2015 calling results indicated that an NSO pair was still just off the property to the north of the NTMP area (i.e., near the Station 10a). By the time our office began NSO surveys on 4/30/2015, the NSO pair had apparently moved to some unknown location. Our office had only a single NSO detection on 6/7/2015 (Survey 5 of 7) during the 2015 season, and a subsequent daytime follow-up and later calling did not raise any further NSO detections. Other than the initial early season detection and this late season detection in June, the NSOs in 2015 appear to have been residing off the NTMP outside of detection range. We did have numerous barred owl detections on both the north and south tracts of the NTMP over the 2015 survey season. Later season calling results by Hohman seem to suggest that the NSO pair moved into the gulches off the property to the east of the NTMP (i.e., within the west half of Section 11).

Early breeding survey results by this office and Hohman also showed that a barred owl pair remained entrenched within the area around the HUM550 activity center. However, over the course of the 2015 breeding season the barred and NSO pair switched locations, and by the end of the 2015 season the barred owls occupied the northern portion of the NTMP area and the spotted owl pair seemed to be working their way back to the HUM550 AC.

2016 Calling Results

Early season calling indicated that there was NSO activity within the vicinity of the HUM550, for a single owl was periodically being pulled to a number of stations from the direction of HUM550. This NSO pulling behavior could be easily attributed to be coming from the HUM550 AC. On 3/4/2016 we were able to confirm that an NSO pair appeared to be reoccupying the HUM550 AC and by 5/4/2016 the pair was exhibiting nesting behavior at the nest tree of HUM550.

A strong barred owl presence was now being detected within the far north and south of the NTMP; see attached 2015-2016 NSO Calling Stations & Owl Response Locations map.

Floater NSO(s)-

In addition, a single NSO detection was made on 4/16/2016 and 5/3/2016 along the west boundary of the NTMP's southern tract. Next morning follow-up calling and stand searches did not raise any further NSO detections, nor were any owls found. Two calling efforts were made after the last detection (i.e., Surveys 7 & 8) which were focused on determining if any further NSO contact could be raised from this area on the NTMP's southern tract. No further detections were made and the conclusion drawn was that this was a floater owl presence over the two week period.

Planned Harvest Operations under NTO #5 are Conditioned as Follows:

- 1) No operations are proposed within 1000 feet of the established NSO HUM550 Activity Center or within the designated Core Area as shown by the attached map during the NSO breeding season.
- 2) No timber operations, including appurtenant road use, will occur within a 500 foot radius of an NSO activity center, unless proposed activity is independently reviewed and approved in writing by the USFWS as not likely to incidentally take an NSO.
- 3) Other than use of existing haul roads, no harvest operations shall occur within 0.25 miles of the NSO activity center during the breeding season (March 1 –July 31), unless it has been determined that the NSO pair is non-nesting or a determination of nest failure has been made on or after May 15.

Need for Technical Assistance from the USFWS:

NSO surveys completed in 2015 and 2016 meet the specified survey requirements per Enclosure 1, 2011 NSO Survey Protocol, 2012 Revision; PROTOCOL FOR SURVEYING PROPOSED MANAGEMENT ACTIVITIES THAT MAY IMPACT NORTHERN SPOTTED OWL. We are requesting NSO Technical Assistance for a Notice of Timber Operations (NTO #5) for the above referenced NTMP. Under the stated NTO approximately 212 acres of the 596 acre plan are to be selectively harvested. In addition, there will be removal of scattered bear damaged redwood trees over another 158 acres on the southern tract of the NTMP under a Sanitation-Salvage Exemption. This southern tract has always been free of any measured NSO activity prior to and since NTMP approval. Planned operations will be limited to harvesting of trees marked by an RPF and under the supervision of the RPF. NSO habitat within the NTMP area will not be significantly altered from the preharvest stand structure, nor will the operations reduce the overall NSO habitat structure types found over the property as a whole.

With stated NSO pair occurrence in 2016 at the HUM550 activity center, planned harvest operations will 1) not likely have any impact to northern spotted owls on or adjacent to the NTMP and 2) timber harvest operations as presented will not result in the harm, harassment, or take of an NSO at the Activity Center location.

Should you have a need for more information, please do not hesitate to contact our office. Thank you for your time and consideration on this matter.

Sincerely,

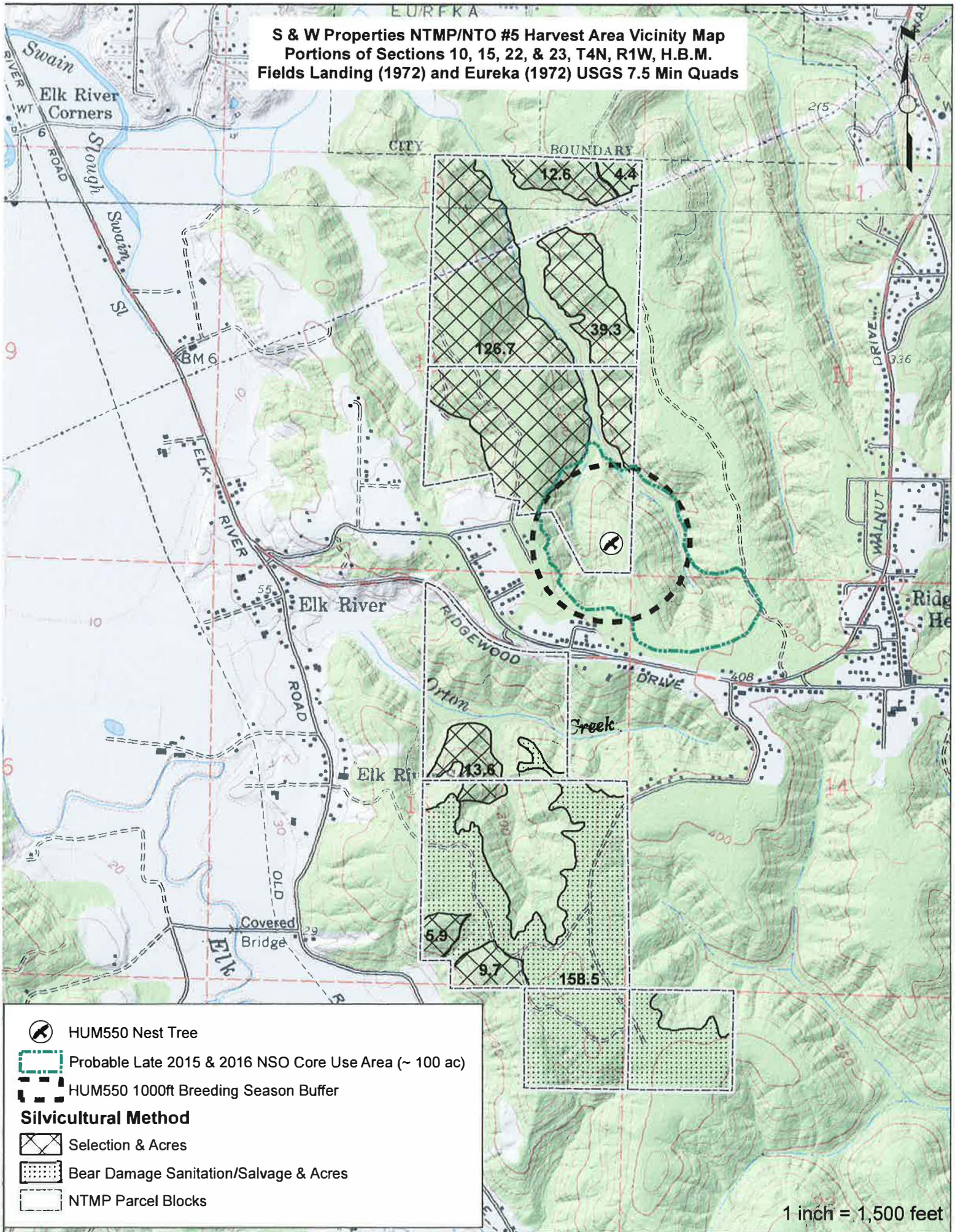


Charll K. Stoneman
Registered Professional Forester (RPF) # 2375

- Enclosures: S&W Properties NTMP/NTO #5-Planned Harvest Area Map
S&W Properties NTMP/NTO #5-Planned Harvest Area Orthophoto
S&W Properties NTMP/NSO Calling Stations & Owl Response Locations Map
2015 and 2016 NSO Field Survey Report Forms

cc: file

S & W Properties NTMP/NTO #5 Harvest Area Vicinity Map
Portions of Sections 10, 15, 22, & 23, T4N, R1W, H.B.M.
Fields Landing (1972) and Eureka (1972) USGS 7.5 Min Quads



 HUM550 Nest Tree
 Probable Late 2015 & 2016 NSO Core Use Area (~ 100 ac)
 HUM550 1000ft Breeding Season Buffer
Silvicultural Method
 Selection & Acres
 Bear Damage Sanitation/Salvage & Acres
 NTMP Parcel Blocks

1 inch = 1,500 feet

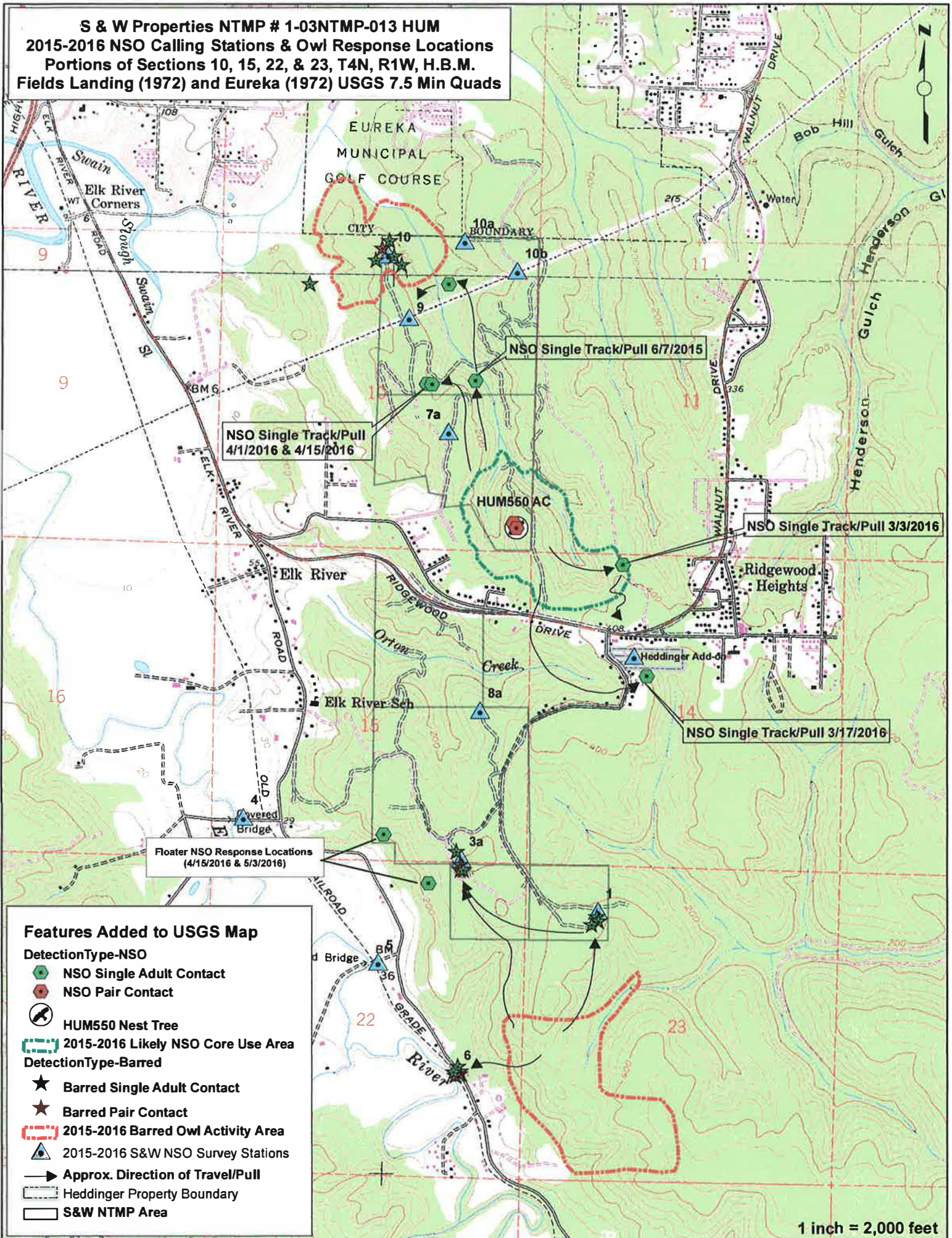
S & W Properties NTMP/NTO #5 Harvest Area Vicinity Map
Portions of Sections 10, 15, 22, & 23, T4N, R1W, H.B.M.
Fields Landing (1972) and Eureka (1972) USGS 7.5 Min Quads



 HUM550 Nest Tree
 Probable Late 2015 & 2016 NSO Core Use Area (~ 100 ac)
 HUM550 1000ft Breeding Season Buffer
Silvicultural Method
 Selection & Acres
 Bear Damage Sanitation/Salvage & Acres
 NTMP Parcel Blocks

1 inch = 1,500 feet

S & W Properties NTMP # 1-03NTMP-013 HUM
2015-2016 NSO Calling Stations & Owl Response Locations
Portions of Sections 10, 15, 22, & 23, T4N, R1W, H.B.M.
Fields Landing (1972) and Eureka (1972) USGS 7.5 Min Quads



Features Added to USGS Map

DetectionType-NSO

- NSO Single Adult Contact
- NSO Pair Contact

- HUM550 Nest Tree

2015-2016 Likely NSO Core Use Area

DetectionType-Barred

- Barred Single Adult Contact
- Barred Pair Contact
- 2015-2016 Barred Owl Activity Area
- 2015-2016 S&W NSO Survey Stations

Approx. Direction of Travel/Pull

Hedding Property Boundary

S&W NTMP Area

1 inch = 2,000 feet

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

S & W Properties NTMP
 PROJECT: 1-03NTMP-013HUM DATE: 03/04/2016 SURVEYOR(S): M. Pera
 SURVEY#: 1 (day time follow-up) SURVEY TYPE (check): FIXED TRAVERSE [] LEAPFROG
 COUNTY: Humboldt SECTION: 10, 11, & 14 TOWNSHIP: 4N RANGE: 1W
 SUNSET / **SUNRISE**: 0645 hrs MOON: no comments of observation

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM** (< 1 MPH) BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME FOLLOW-UP

Narrative location reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
Heddinger parcel traverse	1008	1021	13	Walking easterly along mainline trail playing NSO calling sequence, scanning canopy, ending near southeast property corner. No NSO Detection
10 minute stationary NSO calling sequence near southeast property corner	1022	1032	10	1023 single crow came in close under canopy and perched above caller. Crow then flies erratically under canopy as in a search pattern. 1026 second crow came in exhibiting similar behavior. No NSO Detection
Quiet walk out	1032	1038	6	Not wanting to lead crows, did not play caller, did stop to scan possible perch points. No NSO Detection
Traverse calling on Forster-Gill property	1053	1114	21	Walking the road, playing the caller, walking off the road to the headwall scarp of the watercourse. No NSO Detection
Stationary call point (see mapped location)	1115	1121	6	1119 possible response of unknown owl due west near ridge top in the vicinity of HUM550 AC, could be echo from distant barking dogs.
<u>ACS HUM 550</u> Stand Search	1137	1227	50	1141 positive vocalization of two NSOs with a sequence of 4-note, 4-note, then 4-note with whine/whistle from a second owl between the third and fourth note of the last 4-note. 1147 still do not have visual and no further vocalization. No white wash or pellets were discovered at the historic nest snag or possible new site located approximately 280 feet to the Northwest (downslope) at the end of a skidtrail where a live redwood with a clearly visible cavity is located.

Survey Conclusion: It appears that an NSO pair may be reoccupying the HUM550 activity center after being displaced by a barred owl pair for a number of years. Initial results seem to indicate that the barred owl and spotted owl pairs have switch up locations; meaning the barred owls are now occupy the northern end of the NTMP area and adjacent ownerships to the north and the spotted owl pair are reoccupying the HUM550 AC. The pulling of a single NSO the prior evening to the Heddinger add-on station can be easily attributed to owl activity from the HUM550 AC.

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 03/17/2016 SURVEYOR(S): M. Pera

SURVEY#: 2 of 8 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG

COUNTY: Humboldt SECTION: 10, 14, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W

SUNSET / SUNRISE: 1926 hrs **MOON:** 3/4 moon

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
WIND: **CALM (< 1 MPH)** **BREEZE (1-5 MPH)** LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

Calling Station	Start Time (24hrs)	End Time (24hrs)	Total Time	Detection (Yes or No)	Detection Type	Results/Comments: (Distance-Bearings, General Observations, etc.)
8a	1856	1906	10	NO		Clear skies, slight breeze, distant traffic noise, occasional barking dogs north along Ridgewood Drive
1	1912	1927	10+5	NO		Crows came in, chased away with laser pointer
3a	1933	1948	10+5	NO		Small bat foraging overhead, slight breeze, first star visible
Heddingers Add-on	1958	2008	10	YES	A,V	1959 high fog is coming in. 2003 NSO 4-note SE ±1/8 mile in group of pines behind assisted living home very responsive but maintained location.
7a	2021	2036	10+5	NO		Fog horn, surf noise, geese. Barking dog southerly 1/4-1/2 mile and person mimicking NSO 4-note from same location
10	2044	2059	10+5	NO		Loud geese overhead
9	2101	2116	10+5	NO		2103 barn owl flying overhead east to west
6	2133	2148	10+5	NO		peeper frogs, no wind, barking dog southerly ±1/2 mile
5	2152	2204	12	NO		Peeper frogs, generator noise SW, slight breeze
4	2208	2218	10	NO		<i>No comments</i>

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

S & W Properties NTMP
 PROJECT: 1-03NTMP-013HUM DATE: 03/18/2016 SURVEYOR(S): M. Pera
 SURVEY#: 2 (day time follow-up) SURVEY TYPE (check): FIXED TRAVERSE [] LEAPFROG
 COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4 N RANGE: 1W
 SUNSET / **SUNRISE**: 0722 hrs MOON: no comments of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: CLEAR **PARTLY-CLOUDY** CLOUDY **HIGH-OVERCAST** FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME FOLLOW-UP

Narrative location reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
Heddinger parcel fixed station	0918	0929	11	High dense overcast, no wind, miscellaneous song birds. No NSO Detection
<u>ACS HUM 550</u> Walked off road into stand Stationary calling, stand search	0948	1018	30	No response, no observed signs of owl use (white wash, pellets). No NSO Detection
Traverse calling along road east of AC in northerly direction to lower landing, brief stationary calling then back to point of origin.	1021	1043	22	1027-1037 stationary calling at lower landing. No NSO Detection
East of HUM 550 on east side of ridge stationary calling into drainage on Forster-Gill	1043	1053	10	Barking dogs SE along Ridgewood/Walnut Drive. No NSO Detection

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

Survey Conclusion: No NSO was detected by this follow up survey on or within a ¼ mile habitat search of the Heddinger Add-on station. The pulling of a single NSO the prior evening to the Heddinger Add-on station is likely attributed to NSO activity from the HUM550 AC.

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 04/01/2016 SURVEYOR(S): M. Pera
 2011-2013 NSO
 SURVEY#: Pair Location Search SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG
 COUNTY: Humboldt SECTION: 3 & 10 TOWNSHIP: 4 N RANGE: 1W
SUNSET / SUNRISE: 1941 hrs **MOON:** no comments of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME ACTIVITY LOCATION SEARCH

Narrative location reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
Traversing through Robinson-Dunn property	1622	1628	6	Quiet walk in, clear skies, no wind. No NSO Detection
Walking down E-W road to landing, Station 10a	1628	1631	3	No response, no observed signs of owl use (white wash, pellets). No NSO Detection
Stationary calling of Station 10a while I conduct stand search	1631	1648	10+7	Sharp-shinned hawk flew in briefly hovered overhead about 20 feet above me then bounced from perch to perch remaining in the vicinity while I searched for owl signs, white wash/pellets. No NSO Detection

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

Survey Conclusion: This was a specific survey and stand search of the north end of the NTMP area and the timber stand on the Eureka Municipal Golf Course where NSO pair activity was observed during the 2011, 2012, and 2013 breeding seasons. During these years an NSO pair, presumably displaced by barred owl pair activity near the HUM550 AC, would be periodically observed roosting just over the property line from the NTMP on the golf course property. Subsequent stand searches of the timber stand during those years was made to determine if any nest tree, platform, etc., was present. No such nest structure was found, and the NSO pair was always observed roosting together. The conclusion was made the NSO pair were just utilized this area as one of likely many roosting locations as they cycled through their foraging range. Once a site was depleted of its food base the birds would move onto another location within their foraging range until the site they just left would recover.

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

S & W Properties NTMP
 PROJECT: 1-03NTMP-013HUM DATE: 04/02/2016 SURVEYOR(S): M. Pera
 SURVEY#: 3 (day time follow-up) SURVEY TYPE (check): FIXED TRAVERSE [] LEAPFROG
 COUNTY: Humboldt SECTION: 10 TOWNSHIP: 4N RANGE: 1W
 SUNSET / **SUNRISE**: 0657 hrs MOON: no comments of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: CLEAR PARTLY-CLOUDY CLOUDY **HIGH-OVERCAST** FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME FOLLOW-UP

<u>Narrative location</u> reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
<u>ACS HUM 550</u> Walked off road into stand Stationary calling, stand search	0819	0849	30	No response, no observed signs of owl use (white wash, pellets). No NSO Detection

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

STONEMAN FORESTRY SERVICES • P.O. Box 6177 • Eureka, CA 95502-6177 • Phone: (707) 442-9209 • Email: stoneman_forestry@sbcglobal.net

S & W Properties NTMP

PROJECT: 1-03NTMP-013HUM DATE: 04/15/2016 SURVEYOR(S): M. Pera
 SURVEY#: 4 of 8 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG
 COUNTY: Humboldt SECTION: 10, 14, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W
 SUNSET / SUNRISE: 1956 hrs MOON: waxing half

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM** (< 1 MPH) BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG
 AIR TEMP (If Known or Taken): unknown

Calling Station	Start Time (24hrs)	End Time (24hrs)	Total Time	Detection (Yes or No)	Detection Type	Results/Comments: (Distance-Bearings, General Observations, etc.)
8a	1926	1936	10	No		No wind, Ridgewood Dr. traffic, distant fog horn
1	1946	2002	10+6	Barred	A,V,O	Barking dogs Ridgewood Dr. vicinity, no wind, mosquitoes. 2000 large unknown owl flew in silently from the south and perched in snag. 2001 positive barred owl response. Single barred owl.
3a	2006	2018	12	YES	V	2009 possible NSO 4-note response sounds mechanical and replies are not in response to my solicitation, single NSO bearing Az 220°
At STOP sign, Rd. jct. Elk River and Zanes ± Station 5	2043	2104	21	YES	A,V	2055 positive NSO bearing Az 42° ± ¼ mile, single owl fairly responsive remained stationary.
Elk River Rd between Str. 5 & 4	2107	2117	10	No		No response, called in efforts to better triangulate.
7a	2130	2145	10+5	No		Clear skies, barking dogs Lundblade vicinity, fog horn, barn owl screech westerly
10	2152	2207	10+5	No		Quiet night good projection, barking dogs northerly, Lundblade area
9	2210	2228	10+5 3 (voice)	Barred & NSO YES	A,V	Barn owl screech northerly. 2224 barred owl >1/2 mile vicinity of Station 10a. 2227 positive NSO southerly ± ¼ mile
Rd Jct. which leads east	2230	2241	11	YES	A,V	Voice callings up to 2237, getting replies from single NSO southerly ± 1/8 mile. 2237 initiated recorded in hope to illicit second NSO. Single NSO remained stationary and continued responding to recorded calling.
Heddingger Add-on	2254	2304	10	No		Light Ridgewood Dr traffic, barking dog easterly ± 1/2 mile
6	2315	2331	10+6	Barred	A,V	Peeper frogs, 1-3 mph breeze. 2329 barred owl at station. Single barred owl
4	2337	2348	11	No		Mooing cows to the southeast, distant surf noise, 1-3 mph breeze, good echo return from eastern slopes.

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

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PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 04/16/2016 SURVEYOR(S): M. Pera

SURVEY#: 4 (day time follow-up) SURVEY TYPE (check): FIXED TRAVERSE [] LEAPFROG

COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W
 SUNSET / **SUNRISE**: 0635 hrs MOON: no comments of observation

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME FOLLOW-UP

Narrative location reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
3a (fixed calling)	0745	0755	10	No response. 0756 Geronimo (WTS) returned phone call from previous night. Verified NSO pair and coinciding calling. No NSO Detection
At Rd Jct which leads to the West, between Stations 7a and 9 (fixed calling)	0848	0858	10	0853 pulling in curious crows. No NSO Detection
Traverse calling from Rd Jct which leads East, just South of Station 9	0907	0928	21	Stopped at x-ing #3 for approximately 3 minutes of stationary calling. No NSO Detection

DETECTION TYPE (Key): A = Single Adult (Sex Unknown)
 F = Female
 M = Male

 P = Pair
 Y = One Young
 Z = Two or More Young

 U = Unknown Number & Sex
 V = Vocal
 O = Observed

NSO FIELD SURVEY REPORT

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PROJECT: S & W Properties NTMP 1-03NTMP-013HUM DATE: 05/04/2016 SURVEYOR(S): M. Pera

SURVEY#: 6 (day time follow-up) SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG

COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W
 SUNSET / **SUNRISE**: 0610 hrs MOON: no comments of observation

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

DAY TIME FOLLOW-UP

<u>Narrative location</u> reference map for illustrated point/ traverse route discussed in text	Start Time (24hrs)	End Time (24hrs)	Total Time	Results/Comments: (Distance-Bearings, General Observations, etc.)
Traverse and fixed calling from 3a onto Russ property and back	0918	1030	72	0929-0939 fixed calling at property line ±80' south of corner. 0940-1000 meandering stand search with subdued voice calling. 1000 at bastard growth redwood with multiple blue painted "W"s. 1024 walking out from tree, no NSO vocalizations or signs of use. No NSO Detection
Traverse and fixed calling from large residual trees in the vicinity of the previous night's response.	1052	1136	44	No NSO vocalizations or signs of use. No NSO Detection

ACTIVITY CENTER SEARCH HUM 550

HUM 550 nest tree and nearby vicinity	1219	1338	79	White wash, unknown feathers, small rodent skull observed during walk-in. 1227-1242 stationary caller while I search canopy and base of trees. 1256 single NSO silently flew in to recorder playing mouse call. 1259 verified pair, whine coming from snag cavity while visual on NSO that flew in shortly replies with whine. 1303-1338 after brief preening, male NSO "fluffs-out" feathers, hunkers down and dozes in and out, eyes closed, half open then closed again. ±40' from nest tree, with binoculars too dark to see into cavities, second NSO (female) never came out.
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DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

Survey Conclusion: Appears that NSO pair associated with AC HUM550 has reoccupied the activity center after being displaced by a barred owl pair for a number of years. Initial results seem to indicate that the barred owl and spotted owl pairs have switch up locations; meaning the barred owls are now occupying the northern end of the NTMP area and adjacent ownerships to the north and the spotted owl pair are reoccupying the HUM550 AC. NSO behavior during this follow-up indicates a nesting NSO pair at the HUM550 nest tree.

NSO FIELD SURVEY REPORT

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S & W Properties NTMP
 PROJECT: 1-03NTMP-013HUM DATE: 05/10/2016 SURVEYOR(S): M. Pera
 SURVEY#: 7 of 8 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG
 COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W
SUNSET / SUNRISE: 2023 hrs **MOON:** sliver moon

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

Calling Station	Start Time (24hrs)	End Time (24hrs)	Total Time	Detection (Yes or No)	Detection Type	Results/Comments: (Distance-Bearings, General Observations, etc.)
3a	2001	2016	10+5	No		Dogs barking southwesterly ¼-½ mile.
5	2032	2042	10	No		<i>No comments</i>

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

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S & W Properties NTMP
 PROJECT: 1-03NTMP-013HUM DATE: 05/17/2016 SURVEYOR(S): M. Pera
 SURVEY#: 8 of 8 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG
 COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W
 SUNSET / **SUNRISE**: 0557 hrs MOON: no comment of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

Calling Station	Start Time (24hrs)	End Time (24hrs)	Total Time	Detection (Yes or No)	Detection Type	Results/Comments: (Distance-Bearings, General Observations, etc.)
5	0523	0533	10	No		Dogs barking from Russ residence, no wind, morning song birds
3a	0544	0559	10+5	No		Calm wind, clear skies, morning song birds.

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

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PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 04/30/2015 SURVEYOR(S): M. Pera

SURVEY#: 1 of 7 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG

COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W

SUNSET / SUNRISE: 2011 hrs MOON: no comments of observation

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unknown

CALLING STATION/ POINT	2400 CLOCK START TIME	2400 CLOCK END TIME	TOTAL TIME MIN.	DETECTION (Yes or No)	DETECTION TYPE	RESULTS/COMMENTS: (Distance-Bearings, General Observations, etc.)
8a	1941	1951	10	NO		Clear skies, no wind Hwy 101 traffic noise, fog horn, good echo, gray jay perched next to caller.
1	2003	2018	10+5	NO		Moon is up, mosquitoes out.
3a	2026	2041	10+5	NO		Little brown bat, stars are coming out, no wind, barking dogs along Elk River Road.
7a	2058	2113	10+5	NO		Surf noise, fog horn.
10	2123	2137	10+5	NO		<i>No comment</i>
9	2140	2157	12+5	NO		Good echo.
6	2216	2226	10	Barred	P,V	No wind, clear skies, peeper frogs, 2225 pair of barred owls immediately vocalizing above station.
5	2231	2241	10	NO		Mooing cows, surf noise fog horn.
4	2246	2256	10	NO		Mooing cows.

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
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 M = Male Z = Two or More Young O = Observed

NSO FIELD SURVEY REPORT

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PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 05/29/2015 SURVEYOR(S): M. Per a

SURVEY#: 4 of 7 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG

COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4 N RANGE: 1W

SUNSET / SUNRISE: 2039 hrs **MOON:** no comments of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
CLOUD COVER: CLEAR PARTLY-CLOUDY CLOUDY HIGH-OVERCAST **FOG**

AIR TEMP (If Known or Taken): unknown

CALLING STATION/ POINT	2400 CLOCK START TIME	2400 CLOCK END TIME	TOTAL TIME MIN.	DETECTION (Yes or No)	DETECTION TYPE	RESULTS/COMMENTS: (Distance-Bearings, General Observations, etc.)
8a	2009	2019	10	No		No wind Ridgewood Rd traffic, high dense fog.
1	2028	2043	10+5	No		Weather conditions static, miscellaneous song birds.
3a	2050	2103	10+3	Barred	P, V,O	Lone foraging bat. 2058 vocalization of a pair of barred owls southerly 200-300 feet, 2059 flew into station, very boisterous 2100, visual silhouette of two bird.
7a	2122	2137	10+5	No		Distant barking dogs and traffic noise in Lundblade vicinity.
10	2145	2200	10+5	No		Distant barking dogs and traffic noise in Lundblade vicinity.
9	2204	2219	10+5	No		Weather conditions static (no wind, high dense fog), distant fog horn and surf noise.
6	2236	2255	10+9	Barred	A,V	Dogs barking at house to the south, peeper frogs. At 2251 saw large silhouette fly east to west over Elk River Rd, 2252 single barred owl response, 2252 barred owl response above road on east side, could not determine if it was the same bird who flew across the road then back again or if it was a second barred owl vocalizing. 2254 verified pair of barred owls.
5	2259	2309	10	No		Quiet, no wind, occasional nostril breathing cow, peeper frogs, distant fog horn.
4	2315	2326	10	No		<i>No comments</i>

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed

M = Male

Z = Two or More Young

O = Observed

NSO FIELD SURVEY REPORT

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S & W Properties NTMP

PROJECT: 1-03NTMP-013HUMDATE: 06/08/2015SURVEYOR(S): M. Pera

SURVEY#: Day Time Follow-up SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG
For Survey 5 of 7

COUNTY: Humboldt SECTION: 10 TOWNSHIP: 4N RANGE: 1W

SUNSET / **SUNRISE**: 0545 MOON: no comments of observation

WEATHER (Circle/**BOLD** General Condition):

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
 WIND: **CALM (< 1 MPH)** **BREEZE (1-5 MPH)** LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
 CLOUD COVER: **CLEAR** PARTLY-CLOUDY CLOUDY HIGH-OVERCAST FOG

AIR TEMP (If Known or Taken): unk nown

Calling Station/Point	2400 Clock Start Time	2400 Clock End Time	Total Time Min.	Detection (Yes or No)	Detection Type	RESULTS/COMMENTS: (Distance-Bearings, General Observations, etc.)
At road jct east of 10a	0929					Started digital caller.
10a	0933	0946	13	No		0943 while caller remained stationary I am ± 100 feet away to the north/northwest and turning back to the caller scanning canopy. No NSO Detected
				Barred	A,V	0947 turned off caller, getting ready to walk off to station 10b. Heard barred owl vocalization bearing Az 245° approx. $\frac{1}{4}$ mile. Walked back to the north/northwest to look for white wash/pellets, 0956 barred owl is approx. 60 feet to the west. Given the presence of the barred owl and absence of heavy owl activity within this vicinity I walk out.
10b	1009	1020	11	No		Surf fog horn song birds occasional breeze. No NSO Detected
Traverse calling from 10b north to Lundbar Hills subdivision	1024	1035	11	No		1028 at second road junction gathered mobbing jays. No NSO Detected

DETECTION TYPE (Key): A = Single Adult (Sex Unknown)
 F = Female
 M = Male

P = Pair
 Y = One Young
 Z = Two or More Young

U = Unknown Number & Sex
 V = Vocal
 O = Observed

NSO FIELD SURVEY REPORT

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PROJECT: S & W Properties NTMP
1-03NTMP-013HUM DATE: 06/24/2015 SURVEYOR(S): M. Pera

SURVEY#: 7 of 7 SURVEY TYPE (check): FIXED TRAVERSE LEAPFROG

COUNTY: Humboldt SECTION: 10, 15, 22 & 23 TOWNSHIP: 4N RANGE: 1W

SUNSET / SUNRISE: 2052 **MOON:** no comments of observation

WEATHER (Circle/BOLD** General Condition):**

PRECIPITATION: **NONE** TRACE DRIZZLE LIGHT HEAVY SNOW
WIND: **CALM (< 1 MPH)** BREEZE (1-5 MPH) LIGHT (6-10 MPH) MODERATE (11-20 MPH) STRONG (>20 MPH)
CLOUD COVER: CLEAR PARTLY-CLOUDY CLOUDY **HIGH-OVERCAST** **FOG**

AIR TEMP (If Known or Taken): unknown

Calling station /point	2400 Clock Start Time	2400 Clock End Time	Total Time Min.	Detection (Yes or No)	Detection Type	RESULTS/COMMENTS: (Distance-Bearings, General Observations, etc.)
10	2035	2050	10+5	No		Miscellaneous song birds, distant fog horn, fog is pushing inland
9	2054	2108	5+9	Barred	A,V	2057 barred owl response from station 10. 2059 single barred owl is in tree line approximately 150 feet to the north of this station. 2100 initiated barred owl calling sequence in effort to elicit a second barred owl. Single barred owl with subdued infrequent responses.
Heddinger Add-on	2132	2142	10	No		Dogs barking from houses to the immediate north, little brown bat foraging over the truck, 2135 neighbors called their dogs into the house.

*Noted time with "+" is NSO calling sequence followed by barred owl calling sequence.

DETECTION TYPE (Key): A = Single Adult (Sex Unknown) P = Pair U = Unknown Number & Sex
 F = Female Y = One Young V = Vocal
 M = Male Z = Two or More Young O = Observed