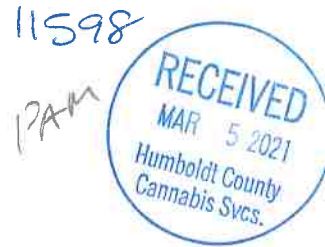




P.O. Box 733, Hydesville, CA 95547 . (707) 768-3743 . (707) 768-3747 fax



Owner of Record (APN # 108-012-009)

Eric P. Doricko
2076 Wilkins Ave.
Napa CA, 94559

Registered Professional Forester

Stephen Hohman RPF #2652
PO Box 733
Hydesville CA, 95547
(707) 768-3743

Restocking/Restoration/Monitoring Plan

Soul Arc Solutions, Inc.
Ettersburg CA
APN: 108-012-009

At the request of Humboldt Planning Division, the following is being provided for Item 10. Pages 13-14 of Attachment 1. Recommended Conditions or Approval.

Item 10 is as follows:

10. The applicant shall provide an addendum to the Less Than Three Acre Conversion Mitigation Plan prepared by a Registered Professional Forester (RPF) to specifically address the approximately 0.41 acres of timber land converted after 2016. The addendum shall contain discussion of the ecological values of the converted forest land with specific discussion of the habitat value for NSO. The report shall include the number and species of trees removed. The restoration plan must include NSO habitat enhancement at a 10:1 ratio to the area converted which may include removal of invasive species, thinning, and restocking and shall include monitoring and reporting components to ensure success of the recommended remedial actions. The report shall be submitted for approval to the Planning Department and will be evaluated in consultation with the California Department of Fish and wildlife.

The above referenced "...0.41 acres of timber land converted after 2016." was also addressed in the Doricko Canigou Less Than Three Acre Conversion Mitigation Plan.

The Restocking/Restoration/Monitoring Plan provides a detailed discussion of the ecological value of the 0.41 acre conversion site on Assessor's Parcel Number 108-012-009. Additionally, this document provides a restocking and monitoring plan as part of off-site mitigation for the 0.41 acre conversion site. The RPF and/or the RPF Designee will provide recommendations to mitigate for the loss of 0.41 acres of timberland in order to become compliant with current regulations as per California

Department of Fish and Wildlife (CDFW) and California Regional Water Quality Control Board (CRWQCB).

Site Information

The project area is located in Section 25, Township 3 South, Range 1 East HB&M; Humboldt County, on the Honeydew USGS 7.5' quadrangle approximately 2.3 air miles north west of Etnersburg, CA. Elevation ranges from approximately 580 to 1200 ft. Given the general ridgetop location the aspect best identifies with southeast facing slopes.

The surrounding forest composition on the parcel consists primarily of even-age second growth Douglas-fir, tanoak, and pacific madrone with a minor amount of other hardwood species. All species combined (conifer & hardwood) basal areas are approximately 260 square feet (sq. ft.) per acre with closed canopy. The property is zoned as Timber Production Zone (TPZ).

Site Background

In 2016, approximately 0.41 acres of forested timberland was cleared and graded for the construction of a 400,000-gallon rain catchment pond. The conversion site is within a previously harvested area over 10 years ago and was planted with redwood trees. No permit was obtained from CALFIRE to clear the 0.41 acres for the construction of the pond site. The conversion area is not within any riparian buffer zones. Ownership during initial illegal conversion was Erik Doricko. The planting of tree species on the parcel will be required to mitigate for the loss of Northern Spotted Owl (NSO) habitat, that was removed from the site in 2016 without conducting NSO surveys or acquiring required permits. CDFW has been consulted regarding the 400,000-gallon pond and the existing pond has been approved to remain intact at the site given that offsite-mitigation measures and habitat enhancement are implemented and monitored on the ownership.

Ecological Value of The Conversion Site

On October 23, 2020 a site visit was conducted by Hohman and Associates Forestry Consultants. The site was evaluated for habitat value with specific consideration for protected, endangered, threatened, rare, and sensitive species. The site was evaluated by conducting ground surveys of the conversion site, surrounding area and proposed restocking sites to quantify habitat types and habitat quality. Aerial imagery and the California Natural Diversity Database (CNDDB) were also accessed for the ecological evaluation. NSO surveys were conducted post-conversion in 2018 and in 2019. NSO were documented in the area in 2018, and high-quality nesting/roosting habitat has been mapped on the property. The 0.41 acres conversion site previously contained potential NSO Nesting/Roosting habitat and is now considered Foraging and Non-habitat for the NSO. No known Activity Centers or nesting sites for the NSO were directly impacted by the conversion activities. However, NSO have been documented in the area and within 0.7 miles of the conversion site. One NSO database Activity Center, HUM0345, is recorded approximately 0.7 miles from the conversion site. A summary of NSO surveys conducted with maps and data can be found in Attachment A.

Additionally, a botanical survey was completed in 2018 by Hohman and Associates Forestry Consultants. No protected rare or endangered plants were detected at the pond site. The Floristic Report can be found in Attachment B.

During the site visit conducted on October 23, 2020, Hohman and Associates were not able to count the number of trees removed within the conversion site as all the tree stumps had previously been removed from the site. As a result, the number and species of trees removed could not be determined at the conversion site. Given that the converted area was a portion of a larger timbered stand type, assessment of the undisturbed immediate adjacent stand was used for interpretation to determine pre-site conditions for tree species and stand density. Available aerial imagery was also reviewed for pre-site timbered conditions. It is estimated that approximately 30 trees of even-aged second growth Douglas fir, and redwood were cleared from the area to construct the 400,000-gallon pond.

Proposed Mitigation Measures

The restoration plan proposes restocking to achieve NSO habitat enhancement to mitigate habitat loss associated with the conversion area. Humboldt County Code defers to the minimum stocking levels as prescribed by the California Public Resources Code and California Forest Practices Rules. The following Rules, Standards and Procedures shall be used for the determination of site restoration to Timberland.

- **14 CCR 912.7 Resource Conservation Standards for Minimum Stocking**
- **14 CCR 1070-1075 Standardized Stocking Sampling Procedures**
- **Public Resources Code 4561 Resource Conservation Standards**

Revegetation Mitigations

Six locations, totaling approximately 0.90 acres, have been identified as appropriate receiving sites on the property to be restocked with timber to enhance NSO habitat and provide off-site mitigation efforts for the 0.41 acre conversion site (Table 1.). All six designated sites have been previously cleared of timber and restocking the sites with native tree species will increase the ecological value of the habitat on the ownership.

Native tree seedlings shall be composed of a mix of at least two or more of the regionally appropriate species listed below (Group A and Group B). The Group A and Group B species shall be planted in a 10' x 10' spacing and shall be monitored for the next 5-year period. If the trees planted decreases below a 70% stocking threshold, the site shall be replanted and an additional 3-year monitoring assessment shall be put in place. The site shall also be monitored for 5 years post-treatment to ensure no erosion issues develop.

Table 1. List of the six sites designated for restocking locations on APN: 108-012-009

Site	Acreage	Square Footage	# of proposed trees*
1	0.223	9727	97
2	0.071	3071	30
3	0.155	6751	67
4	0.207	9006	90
5	0.164	7131	71
6	0.0791	3447	34
Total	0.8991	39133	389*

*Number of trees proposed is based on uniform 10' x 10' spacing between trees.

Implementation

Tree seedlings should be planted during their dormant period and when soil moisture levels are high to prevent desiccation. The recommended spacing of 10' x 10' is intended to achieve full site occupancy. In effort to increase success rate, ground scalping shall be conducted to remove thatch layer, competing grass seed and organic layer to bare mineral soil prior to planting. Additional measures common to reforestation should be employed. This may include shade stakes, solid or mesh tubing or weed mats. It is recommended that restoration plants be sourced from local native plant nurseries such as Samara Restoration, the Mattole Restoration Council, or the local CNPS Nursery at Freshwater Farms. For Douglas-fir seeding, the recommended seed lot code is **093.10**. The document titled California Tree Seed Zones (Buck et.al., 1970) should be consulted if stock is unavailable and an adjacent zone needs to be considered.

Monitoring

Maintenance and monitoring are recommended over a five-year period. Each fall, the site should be monitored by photo-documentation recording the survival rate of restoration plantings, and by estimating percent vegetative cover of the restoration areas. Adaptive management should be employed throughout the monitoring period. If initial plantings are not successful and the project is not meeting performance standards, purchasing additional nursery stock and replanting may be needed. Document any new replacement plantings. Annual monitoring reports with photo-documentation, monitoring data, and progress towards restoration objectives shall be provided to Humboldt County Planning Department for review by January 1 of each year. The final monitoring report in year five should include an analysis of how project goals and objectives were or were not met.

Reporting

Submit annual reports throughout the monitoring period to Humboldt County Planning Department by January 1st of each year following implementation of the restocking plan. Provide photo-documentation where it would aid in illustrating the process or failings of the plan.

Humboldt County Planning and Building Department
3015 H St.
Eureka, CA 95501

Phone: 707-445-7541 or 707-445-7245
Fax: (707) 268-3792
Email: planningbuilding@co.humboldt.ca.us

Referencing the California Forest Practice Rules, 14CCR 895.1 Definitions:

Commercial Species (For the Coast Forest District): means those species found in Group A and those in group B that are found on lands where the species in Group A are now growing naturally or have grown naturally in the recorded past.

Group A:

Coast redwood (<i>Sequoia sempervirens</i>)	Port Orford cedar (<i>Chamaecyparis lawsoniana</i>)
Douglas-fir (<i>Pseudotsuga menziesii</i>)	California red fir (<i>Abies magnifica</i>)
grand fir (<i>Abies grandis</i>)	white fir (<i>Abies concolor</i>)
western hemlock (<i>Tsuga heterophylla</i>)	Jeffrey pine (<i>Pinus jeffreyi</i>)
western redcedar (<i>Thuja plicata</i>)	ponderosa pine (<i>Pinus ponderosa</i>)
bishop pine (<i>Pinus muricata</i>)	sugar pine (<i>Pinus lambertiana</i>)
Sitka spruce (<i>Picea sitchensis</i>)	western white pine (<i>Pinus monticola</i>)
incense cedar (<i>Calocedrus decurrens</i>)	

Group B:

tanoak (<i>Notholithocarpus densiflorus</i>)	California bay laurel (<i>Umbellularia californica</i>)
red alder (<i>Alnus rubra</i>) *	Oregon white oak (<i>Quercus garryana</i>)
white alder (<i>Alnus rhombifolia</i>)	California black oak (<i>Quercus kelloggii</i>)
Pacific madrone (<i>Arbutus menziesii</i>)	California bay laurel (<i>Umbellularia californica</i>)
golden chinkapin (<i>Chrysolepis chrysophylla</i>)	Monterey pine (<i>Pinus radiata</i>)

*(To be planted in riparian areas)

Implementation Upon Approval

Activity	Timing	Details
Tree planting	Winter-Early Spring (2020-2021)	Trees should be planted during their dominant period and when soil moisture levels are high to prevent desiccation.

Monitoring

Activity	Timing	Details
Annual Monitoring and Maintenance	Fall (prior to November 15 th) for five years	Each fall, the sites should be monitored for planting success and percent vegetative cover. Photo-document each site. Replant trees or install/repair additional features as needed.
Annual Monitoring Report Deadline	January 1 st (2022-2027)	Monitoring reports shall be submitted by the end of each year following implementation of the restocking plan, including a final report in year five on goals and objectives met.



Photos 1 & 2. Pond and surrounding habitat at the conversion site on APN: 108-012-009. Photos taken on October 23, 2020.

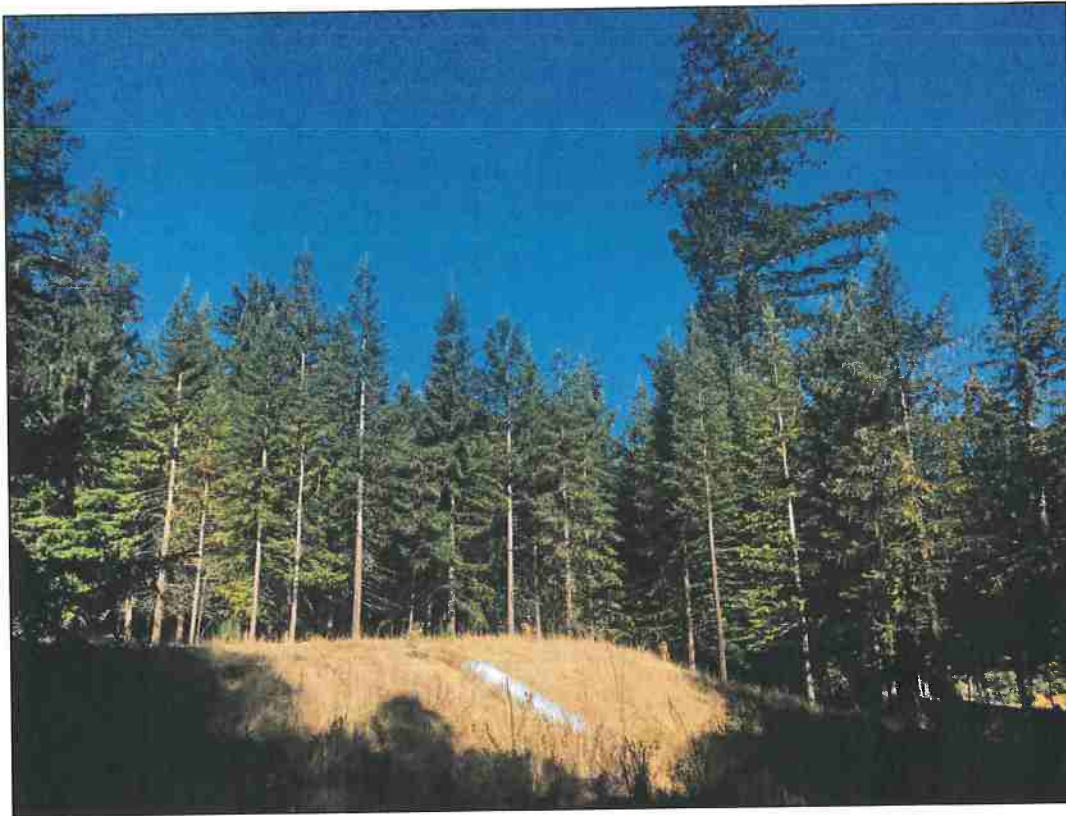
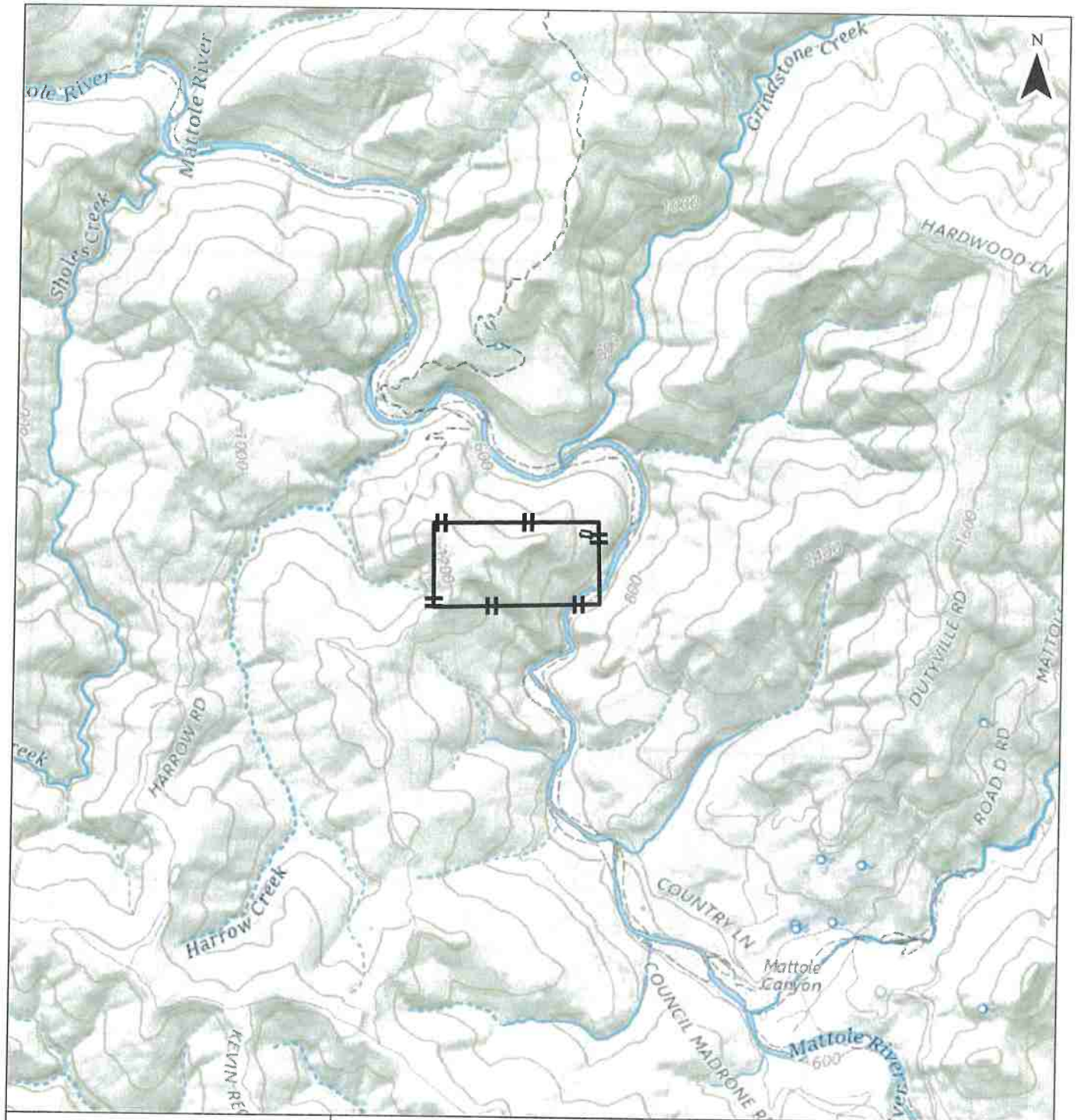
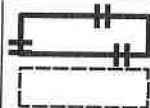


Photo 3. Habitat surrounding the conversion site on APN: 108-012-009. Photo taken on October 23, 2020.



Soul Arc Solutions, Inc.
Location Map



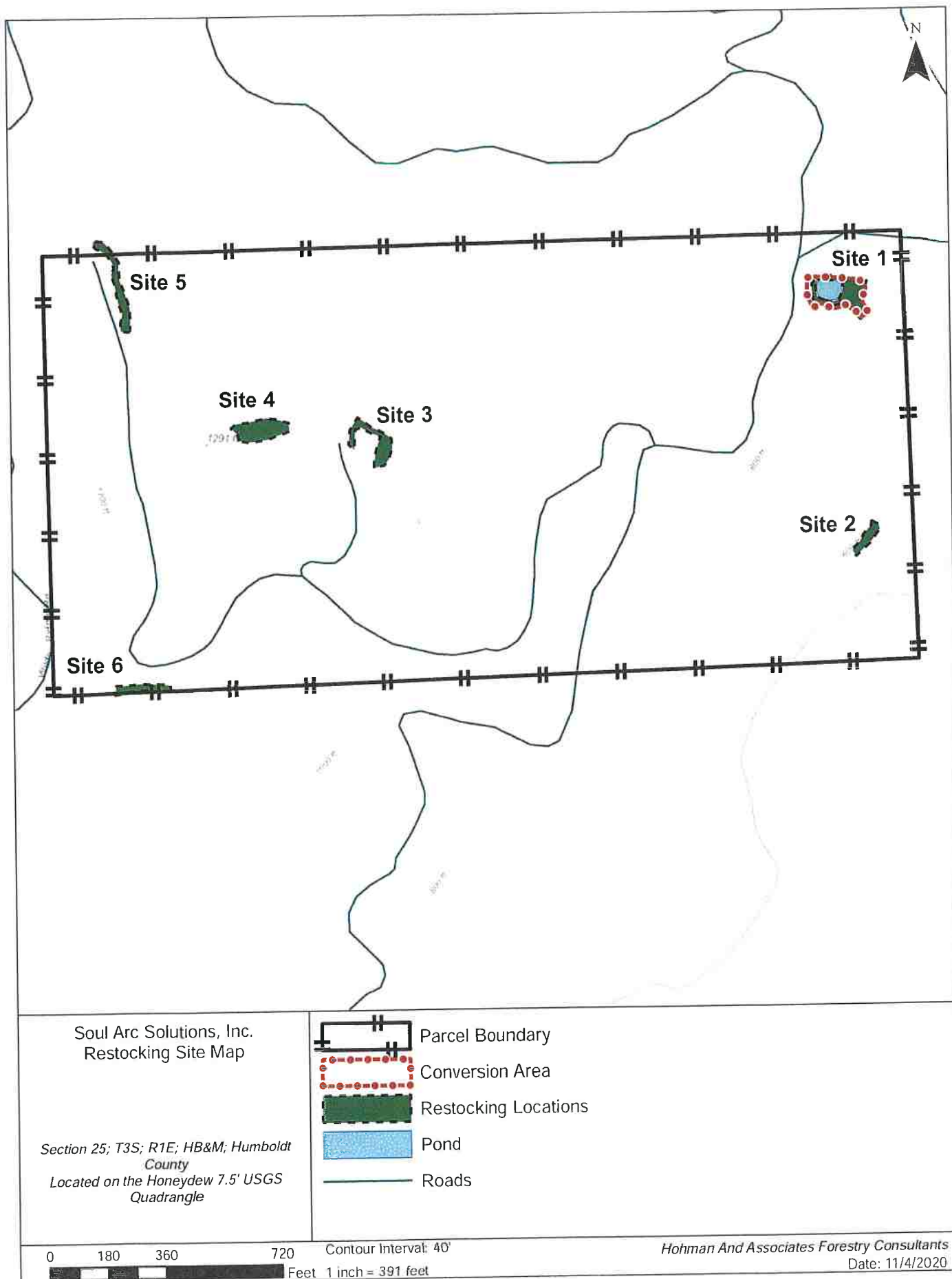
Parcel Boundary

Conversion Area

Section 25; T3S; R1E; HB&M; Humboldt
County
Located on the Honeydew 7.5' USGS
Quadrangle

0 1,050 2,100 4,200 Contour Interval: 40'
Feet 1 inch = 2,281 feet

Hohman And Associates Forestry Consultants
Date: 11/9/2020



2019 Imagery of parcel after conversion



2016 Imagery of parcel before conversion



Attachment A. Northern Spotted Owl Summary



P.O. Box 733, Hydenville, CA 95547 . (707) 768-3743 . (707) 768-3747 fax

Northern Spotted Owl Summary

September 16, 2019

Hohman and Associates is conducting surveys for the Northern Spotted Owl (NSO) pursuant to CEQA for commercial cannabis cultivation on behalf of Full Arc Solutions. The property is located in Section 25, T3S, R1E; HB&M, Humboldt County.

One NSO database Activity Center (AC), HUM0345, is recorded within 0.7 miles of the plan area. HUM0345 is approximately 0.3 miles west of the properties. See attached NSO survey map.

Surveys for the Northern Spotted Owl (NSO) consist of two years of surveys with at least 6 calls per year between March and August according to the USFWS Protocol (2012). Additional surveys and daytime searches may be needed if an NSO is detected. NSO surveys on the property were conducted in 2018 and in 2019.

Six NSO surveys were completed in 2019 between April 10th and July 18th. No NSO were detected in 2019, the second year of NSO surveys. In 2018, Eight surveys and three-follow-ups were completed between March 28th and August 23rd. NSO were detected on 7/13/2018, 7/31/18, and 8/8/18. The suitable habitat on the property near the detections was searched during the follow-up surveys. On the follow-up survey conducted on 7/16/18, a male was detected prior to sunset calling from north of the Mattole River. On the follow-up on 8/6/18, a male NSO was detected after sunset calling near the Mattole River. No NSO were detected on the final follow-up survey on 8/12/18. The NSO detected may have been foraging from HUM0345. Call station placement and daytime searches were somewhat limited because the properties are surrounded by other private properties with no access.

As the property contains potential habitat for NSO and NSO were documented in 2018, it is recommended that the landowners follow measures to minimize disturbance to any potential NSO. It is recommended that the landowners do not use any first or second generation anticoagulant rodenticides in the cultivation area, to minimize any possible exposure to NSO through secondary consumption of prey species in the area.

The property is approximately 243 acres. The property is mixed coniferous forest dominated by Douglas fir with tan oak, canyon live oak, and California bay laurel. Canopy cover ranges from 0 to 80 percent and is typed as 171 acres Nesting/Roosting, 58 acres Foraging habitat and 14 acres of Non-Habitat.

Please see attachments as follows:

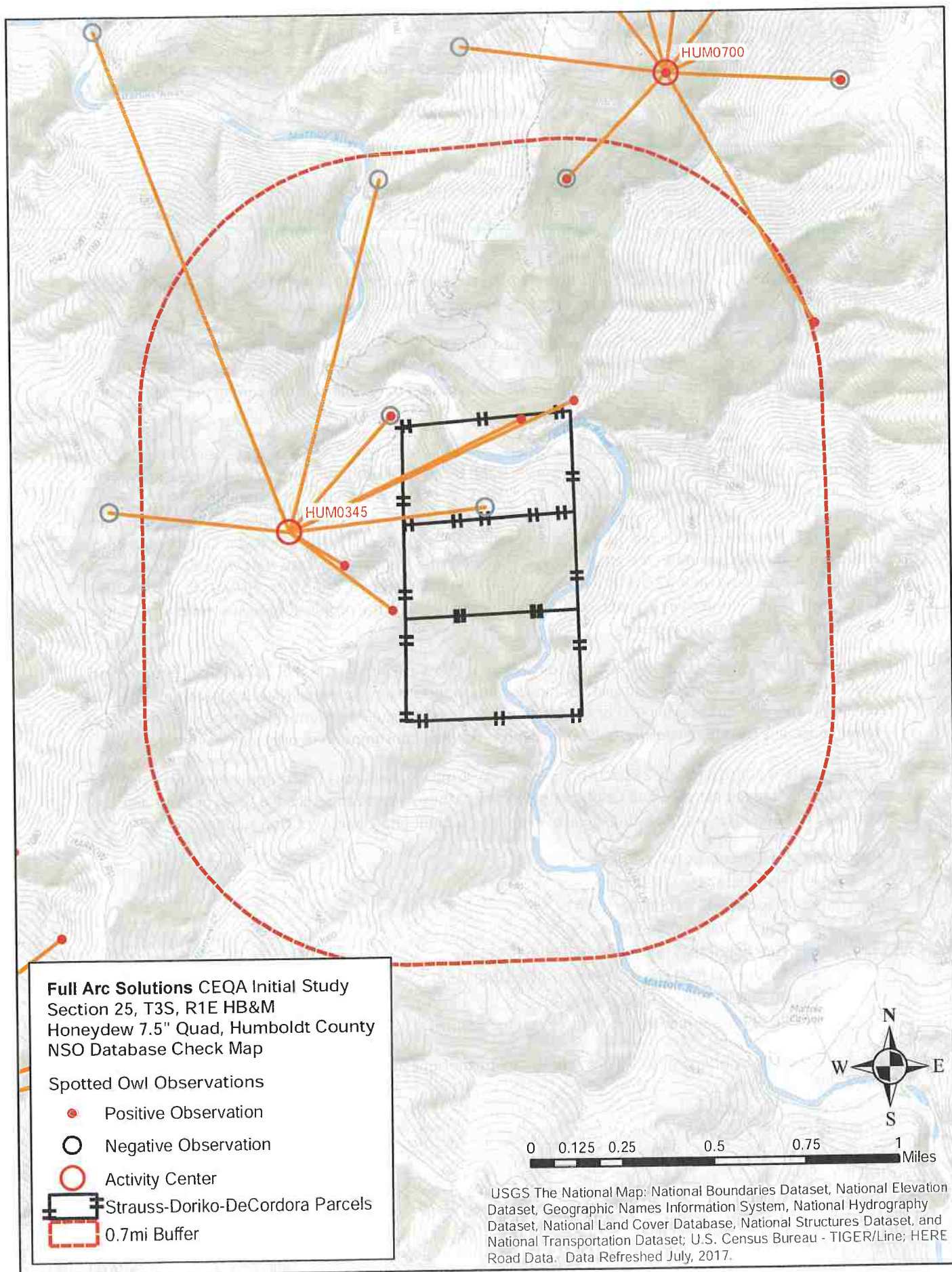
- NSO Database Check Map
- NSO CNDDDB Report #1 and #2
- Call Station Location Map
- Functional NSO Habitat Map within 0.7 miles
- Functional NSO Habitat Map for AC HUM0345
- 2019 NSO Survey Data Sheets (6)
- 2018 NSO Survey Data Sheets (8 and follow-ups)

Please contact us by phone or email if you have any further questions.

Sincerely,

A handwritten signature in cursive script that reads "Corrina Kamoroff".

Corrina Kamoroff
Wildlife Biologist
Hohman and Associates



Data Version Date:
08/28/2019

Report Generation Date:
9/16/2019

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



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

H_03S_01E Sections(23,24,25,26,35,36);

H_03S_02E Sections(19,30,31);

<i>Masterowl</i>	<i>Subspecies</i>	<i>LatDD NAD83</i>	<i>LonDD NAD83</i>	<i>MTRS</i>	<i>AC Coordinate Source</i>
HUM0240	NORTHERN	40.146948	-124.050697	H 04S 01E 03	Contributor
HUM0345	NORTHERN	40.171367	-124.025249	H 03S 01E 26	Contributor
HUM0700	NORTHERN	40.189598	-124.006129	H 03S 02E 19	Contributor

Data Version Date:
08/28/2019
Report Generation Date:
9/16/2019

Report #2 - Observations Reported
List of observations reported by site.



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

H_03S_01E Sections(23,24,25,26,35,36);

H_03S_02E Sections(19,30,31);

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
Masterowl: HUM0240 Subspecies: NORTHERN											
NEG			0					40.146948	-124.050697	H 04S 01E 03	Activity center
POS	1989-05-25		2	UUUU				40.168973	-124.049006	H 03S 01E 27	Quarter-section centroid
POS	1989-06-09		1	UU				40.168973	-124.049006	H 03S 01E 27	Quarter-section centroid
POS	1991-04-03		1	UM				40.153198	-124.026960	H 03S 01E 35	Contributor
POS	1991-06-17		1	UM				40.150108	-124.035014	H 03S 01E 35	Contributor
POS	1991-06-24		1	UM				40.155273	-124.036736	H 03S 01E 35	Contributor
POS	1991-07-03		1	UM				40.158674	-124.039254	H 03S 01E 35	Contributor
POS	2001-07-12	2254	1	AM				40.153984	-124.057698	H 03S 01E 34	Quarter-section centroid
POS	2001-07-13	2102	1	AM				40.146113	-124.057353	H 04S 01E 03	Quarter-section centroid
NEG	2001-07-25	0530	0					40.142506	-124.052719	H 04S 01E 03	Section centroid
AC	2002-05-18		2	AMSF	Y	N		40.146948	-124.050697	H 04S 01E 03	Contributor
Masterowl: HUM0345 Subspecies: NORTHERN											
POS	1991-04-12		1	UU				40.175931	-124.013385	H 03S 01E 25	Contributor
POS	1991-05-21		1	UU				40.175931	-124.013385	H 03S 01E 25	Contributor
POS	1991-07-09		1	UU				40.175931	-124.013385	H 03S 01E 25	Contributor
NEG	1997-04-29	2129	0					40.190923	-124.035718	H 03S 01E 23	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	1997-05-05		1	UF				40.176684	-124.010695	H 03S 01E 25	Quarter-section centroid
POS	1998-04-01		1	UF				40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	1998-04-07	1730	0					40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	1998-04-08	0700	0					40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	1998-06-12	1530	0					40.185271	-124.020854	H 03S 01E 24	Quarter-section centroid
POS	1998-06-18	2252	1	UU				40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	1998-06-19	0610	0					40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	1999-05-19	2308	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	1999-05-26	2004	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	1999-06-11	2048	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2000-06-17	2316	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
POS	2000-06-17	2236	1	UU				40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
POS	2000-06-23	2152	1	UU				40.168342	-124.019860	H 03S 01E 25	Quarter-section centroid
POS	2000-07-10	1600	1	UM			1	40.168342	-124.019860	H 03S 01E 25	Quarter-section centroid
NEG	2000-07-10	2134	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
POS	2000-07-17	2000	1	AM	Y	N	2	40.170085	-124.022400	H 03S 01E 25	Contributor
AC	2001-04-05	1900	2	UMUF	Y	Y		40.171367	-124.025249	H 03S 01E 26	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2001-06-10	2307	1	UM				40.175989	-124.020104	H 03S 01E 25	Quarter-section centroid
NEG	2001-06-18	2146	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2001-06-24	2240	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2002-03-01	1530	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2002-04-10	1722	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
POS	2002-04-23	1256	1	AM	Y			40.168342	-124.019860	H 03S 01E 25	Quarter-section centroid
NEG	2002-05-24	2020	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
POS	2003-06-25	1000	1	AM				40.168342	-124.019860	H 03S 01E 25	Quarter-section centroid
NEG	2004-04-28	1000	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2004-05-18	0531	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2004-05-25	1802	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2005-04-14	1645	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2005-06-23	1810	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2005-07-08	1815	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2006-05-28	1930	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2006-06-20	2030	0					40.172437	-124.015177	H 03S 01E 25	Section centroid
NEG	2006-07-27	0530	0					40.172437	-124.015177	H 03S 01E 25	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2007-06-15		0					40.172068	-124.034538	H 03S 01E 26	Section centroid
Masterowl: HUM0700 Subspecies: NORTHERN											
POS	1993		2	UMUF	Y			40.189378	-123.997175	H 03S 02E 19	Section centroid
POS	1993-08-12		2	UMUF	Y			40.179845	-123.998350	H 03S 02E 30	Contributor
POS	1997-05-05		1	UM				40.193296	-124.005597	H 03S 02E 19	Contributor
POS	1998-06-11	2155	1	UM				40.203801	-124.011780	H 03S 01E 13	Quarter-section centroid
NEG	1998-06-12	0630	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
POS	1998-06-18	2111	1	UM				40.194901	-124.011659	H 03S 01E 24	Quarter-section centroid
NEG	1998-06-19	1800	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
NEG	1998-06-25	2216	0					40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid
NEG	1999-05-19	2015	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
POS	1999-05-26	2158	1	UM				40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid
NEG	1999-06-11	2238	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
AC	1999-08-05	0715	1	AM	Y	N	2	40.189598	-124.006129	H 03S 02E 19	Contributor
NEG	2000-06-17	2206	0					40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid
NEG	2000-06-23	2209	0					40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid
POS	2000-07-10	2156	1	UM				40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2000-07-17	1922	1	UM				40.185391	-124.011212	H 03S 01E 24	Quarter-section centroid
NEG	2001-06-10	2325	0					40.189378	-123.997175	H 03S 02E 19	Section centroid
NEG	2001-06-18	2058	0					40.189378	-123.997175	H 03S 02E 19	Section centroid
NEG	2001-06-24	2147	0					40.189378	-123.997175	H 03S 02E 19	Section centroid
NEG	2002-03-01	1530	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
NEG	2002-04-10	1722	0					40.190523	-124.016775	H 03S 01E 24	Section centroid
POS	2002-04-23	1546	1	AM	Y			40.190614	-124.003208	H 03S 02E 19	Contributor
POS	2003-06-11	1430	1	AM				40.193896	-124.001905	H 03S 02E 19	Quarter-section centroid
POS	2005-07-08	1305	1	AM				40.193896	-124.001905	H 03S 02E 19	Quarter-section centroid
NEG	2006-06-20	1330	0					40.189378	-123.997175	H 03S 02E 19	Section centroid
POS	2006-07-27	1455	2	AMAF	Y			40.189598	-124.006129	H 03S 02E 19	Activity center
NEG	2007-05-29		0					40.193896	-124.001905	H 03S 02E 19	Quarter-section centroid
NEG	2007-06-09		0					40.193896	-124.001905	H 03S 02E 19	Quarter-section centroid
POS	2007-06-15		2	UMUF	Y			40.193896	-124.001905	H 03S 02E 19	Quarter-section centroid

**Full Arc Solutions CEQA Initial
Study Section 25, T3S, R1E HB&M
Honeydew 7.5" Quad, Humboldt County
NSO Call Station Map**

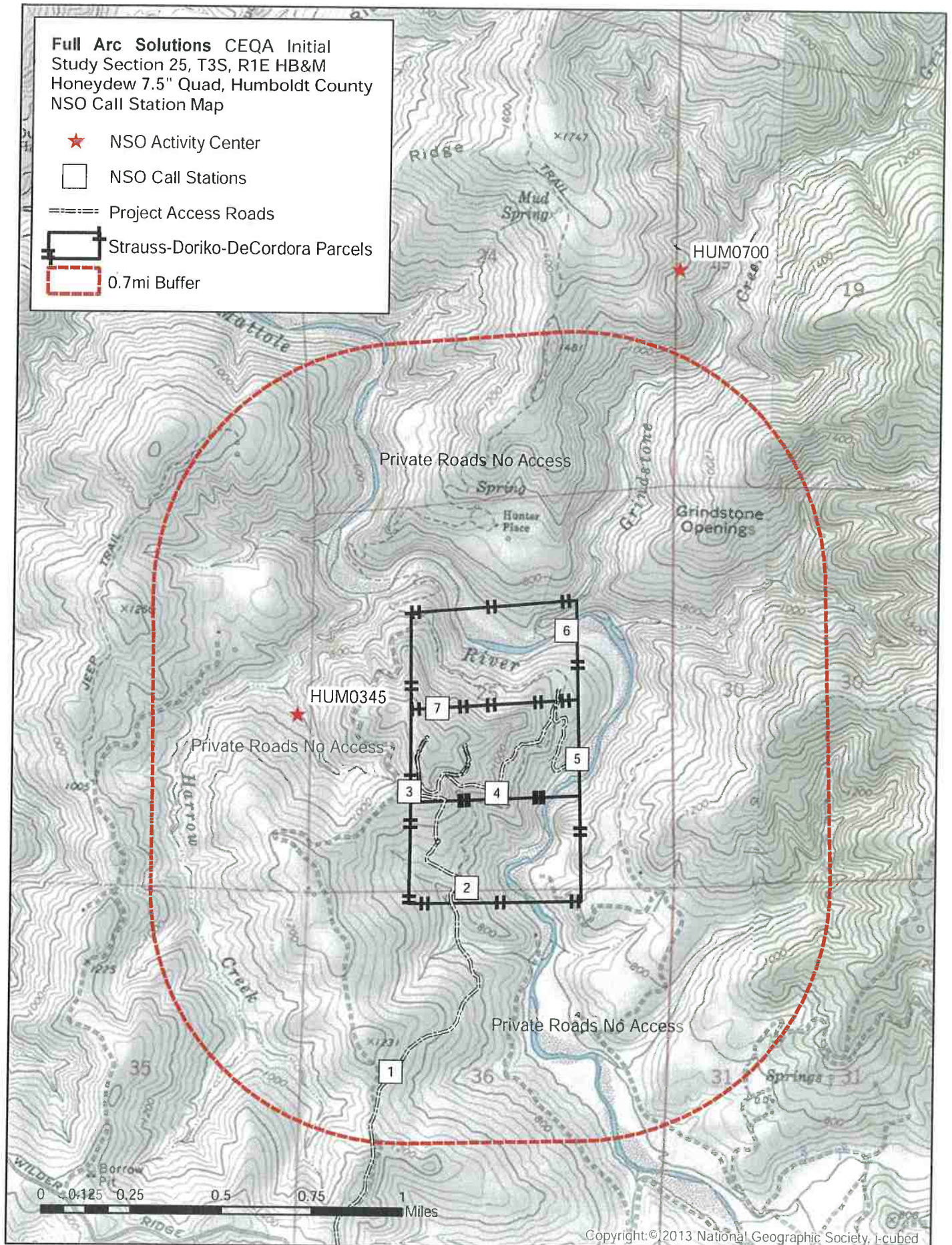
★ NSO Activity Center

□ NSO Call Stations

==== Project Access Roads

▣ Strauss-Doriko-DeCordora Parcels

⬡ 0.7mi Buffer



Full ArcSolutions CEQA Initial Study
NSO Call Station Map
Honeydew 7.5" Quad, Humboldt County

Section 25, T3S, R1E HB&M
== Project Access Roads

 Strauss-Doriko-DeCordova Parcels

 0.7mi Buffer

Functional Habitat Type

 Nesting/Roosting

 Non-Habitat

Pre-Harvest NSO Habitat (acres)

Habitat Type	Within 0.7mi	
	Buffer (2,377 acres)	Within THP (243 acres)
Nesting/Roosting	1891	171
Foraging	311	58
Non-habitat	175	14



0 0.125 0.25 0.5 0.75 1.00



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus
DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Full Arc Solutions CEQA Initial Study
 Section 25, T3S, R1E HB&M
 Honeydew 7.5" Quad, Humboldt County
 NSO Call Station Map

- ★ NSO Activity Center
- ==== Project Access Roads
- StraussDorikoACHUM0345Buffer
- Strauss-Doriko-DeCordova Parcels
- 0.7mi Buffer
- Functional Habitat Type**
-  Nesting/Roosting
-  Non-Habitat

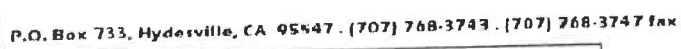
NSO Habitat within 0.7 mi of HUM0345	
Habitat Type	Within 0.7 mi Buffer (985 acres)
Nesting/Roosting	829
Foraging	101
Non-habitat	55

HUM0700

HUM0345



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



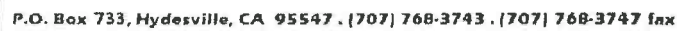
Northern Spotted Owl Survey Sheet

Call #: NSO #1
Date: 4/10/19 Location: HONEY DEW Harvest Plan: STANIS-DORIKO Surveyor: GRACE SANDERSON
CEQA

Harvest Plan: STRAUSS-DORIKO Surveyor: GRACE SANDERSON
CEQA

Response Index	Precipitation	Wind
0=No response	0=None	0=Calm (0mph, No wind)
1=Four note call	1=Fog	1=Light air (1-3mph, cannot feel wind on face)
2=Monkey call	2=Mist	2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Whistle call	3=Light rain	3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Agitation call	4=Heavy rain	4=Moderate breeze (11-16mph, wind raises dust, small branches move)
	5=Snow	

Wind
0=Caltn (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



Northern Spotted Owl Survey Sheet

Call #: 2

Date: 5-9-19

Location: Honeydew

Harvest Plan: STRAUSS-DORIKO

Surveyor:

Grace Sanderson

[illegible]

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

Call #: 3

Date: 5/29/19

Location: Honeydew

Harvest Plan: Stearns-Danko EIR

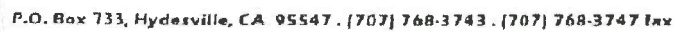
Surveyor: Grace Sanderson

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
7	839	849	0	-	-	-	0	2	
6	855	905	0	-	-	-	0	2-3	RIVER RUNNING, frogs
5	909	919	0	-	-	-	0	2	
4	921	931	0	-	-	-	0	1	
3	935	947	0	-	-	-	0	1	dogs, screech owl nearby
2	959	1009	0	-	-	-	0	1	
1	1014	1024	0	-	-	-	0	1	faint dogs

Response Index	
0=No response	
1=Four note call	
2=Monkey call	
3=Whistle call	
4=Agitation call	

Precipitation	
0=None	
1=Fog	
2=Mist	
3=Light rain	
4=Heavy rain	
5=Snow	

Wind	
0=Calm (0mph, No wind)	
1=Light air (1-3mph, cannot feel wind on face)	
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)	
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)	
4=Moderate breeze (11-16mph, wind raises dust, small branches move)	



Northern Spotted Owl Survey Sheet

Call #: 4

Date: 6/30/19

Location: Honeydew

Harvest Plan: Steuress-Denk

Surveyor: Grace Sanderson

[illegible]

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

Call #: 5

Date: 7/9/19

Location: Honeydew

Harvest Plan: Strauss-Dorick
EIR

Surveyor: Grace Sanderson

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
7	9:02	9:12	0	-	-	-	0	2	frogs
6	9:17	9:27	0	-	-	-	0	1	frogs, river noise, bats
5	9:32	9:42	0	-	-	-	0	1	faulst dogs barking
4	9:46	9:57	0	-	-	-	0	1	more dogs
3	10:00	10:04	-	-	-	-	0	0	dogs nearby, had to skip ↳ caller was making them bark nonstop, too noisy
2	10:22	10:32	0	-	-	-	0	0	frogs
1	10:37	10:47	0	-	-	-	0	0	

Response Index

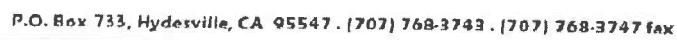
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation

0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind

0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



Northern Spotted Owl Survey Sheet

Call #:

Date: 7/18/19

Location: Honeydew

Harvest Plan: Strauss-Doriko
EIR

Surveyor: Grace Sanderson

[illegible]

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

#1

Date: 3-28

Location:

Harvest Plan: Strawser - Dorileo

Surveyor: D. Escamilla

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
6	2004	2044	0			60	0	0	
5	2038	2048	0			60	0	0	
7	2102	2112	0			60	0	1	
3	2117	2127	0			60	0	0	
4	2131	2141	0			60	0	0	
2	2152	2202	0			60	0	0	
1	2208	2218	0			60	0	0	
8									On Private Road
9									On Private Road

Response Index

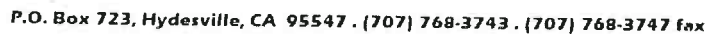
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4=Agitation Call

Precipitation

0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:

0=Calm (0 mph, No wind)
1=Light Air (1-3 mph, light wind, can not feel wind on face)
2=Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3=Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4=Moderate Breeze (11-16 mph, wind raises dust, small branches move)



Northern Spotted Owl Survey Sheet

Surveyor: D Escamilla

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4= Aggitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)



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Visit #3

Northern Spotted Owl Survey Sheet

Date: 6/2/18

Location: Honeydew

Harvest Plan: STYOUS- Dorillo CEQA IS Surveyor: Travis Broadbent

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
2	2051	2101	0				0	1	
6	2123	2133	0				0	4	
5	2156	2206	0				0	1	
4	2210	2220	0				0	1	
3	2230	2240	0				0	1	
7	dropped	couldn't	find a way out to this site				0	1	
1	2309	2319	0				0	1	
889									no access, locked gate

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4=Aggitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

Call #: 4

Date: 6/25/18

Location: Ethersburg

Harvest Plan:

Canoe
AKA
Stems - Dr. Kois

Surveyor: Kelsey McDonald & Sarah Stawasz

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
7 th	8:43	8:54	Ø	-	-	-	Ø	1-2	Quiet, up off Stellar's jay crow
6	9:18	9:29	Ø	-	-	-	Ø	2-3	Noise from river, Pacific hawks, moved away from generator - low hum
3	9:49	9:59	Ø	-	-	-	Ø	2	Quiet
4	10:17	10:27	Ø	-	-	-	Ø	1	Quiet, dog barking
2	10:42	10:52	Ø	-	-	-	Ø	Ø	Quiet, no notes from
1	11:04	11:14	Ø	-	-	-	Ø	1	Quiet
5	9:37	9:50	Ø	-	-	-	Ø	2	Sarah called station 5 on her own wh. bc I called station 3 I transcribed her data - KM.



Response Index	
0	No response
1	Four note call
2	Monkey call
3	Whistle call
4	Agitation call

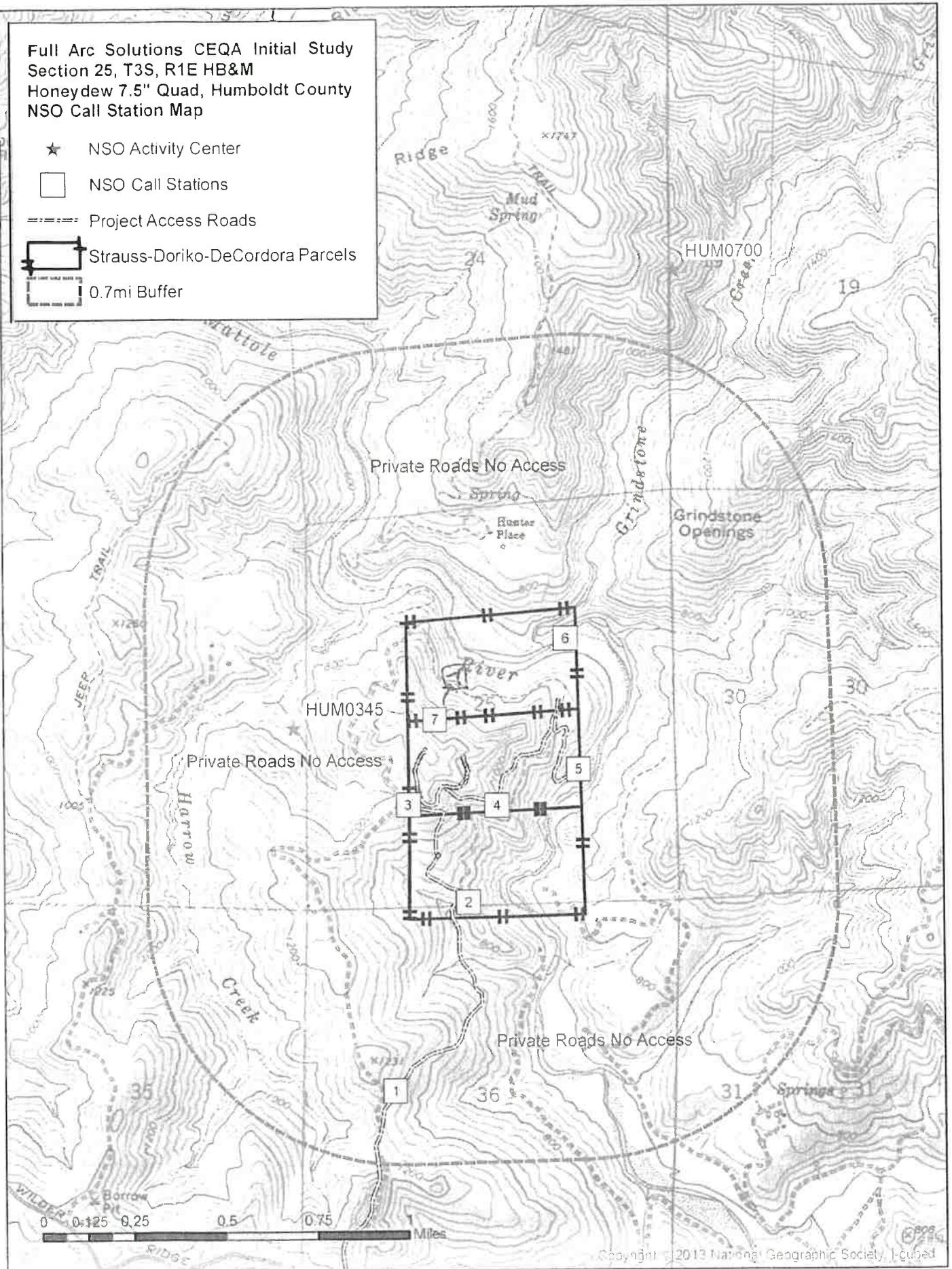
Precipitation	
0	None
1	Fog
2	Mist
3	Light rain
4	Heavy rain
5	Snow

Wind	
0	Calm (0mph, No wind)
1	Light air (1-3mph, cannot feel wind on face)
2	Light breeze (4-6mph, leaves rustle, can feel wind on face)
3	Gentle breeze (7-10mph, leaves and twigs in constant motion)
4	Moderate breeze (11-16mph, wind raises dust, small branches move)

Moved #7 to road

Full Arc Solutions CEQA Initial Study
 Section 25, T3S, R1E HB&M
 Honeydew 7.5" Quad, Humboldt County
 NSO Call Station Map

- ★ NSO Activity Center
- NSO Call Stations
- ==== Project Access Roads
-  Strauss-Doriko-DeCordora Parcels
-  0.7mi Buffer





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Visit # 5

Northern Spotted Owl Survey Sheet

Date: 7/14/18

Location: Honeydew

Harvest Plan: *Harvest - Lumber*

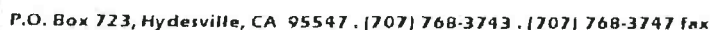
Surveyor: *Gregory Sanderson*

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
1	11:05	11:15	0	—	—	—	0	0	
2	11:21	11:31	0	—	—	—	0	0	lots of frogs making noise
4	11:35	11:45	0	—	—	—	0	0	
5	11:55	12:05	0	—	—	—	0	0	frogs, can hear water running, makes it difficult to hear
6	12:12	12:22	0	—	—	—	0	0	11 owl are present, apparently going nearby, heard faint interference call
7	12:28	12:38	1, 2	W/H	750 ft	—	0	0	"hsh-sh uh-hh uh-hh" 1 owl called N-E, up station at first. Sounded a bit far away. By the end of survey sounded 250 ft away.
8	12:48	12:58	1	—	—	—	0	0	heard a high pitched scream (creech) - 1

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4=Agitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)



Visit # 10120302

Northern Spotted Owl Survey Sheet

Date: 7/6/18

Location: 3400 14th St

Harvest Plan: *Strong Dark COA*
Edible

Surveyor: Kelsey McDonald

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
N+5	7:15						0	0	Hiked up through forest, down to road, then up ridge. Saw some song.
N+7	7:40	7:50	1	M	Approx. 250	NNE	0	0	Heard NSC 11-note syllable 10-12 sec after calling. He called "Corral" 10-12 sec after NSC call. 11-note syllable.
N+8	7:50	8:15	1	M	250	23° NNE	✓	0	Heard NSC 11-note syllable 10-12 sec after calling. He called "Corral" 10-12 sec after NSC call. 11-note syllable.
	8:20	8:41			250	25° NNE	0	0	Hiked down below ridge to road. Found a nest about 500 ft down to the bottom, called 10-12 sec after NSC call. 11-note syllable. of times soft, 10-12 sec after NSC call. 11-note syllable. NSC calling from above the ridge. NNE 10-12 sec after NSC call. 11-note syllable.

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4= Aggitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)

-- 7/16/18 NSO Follow-Up

Full Arc Solutions CEQA Initial Study
Section 25, T3S, R1E, HB&M
Honeydew 7.5" Quad, Humboldt County
NSO Database Check Map

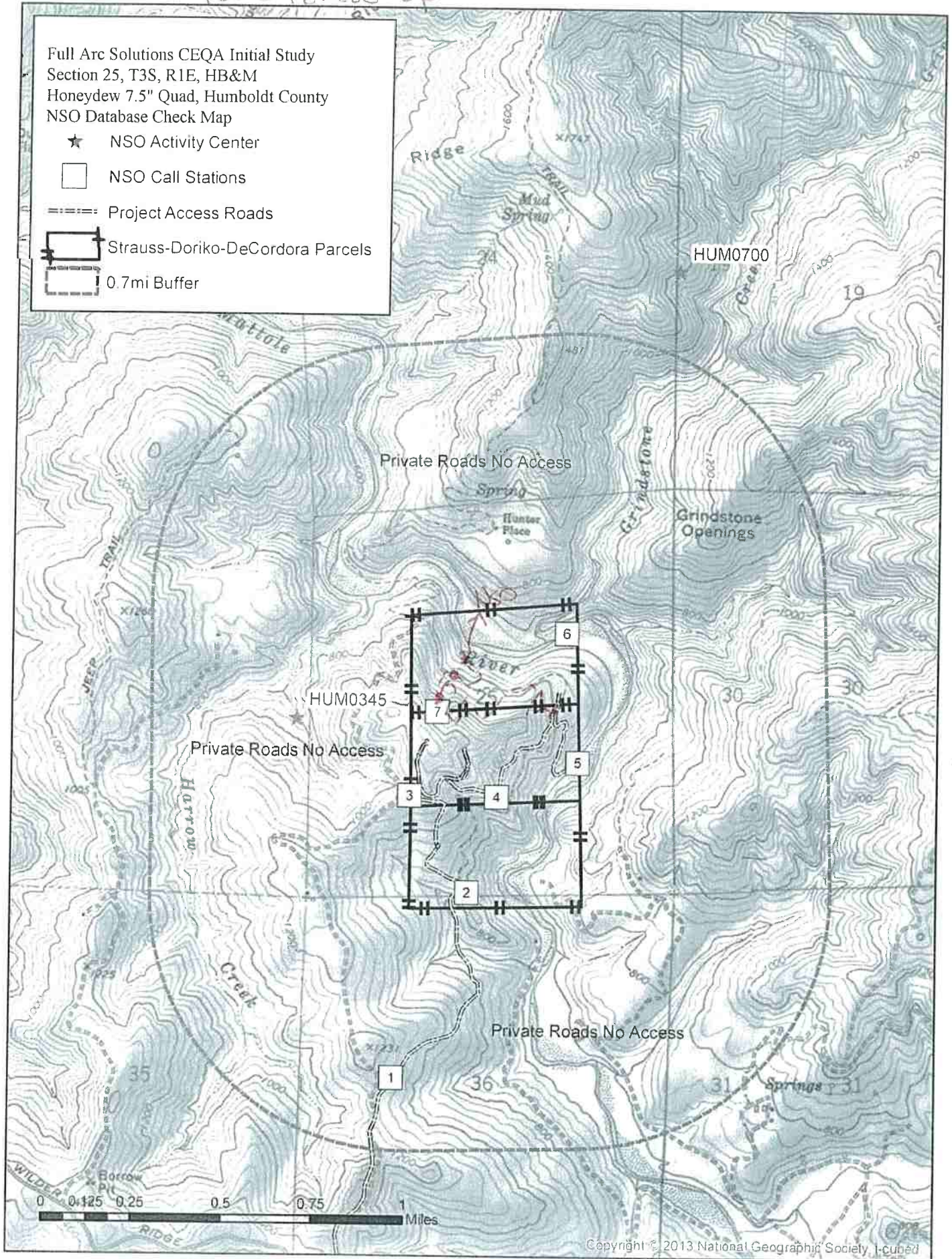
★ NSO Activity Center

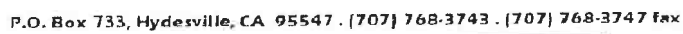
□ NSO Call Stations

==== Project Access Roads

▣ Strauss-Doriko-DeCordora Parcels

⬢ 0.7mi Buffer





Northern Spotted Owl Survey Sheet

Call #: 6

Date: 7/31/18

Location: S-Honeydew

Harvest Plan: Strauss-Doriko ^{CEQA} Surv

Surveyor: Travis Broadbent

[illegible]

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

Call #: Follow-up

Date: 8/1/13 Location: Honeydew Harvest Plan: Strauss-Doriko Surveyor: Grace Sanderson

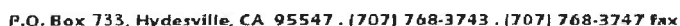
Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
3/7	7:40	8:45	Ø	-	-	-	Ø	0-2	started by station 3
			heard 1 N towards 7. There was a detector						
			going ~ 0.175 mi N of station 2. kept packing around						
			periodically stopping waiting, heard no response						
7	8:45	8:55	Ø	-	-	-	Ø	1	loud crickets
6	9:06	9:19	1	M	>300ft	-	Ø	1	frogs, a bat nearby, heard 4
									barred calls. The 1st was single
									faint. The rest of response was
									N-NW of station. Hard to tell if
									1 or 2 individuals.
5	9:39	9:49	Ø	-	-	-	Ø	1	water nearby frogs
4	9:53	10:05	1?	M?	~200ft(W)	-	Ø	Ø	dogs hearing last 2 notes of
									4 note call but not full call
3	10:11	10:21				-	Ø	Ø	ATV passed, light traffic
2	10:38	10:48	Ø	-	-	-	Ø	1	dogs
1	10:53	11:03	Ø	-	-	-	Ø	1	dogs

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

*heard a barred owl call while packing up the ATV in the CAR gps area, sounded SE of me, heard around 10:30pm
"who-cooks-for-you who-cooks-for-you" all



Northern Spotted Owl Survey Sheet

Date: 9 Aug 18

Location: Honeydew

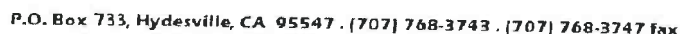
Harvest Plan: *Styanss - Doriko*

Surveyor: Travis Braubert

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



Northern Spotted Owl Survey Sheet

Call #: 601146 201 Survey

Date: 9/12/18 Location: Honeydew Harvest Plan: Strauss-Doriko Surveyor: Grace Sanderson

[illegible]

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)



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Northern Spotted Owl Survey Sheet

Call #: 8

Date: 8/23/18 Location: Honeydew Harvest Plan: Strauss-Dorika Surveyor: Grace Sanderson

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
1	8:50	9:08	0	-	-	-	0	0	few dogs, light traffic
2	9:15	9:25	0	-	-	-	0	1	people talking/laughing nearby dogs
3	9:50	10:02	0	-	-	-	0	0	dogs, screech owls
4	10:03	10:13	0	-	-	-	0	0	generator left on.
5	10:16	10:26	0	-	-	-	0	0	water running, screech owls,
6	10:32	10:42	0	-	-	-	0	0	stripped skunk passed by
7	10:51	11:01	0	-	-	-	0	0	dogs

Response Index

0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation

0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind

0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

II. Definitions

This section defines several terms used in the analysis of take avoidance of the NSO within the coast redwood ecotype of the Coast District (additional terms are defined within the protocol guidance documents, referenced above):

Activity Center (AC): Area of concentrated activity of either a pair of NSO or a single territorial NSO, represented by a mapped location (e.g., usually a nest tree) that occurs within, but not necessarily in the exact center of, the "Core Area," defined below.²

Core Area: 100 acres of the 200 acres of Nesting/Roosting habitat retained within a 0.7 mile radius contiguous with the Activity Center. If 100 acres of contiguous Nesting/Roosting is not available, then the highest quality habitat available shall be included.

Foraging Habitat: Habitat that contains $\geq 40\%$ canopy cover of trees that are $\geq 11"$ DBH (diameter at breast height), and have a basal area ≥ 75 square feet per acre of trees $\geq 11"$ DBH. Trees may be conifer or hardwood.

Nesting/Roosting Habitat: Forested habitat that supports successful nesting and associated roosting behavior by NSO. Habitat with $\geq 60\%$ canopy cover of trees that are $\geq 11"$ DBH, and have a basal area ≥ 100 square feet per acre of trees $\geq 11"$ DBH. Trees may be conifer or hardwood.

Nesting/Roosting Polygon: All Nesting/Roosting habitat which is contiguous with an NSO Activity Center.

NSO Breeding Season: Defined as February 1 to July 31 within the coast redwood ecotype found in the Coast District of California.

NSO Home Range: Defined as a 0.7 mile radius circle centered on the Activity Center for the coast redwood ecotype found in the Coast District.

Suitable or Functional Habitat: Habitat that meets either Nesting/Roosting or Foraging definitions, or a combination of Nesting/Roosting and Foraging habitat.

Survey Area: All Suitable/Functional NSO habitat within 0.7 mile from the project boundaries; or for disturbance only activities, a 0.25 mile area outside the edge of the project should be surveyed.

Survey-Start Date: In the coast redwood ecotype, Coast District, NSO Surveys should start on or after March 1.

² NSOs have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range (Rosenberg and McKelvey 1999).

Attachment B. Botanical Survey Report



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Botanical Survey Report Full Arc Solutions Cultivation Permitting CEQA Project

Prepared by
Kelsey McDonald
8/22/2018

For
Hohman and Associates
Hydesville, CA

Signature: _____

Kelsey McDonald

Date: 8/24/18

Setting

The Full Arc Solutions Cannabis Cultivation Permitting Project is located in Section 25, Township 3 South, Range 1 East HB&M; Humboldt County, on the Honeydew USGS 7.5' quadrangle. The biogeographic region can be described using a three-tiered hierarchy of province, region and sub-region. This site lies within the California Floristic Province, Northwestern California region, and North Coast sub-region. The Mattole River runs through the properties. The elevation ranges from 600 to 1280 feet. The area is primarily mixed coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*). The area includes three parcels totaling approximately 240 acres. Slopes on the property are gentle to moderate, and the aspect is primarily east-facing.

Methods

Kelsey McDonald conducted the botanical surveys for the Full Arc Solutions project on March 28, 2018 and June 18, 2018. Kelsey holds a M.S. in Natural Resources with a concentration in Environmental Science from Humboldt State University. Kelsey has taken relevant courses including plant taxonomy, field botany, and plant biology, and she wrote her thesis on the seed dispersal of invasive cordgrass *Spartina densiflora* in Humboldt Bay. She has 5 years of botany experience in Northern California.

The surveys were floristic in nature and seasonally appropriate, with an initial survey conducted during the spring to catch early-blooming species and a follow-up survey during the summer for later-blooming species. Approximately 7.5 field hours were spent on surveys. Surveys included systematic assessment of all potential habitats in the area based on maps, aerial photos, and visible environmental features such as canopy cover, slope, soil texture, aspect, hydrologic features, and associated vegetation. This survey protocol is based on the Protocol for Surveying and Evaluating Impacts to Special Status native Plant Populations and Natural Communities (CDFW 2018). A list of potential rare plants on CNPS lists 1 and 2 found within the 9-quadrangle area as listed in CDFW BIOS and CNPS Inventory of Rare and Endangered Plants is available in Attachment A. Attachment B provides details on potential rare plants. Attachment C contains habitat photos. Attachment D lists all plants identified from botanical surveys. Attachment E contains a map of the botanical survey routes. Attachment F contains rare plant rank definitions.

Results and Mitigation

No protected rare or endangered plants (CNPS List 1 or 2) were detected at the Full Arc Solutions Project. The surrounding area is primarily composed of mixed coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*) (G5 S4) with tanoak (*Notholithocarpus densiflorus*), canyon live oak (*Quercus chrysolepis*), and California bay laurel (*Umbellularia californica*) (Figure 2).

Limited distribution Methuselah's beard lichen (*Usnea longissima*, CNPS 4.2) and hoary gooseberry (*Ribes roezlii* var. *amictum*, CNPS 4.3) occurred at the forest edge near cultivation areas and roads. Methuselah's beard lichen was observed hanging from trees along the road on the western end of the southern parcel along the edge of an SMA (Figure 1). The lichen appeared

to be thriving in large trees on the edge of riparian habitat. It is recommended that the project observes all SMA buffers to avoid impacts to riparian habitat as well as sensitive species like *Usnea longissima*. Hoary gooseberry occurred in upland forest edge habitats throughout the properties, and the project is not likely to impact the population.

Surveys appeared to be timed appropriately for the blooming season at this location. All cultivation areas and appurtenant roads were surveyed, and false negative surveys are unlikely. No additional surveys are necessary, and no additional mitigation methods are recommended.

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Attachment A: List of Potentially Occurring Sensitive Plant Species Honeydew 9-Quad Area

Scientific Name	Common Name	FESA	CESA	CRPR	Blooming Period	Habitat
<i>Castilleja litoralis</i>	Oregon coast paintbrush	None	None	2B.2	Jun	Unlikely
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	None	None	1B.1	Jun-Aug	Unlikely
<i>Erythronium oregonum</i>	giant fawn lily	None	None	2B.2	Mar-Jun(Jul)	Potential
<i>Erythronium revolutum</i>	coast fawn lily	None	None	2B.2	Mar-Jul(Aug)	Potential
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	None	None	1B.2	Apr-Aug	Potential
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	None	None	1B.2	Jan-Nov	Unlikely
<i>Lathyrus palustris</i>	marsh pea	None	None	2B.2	Mar-Aug	Potential
<i>Montia howellii</i>	Howell's montia	None	None	2B.2	(Feb)Mar-May	Potential
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	None	None	2B.2	(Jan-Apr)May-Jul(Aug)	Potential
<i>Piperia candida</i>	white-flowered rein orchid	None	None	1B.2	(Mar)May-Sep	Potential

Attachment A: Potential Rare Plant Details

1. Oregon coast paintbrush (*Castilleja littoralis*)

Status: CNPS List 2B.2, fairly endangered in CA. No state or federal listing. State rank S3, Global rank G3.

Family: Orobanchaceae

Flowering: June

Habitat: Coastal bluff scrub, Coastal dunes, Coastal scrub, sandy soils

Status within Area: Scrub habitat with sandy soils may occur near the Mattole River.

2. Whitney's farewell-to-spring (*Clarkia amoena* spp. *whitneyi*)

Status: CNPS List 1, seriously endangered in CA. No state or federal listing. State rank S1, Global rank G5T1.

Family: Onagraceae

Flowering: June - August

Habitat: Coastal bluff scrub, Coastal scrub

Status within Area: Potential habitat is highly unlikely, but CalFlora records indicate that the plant can occur in more inland habitats as well as on the coast, and the Mattole may provide suitable scrub habitat.

3. Giant fawn lily (*Erythronium oregonum*)

Status: CNPS List 2, fairly endangered in CA. No state or federal listing. State Rank S2, Global Rank G5.

Family: Liliaceae

Flowering: March - July

Habitat: sometimes serpentinite, rocky, openings, Cismontane woodland, Meadows and seeps.

Status within Area: Potential habitat might exist in the area in woodlands or openings in the forest.

4. Coast fawn lily (*Erythronium revolutum*)

Status: CNPS List 2, fairly endangered in CA. No state or federal listing. State Rank S3, Global Rank G4.

Family: Liliaceae

Flowering: March - August

Habitat: Mesic, streambanks, Bogs and fens, Broadleafed upland forest, North Coast coniferous forest

Status within Area: Potential habitat exists in the in forested and wet areas.

5. Pacific gilia (*Gilia capitata* ssp. *pacifica*)

Status: CNPS List 1, fairly endangered in CA. No state or federal listing. State Rank S2, Global Rank G5T3T4.

Family: Polemoniaceae

Flowering: April - August

Habitat: Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland

Status within Area: Potential habitat might be found in the area in grassy openings.

6. Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)

Status: CNPS List 1, fairly endangered in CA. No state or federal listing. State Rank S2, Global Rank G3T2.

Family: Asteraceae

Flowering: January-November

Habitat: Coastal bluff scrub, Coastal dunes, Coastal scrub

Status within Area: Scrub habitat with sandy soils may occur near the Mattole River.

7. Marsh pea (*Lathyrus palustris*)

Status: CNPS List 2, fairly endangered in CA. Not federally or state listed. State rank S2, Global rank G5.

Family: Fabaceae

Flowering: March - August

Habitat: mesic. Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest

Status within Area: Potential habitat exists in mesic areas.

8. Howell's montia (*Montia howellii*)

Status: CNPS List 2, fairly endangered in CA. No state or federal listing. State Rank S3, Global Rank G3G4.

Family: Montiaceae

Flowering: February - May

Habitat: vernally mesic, sometimes roadsides, Meadows and seeps, North Coast coniferous forest, Vernal pools.

Status within Area: Potential habitat exists in the in forested area and roadsides.

9. Seacoast ragwort (*Packera bolanderi* var. *bolanderi*)

Status: CNPS List 2B.2, fairly endangered in CA. No state or federal listing. State Rank S2S3, Global Rank G4T4.

Family: Asteraceae

Flowering: January - August according to CNPS; April - May according to CalFlora.

Habitat: Sometimes roadsides, Coastal scrub, North Coast coniferous forest

Status within Area: Potential habitat exists in coastal scrub, within the forested area and along roadsides.

10. White-flowered rein orchid (*Piperia candida*)

Status: CNPS List 1, fairly endangered in CA. No state or federal listing. State Rank S3, Global Rank G3.

Family: Orchidaceae

Flowering: March - September

Habitat: Sometimes serpentine, Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest

Status within Area: Potential habitat exists within the forested area.

Attachment C. Habitat Photos



Figure 1. Methuselah's beard lichen (*Usnea longissima*, 4.2) is hanging in the Douglas fir leaning toward the road.



Figure 2. The area around the cultivation sites was primarily Douglas fir (*Pseudotsuga menziesii*) forest with tanoak (*Notholithocarpus densiflorus*) and many other hardwoods such as California bay laurel (*Umbellularia californica*), canyon live oak (*Quercus chrysolepis*) and madrone (*Arbutus menziesii*).



Figure 3. The Mattole River runs through the properties.

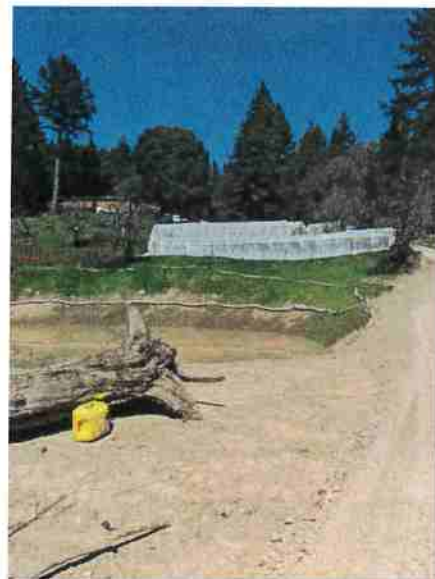


Figure 4. The southern cultivation site also contained a water storage pond.



Figure 5. The northern cultivation site looking east.



Figure 6. The central water storage pond.

Attachment D. Plant Species Observed

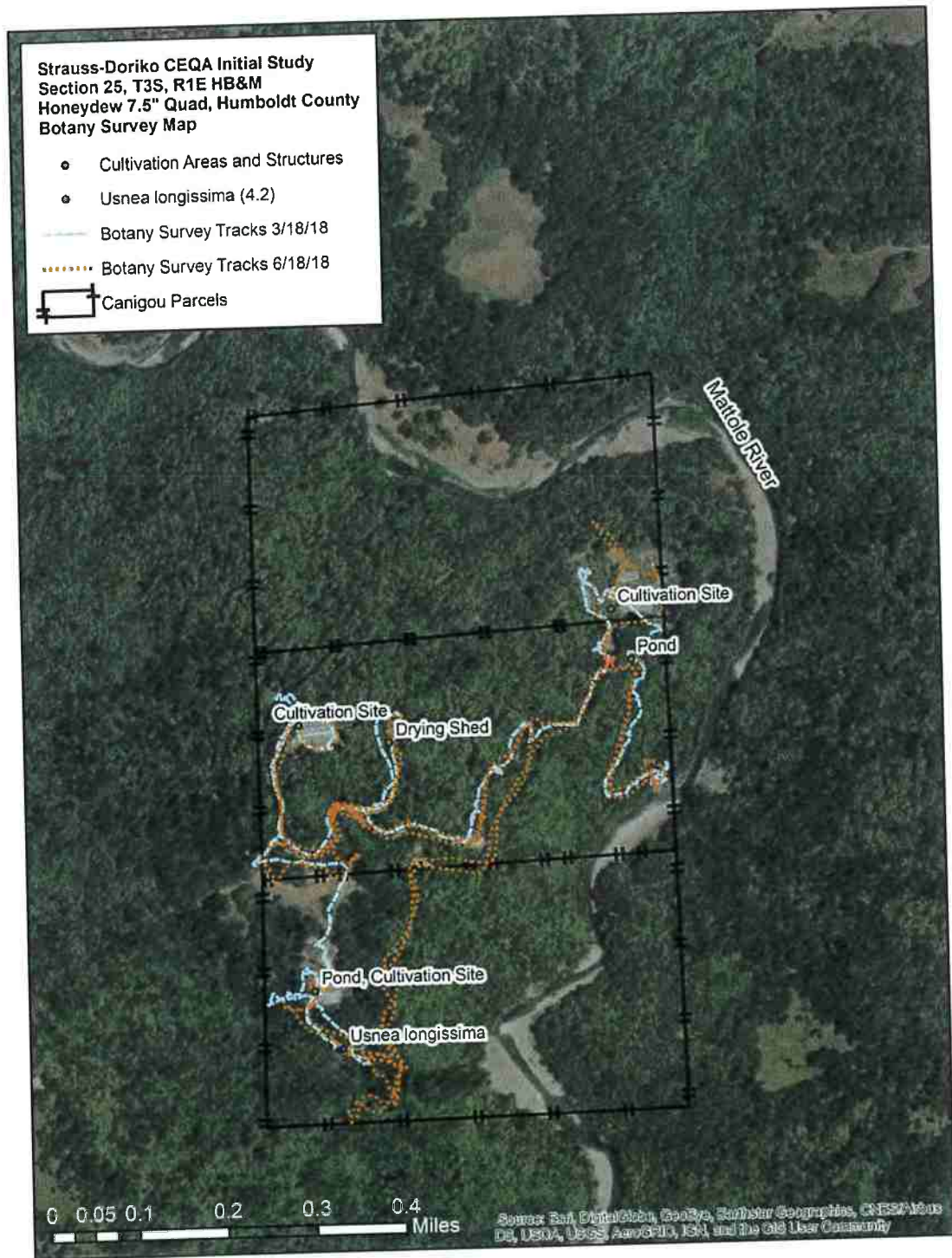
	Species	Common name	Family	Date
Trees	Acer macrophyllum	bigleaf maple	Sapindaceae	3/28/2018
	Alnus rubra	red alder	Betulaceae	3/28/2018
	Arbutus menziesii	madrone	Ericaceae	3/28/2018
	Fraxinus latifolia	Oregon ash	Oleaceae	6/18/2018
	Notholithocarpus densiflorus	tanoak	Fagaceae	3/28/2018
	Pseudotsuga menziesii	Douglas fir	Pinaceae	3/28/2018
	Quercus chrysolepis	canyon live oak	Fagaceae	3/28/2018
	Quercus garryana	Oregon white oak	Fagaceae	3/28/2018
	Quercus kelloggii	black oak	Fagaceae	3/28/2018
	Salix lasiolepis	arroyo willow	Salicaceae	3/28/2018
	Sequoia sempervirens	coast redwood	Cupressaceae	3/28/2018
	Umbellularia californica	California bay	Lauraceae	3/28/2018
Shrubs	Arctostaphylos manzanita	whiteleaf manzanita	Ericaceae	3/28/2018
	Baccharis pilularis	coyote brush	Asteraceae	3/28/2018
	Ceanothis incanus	coast whitethorn	Rhamnaceae	3/28/2018
	Cytisus scoparius	Scotch broom	Fabaceae	3/28/2018
	Genista monspessulana	French broom	Fabaceae	3/28/2018
	Heteromeles arbutifolia	toyon	Rosaceae	3/28/2018
	Holodiscus discolor	oceanspray	Rosaceae	3/28/2018
	Lonicera hispidula	pink honeysuckle	Caprifoliaceae	3/28/2018
	Ribes menziesii	canyon gooseberry	Grossulariaceae	6/18/2018
	Ribes roezlii var. amictum	hoary gooseberry (4.3)	Grossulariaceae	3/28/2018
	Rosa gymnocarpa	dwarf wood rose	Rosaceae	3/28/2018
	Rubus armeniacus	Himalayan blackberry	Rosaceae	3/28/2018
	Rubus leucodermis	whitestem raspberry	Rosaceae	3/28/2018
	Toxicodendron diversilobum	poison oak	Anacardiaceae	6/18/2018
	Vaccinium ovatum	evergreen huckleberry	Ericaceae	3/28/2018
Herbaceous Layer	Achillea millefolium	yarrow	Asteraceae	3/28/2018
	Acmispon americanus	American bird's foot trefoil	Fabaceae	3/28/2018
	Anisocarpus madioides	woodland madia	Asteraceae	3/28/2018
	Anthoxanthum odoratum	sweet vernal grass	Poaceae	6/18/2018
	Anthriscus caucalis	bur chervil	Apiaceae	3/28/2018
	Aquilegia formosa	crimson columbine	Ranunculaceae	6/18/2018
	Artemisia douglasiana	California mugwort	Asteraceae	3/28/2018
	Avena fatua	wild oat	Poaceae	6/18/2018

Briza maxima	rattlesnake grass	Poaceae	6/18/2018
Briza minima	little quaking grass	Poaceae	6/18/2018
Brodiaea elegans	harvest brodiaea	Themidaceae	6/18/2018
Bromus diandrus	ripgut brome	Poaceae	6/18/2018
Bromus hordeaceus	soft brome	Poaceae	3/28/2018
Cardamine oligosperma	bittercress	Brassicaceae	3/28/2018
Carduus pycnocephalus	Italian thistle	Asteraceae	6/18/2018
Carex nudata	torrent sedge	Cyperaceae	6/18/2018
Carex cf. subfusca	pale broom sedge	Cyperaceae	6/18/2018
Cerastium glomeratum	large mouse ears	Caryophyllaceae	3/28/2018
Chlorogalum pomeridianum	purple soaproot	Liliaceae	3/28/2018
Cirsium vulgare	bull thistle	Asteraceae	3/28/2018
Claytonia parviflora	narrow leaved claytonia	Montiaceae	3/28/2018
Claytonia perfoliata	miner's lettuce	Montiaceae	3/28/2018
Clinopodium douglasii	yerba buena	Lamiaceae	3/28/2018
Collomia heterophylla	variable leaved collomia	Polemoniaceae	6/18/2018
Cynosurus echinatus	hedgehog dogtail grass	Poaceae	3/28/2018
Cyperus eragrostis	tall cyperus	Cyperaceae	3/28/2018
Dactylis glomerata	orchardgrass	Poaceae	6/18/2018
Digitalis purpurea	purple foxglove	Plantaginaceae	6/18/2018
Dryopteris arguta	coastal woodfern	Dryopteridaceae	3/28/2018
Equisetum laevigatum	smooth scouring rush	Equisetaceae	3/28/2018
Eremocarpos setiger	turkey mullein	Euphorbiaceae	6/23/2018
Erodium cicutarium	coastal heron's bill	Geraniaceae	3/28/2018
Erythranthe dentata	tooth-leaved monkeyflower	Phrymaceae	6/18/2018
Euchiton gymnocephalus	creeping cudweed	Asteraceae	3/28/2018
Festuca arundinacea	tall fescue	Poaceae	6/18/2018
Festuca californica	California fescue	Poaceae	3/28/2018
Festuca perennis	perennial fescue	Poaceae	6/18/2018
Fragaria vesca	woodland strawberry	Rosaceae	3/28/2018
Galium aparine	common bedstraw	Rubiaceae	3/28/2018
Gamochaeta ustulata	featherweed	Asteraceae	3/28/2018
Geranium dissectum	cutleaved geranium	Geraniaceae	3/28/2018
Geranium sp.			3/28/2018
Helenium puberulum	sneezeweed	Asteraceae	6/18/2018
Heuchera micrantha	alumroot	Saxifragaceae	6/18/2018
Hieracium albiflorum	white flowered hawkweed	Asteraceae	3/28/2018
Holcus lanatus	velvetgrass	Poaceae	6/18/2018

Hordeum vulgare	barley	Poaceae	6/18/2018
Hypericum perforatum	klamathweed	Hypericaceae	6/18/2018
Hypochaeris radicata	hairy cat's ear	Asteraceae	3/28/2018
Iris douglasiana	Douglas iris	Iridaceae	3/28/2018
Iris purdyi	Purdy's iris	Iridaceae	6/18/2018
Juncus bufonius	toad rush	Juncaceae	6/19/2018
Juncus effusus	common rush	Juncaceae	3/28/2018
Juncus patens	spreading rush	Juncaceae	3/28/2018
Lactuca serriola	prickly lettuce	Asteraceae	6/20/2018
Lathyrus vestitus	common Pacific pea	Fabaceae	3/28/2018
Lupinus bicolor	miniature lupine	Fabaceae	6/18/2018
Luzula comosa	hairy wood rush	Juncaceae	3/28/2018
Lysimachia latifolia	starflower	Myrsinaceae	6/22/2018
Madia gracilis	gumweed	Asteraceae	6/18/2018
Marah oregana	coast manroot	Cucurbitaceae	6/18/2018
Mentha pulegium	pennyroyal	Lamiaceae	3/28/2018
Montia fontana	water montia	Montiaceae	3/28/2018
Navarretia squarrosa	skunkweed	Polemoniaceae	6/18/2018
Nemophila parviflora	small flowered nemophila	Boraginaceae	3/28/2018
Oenanthe sarmentosa	Pacific water parsley	Apiaceae	3/28/2018
Pentagramma triangularis	goldback fern	Pteridaceae	3/28/2018
Phacelia bolanderi	redwood phacelia	Boraginaceae	3/28/2018
Plantago lanceolata	English plantain	Plantaginaceae	3/28/2018
Polygala californica	California milkwort	Polygalaceae	6/18/2018
Polypodium glycyrrhiza	licorice fern	Polypodiaceae	3/28/2018
Polystichum munitum	western swordfern	Dryopteridaceae	3/28/2018
Prunella vulgaris	self heal	Lamiaceae	3/28/2018
Pseudognaphalium californicum	ladies' tobacco	Asteraceae	6/18/2018
Pteridium aquilinum	western brackenfern	Dennstaedtiaceae	3/28/2018
Rumex acetosella	sheep sorrel	Polygonaceae	3/28/2018
Rumex crispus	curly dock	Polygonaceae	3/28/2018
Sanicula crassicaulis	Pacific sanicle	Apiaceae	3/28/2018
Senecio glomeratus	cutleaf burnweed	Asteraceae	6/18/2018
Senecio minimus	coastal burnweed	Asteraceae	3/28/2018
Silybum marianum	blessed milk thistle	Asteraceae	3/28/2018
Sonchus asper	spiny sow thistle	Asteraceae	3/28/2018
Spergularia rubra	red sand spurry	Caryophyllaceae	6/21/2018
Stachys ajugoides	Ajuga hedgenettle	Lamiaceae	3/28/2018

Stellaria media	chickweed	Caryophyllaceae	3/28/2018
Torilis arvensis	tall sock destroyer	Apiaceae	6/18/2018
Trifolium arvense	rabbitfoot clover	Fabaceae	6/18/2018
Trifolium hirtum	rose clover	Fabaceae	6/18/2018
Triteleia laxa	Ithuriel's spear	Themidaceae	6/18/2018
Typha sp.	cattails	Typhaceae	3/28/2018
Usnea longissima	Methuselah's beard lichen (4.2)	Parmeliaceae	6/18/2018
Vicia sativa	garden vetch	Fabaceae	6/18/2018
Viola ocellata	two eyed violet	Violaceae	3/28/2018
Whipplea modesta	whipplea	Rosaceae	3/28/2018
Woodwardia fimbriata	western chain fern	Blechnaceae	3/28/2018

Attachment E. Survey Map



Rank Definitions

Global Conservation Status Definition

Listed below are definitions for interpreting NatureServe global (range-wide) conservation status ranks. These ranks are assigned by NatureServe scientists or by a designated lead office in the NatureServe network.

- G1** **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2** **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
- G3** **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
- G4** **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5** **Secure** – Common; widespread and abundant.
- G#G#** **Range Rank** – A numeric range rank (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Intraspecific Taxon Conservation Status Ranks

- T#** **Intraspecific Taxon** (trinominal) – The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species. For example, a G1T2 subrank should not occur. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an intraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon’s informal taxonomic status.

Subnational (S) Conservation Status Ranks

- S1** **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2** **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3** **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4** **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5** **Secure** – Common, widespread, and abundant in the jurisdiction.
- S#S#** **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).

Rank Qualifiers

- ?** **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status
- Q** **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The “Q” modifier is only used at a global level and not at a national or subnational level.

The California Rare Plant Ranks

- 1A. Presumed extirpated in California and either rare or extinct elsewhere
- 1B. Rare or Endangered in California and elsewhere
- 2A. Presumed extirpated in California, but more common elsewhere
- 2B. Rare or Endangered in California, but more common elsewhere
3. Plants for which we need more information – Review list
4. Plants of limited distribution – Watch list

1A: Plants Presumed Extirpated in California and either rare or extinct elsewhere

The plants of Rank 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes those plant taxa that are both presumed extinct, as well as those plants which are presumed extirpated in California and rare elsewhere. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

1B: Plants Rare, Threatened or Endangered in California and Elsewhere (Includes Rare Plant Ranks 1B.1, 1B.2, 1B.3)

The plants of Rank 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the majority of plant taxa tracked by the CNDDB, with more than 1,000 plants assigned to this category of rarity.

2A: Plants Presumed Extirpated in California, but more common elsewhere

The plants of Rank 2A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes only those plant taxa that are presumed extirpated in California, but that are more common elsewhere in their range. Note: Plants of both Rank 1A and 2A are presumed extirpated in California; the only difference is the status of the plants outside of the state.

**2B: Plants Rare, Threatened or Endangered in California, but More Common Elsewhere
(Includes Rare Plant Ranks 2B.1, 2B.2 2B.3)**

The plants of Rank 2B are rare, threatened or endangered in California, but more common elsewhere. Plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act; however they are eligible for consideration under the California Endangered Species Act. This rank is meant to highlight the importance of protecting the geographic range and genetic diversity of more widespread species by protecting those species whose ranges just extend into California. Note: Plants of both Rank 1B and 2B are rare, threatened or endangered in California; the only difference is the status of the plants outside of the state.

Threat Ranks:

The California Rare Plant Ranks (CRPR) use a decimal-style threat rank. The threat rank is an extension added onto the CRPR and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. So most CRPRs read as 1B.1, 1B.2, 1B. 3, etc. Note that some Rank 3 plants do not have a threat code extension since there are no known extant populations of the plants in California.

Threat Code extensions and their meanings:

- .1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
- .3 – Not very threatened in California (<20% of occurrences threatened / low degree of immediacy of threat or no current threats known)

