T-2 SYCUAN BAND

Comment Letter T-2

THE LAW OFFICE OF

Cynthia L. Eldred, APC

4303 Altamirano Way San Diego, California 92103 Telephone: 619.233.7366

> Cynthia L. Eldred, Esq. President cindy@eldredlaw.com Direct: 619.233.7388 Cell: 619.277.7388

VIA ELECTRONIC MAIL ONLY

April 16, 2018

Thomas A. May, Esq. Of Counsel tom@eldredlaw.com Cell: 619.843.2345

Planning & Development Services Director Mark Wardlaw County of San Diego 5510 Overland Avenue, Suite 310 San Diego, CA 92123

Re: Otay Ranch Village 14 and Planning Areas 16 & 19 (the "Proposed Project")
Draft Environmental Impact Report, Log No. PDS2016-ER-16-19-006, SCH No. 2016121042 (the "DEIR")

Dear Director Wardlaw:

We represent the Sycuan Band of the Kumeyaay Nation (the "Sycuan Band") in providing these preliminary comments on the DEIR. The DEIR contains close to 28,000 pages and was released for public review on March 1, 2018.

On April 10, 2018, on behalf of the Sycuan Band, I requested a 30-day extension to the County's 45-day review period for the DEIR. I received your denial of the request on the afternoon of April 13th.

The 45-day comment period is not adequate time in which to review, analyze, and reach conclusion on 28,000 pages. In addition, during the DEIR review period, a Tribal Elder passed and the offices of the Sycuan Band were closed for more than one week. As a result, the comments presented here are preliminary and the Sycuan Band expects to enter additional comments into the official record of the proceedings for the Proposed Project should it progress through public hearings.

T-2-1

The Kumeyaay Nation territory extends 75 miles both north and south of the international border between the United States of America and Mexico. The territory north of the border lies where the counties of San Diego and Imperial have been superimposed by the non-Kumeyaay society. The Proposed Project is located within the Kumeyaay Nation territory. The Sycuan Band is one of 12 Kumeyaay Nation Bands existing today which are original to the Kumeyaay territory.

On April 6th the developer provided us with copies of County letters dated June 1, 2017 addressed to the Sycuan Band, inquiring whether the Sycuan Band desired AB-52 or SB-18 consultation. The Sycuan Band has searched its records and has no record of receipt of the letters.\(^1\) Further, neither SB18 nor AB52 replaces government-to-government consultation which has yet to begin on the Proposed Project.

The Sycuan Band received a copy of the cultural resources confidential appendices on April 11th. The appendices contain over 1,200 pages and the Sycuan Band is in the process of reviewing them. Without adequate review time, consultation, responses to the preliminary questions and comments that follow, and the additional subsurface evaluation for presence of cultural resources, the Sycuan Band cannot agree with the DEIR that the Proposed Project will not negatively impact cultural resources important to the Sycuan Band.

Without adequate time in which to review the confidential appendices, the Sycuan Band is nevertheless led to the conclusion that the appendices demonstrate significant impacts to cultural resources. A preliminary review of the two main reports in the appendices contain countless references to lithic debitage, chert, other tools, and artifacts. The appendices identify at least three milling stones or ranges. In at least three cases the reports contain wording to the effect that each site is in good condition and contains numerous artifacts that are worthy of significance testing. The confidential appendices provide facts that do not support

T-2-2

T-2-3

T-2-4

T-2-5

T-2-6

¹ It is also worth noting that despite our requests of County staff made as early as December 15, 2015 for copies of the Proposed Project's submittals to the County and the County's responses to the submittals as each were received or produced, neither the Sycuan Band nor I have been provided with the requested copies absent my periodic requests for updates on the Proposed Project. As a result of all this and the absence of receipt of notification under AB-52 and SB-18, we were surprised to learn earlier this year that the DEIR would be released for public review on March ^{1st}.

the discussion in the DEIR and its non-confidential appendix that culminate in the conclusion that the Proposed Project would not directly and/or indirectly significantly impact cultural resources. To the contrary, the facts presented in the confidential appendices identify numerous impacts, both direct and indirect, to culturally significant resources.

Even with the facts available in the confidential appendices, not enough is known about the values of cultural resources on the Proposed Project property. The DEIR acknowledges this on Page 2 of the "Phase I Cultural Resource Inventory Report for the Proctor Valley Project" stating: "The initial survey information included our projected importance levels for all sites. None of the sites have been previously subjected to detailed archaeological investigations or significance evaluations, so our preliminary assessment is based strictly upon the observation of surface manifestations of the sites and our anticipation of the potential for associated cultural deposits." The absence of visible cultural resources does not preclude their existence. Below-ground cultural resources may also be present without any manifestation on the surface. The Sycuan Band believes this land is highly likely to host important environmental and cultural resources. Further, the richness of the known cultural resources creates a high likelihood of human remains. Finally, the DEIR does not discuss impacts to certain plants, animals, habitats, and use areas that are also considered cultural resources by the Sycuan Band.

To ensure adequate resource protection, the Sycuan Band requests that a qualified Kumeyaay Cultural Monitor be present during any pedestrian surveys conducted by archeologists or biologists and during all ground disturbing activities. The Sycuan Band requests that the County provide the name and contact information for the proposed Kumeyaay Monitor for the Proposed Project. In addition, the Sycuan Band requests a copy of any archeological survey reports currently on file for the area or conducted as part of the Proposed Project's design and processing.

If development is planned in the immediate vicinity or adjacent areas of a known cultural resource(s), mitigation measures must be incorporated to reduce potential impacts. Avoidance is the preferred mitigation. When avoidance is not feasible, consideration must be given to creative and alternative strategies to avoid, minimize, or mitigate adverse effects to cultural resources. If potential impacts are not avoided, the Sycuan Band requests notice and consultation before development of the area proceeds and adverse impacts are proposed to be minimized or mitigated.

T-2-6 Cont. T-2-7 T-2-8 T-2-10 T-2-11 T-2-12 T-2-13

Should it be necessary to curate any archeological collections, including prehistoric and historic artifacts and associated records, the curation should occur within the traditional Kumeyaay Territory. Priority must be placed on locating curation in tribal facilities that provide professional, systematic, and accountable curatorial services on a long-term basis.

The Sycuan Band is concerned about the impacts that development of the Proposed Project would have on the natural, beautiful terrain of the Kumeyaay Nation. It is not clear from the DEIR that those impacts have been avoided wherever possible and minimized where not possible.

The Proposed Project relies heavily on the fact that Village 14 is one of 15 villages planned in 1993 as part of Otay Ranch. This reliance is misplaced. The physical environment that existed in 1993 in the region and specifically within the Otay Ranch project area no longer exists. The region and the area have been altered by development not in existence or planned in 1993. The region has also suffered through the wildfires of 1993, 2003, 2007, 2014, and 2017. The Harris fire of 2007 burned the parcels where the Proposed Project would build Village 14 and Planning Areas 16 and 19.

The development and wildfires have significantly impacted both plant and animal life. The traditional Kumeyaay were skilled hunters and innovative agriculturalists who achieved a sophisticated and scientific understanding of the plant and animal life, as well as the waters, of the Kumeyaay territory. The Sycuan Band is concerned about the further impacts of the Proposed Project on the already impacted plant and animal life, as well as on the Otay Lakes to the south of the Proposed Project.

Whereas the six previously built villages of Otay Ranch are located in the City of Chula Vista, an urbanized environment, Village 14 is located more than a quarter mile from Chula Vista. According to the DEIR, the Proposed Project would improve Proctor Valley Road, a partially paved, two-lane road, for a distance of almost three miles from the City of Chula Vista boundary, through one and one-half miles of City of San Diego Cornerstone Lands, through Village 14, and to Planning Areas 16 and 19. Wet and dry utility infrastructure would follow the same route.

T-2-15

T-2-16

T-2-17

T-2-18

T-2-19

The result would be leap-frog development that extends private development and public infrastructure through publicly owned lands intended for permanent conservation and lands intended to serve as protection for potable water resources critical to the continuing health of the region. For the most part, the DEIR considers the impacts of the footprint of the Proposed Project. The DEIR does not consider the impacts of the Proposed Project on adjacent lands.

The Sycuan Band values all plant and animal life on the lands of the Kumeyaay Nation and on lands beyond those. The Sycuan Band particularly values the spiritual nature of golden and bald eagles, and other birds of prey, such as the redtailed hawk. The golden and bald eagle and other birds of prey are a significant part of the cultural past, present, and, hopefully, future. Impacts to the golden and bald eagles and other birds of prey, such as the red-tailed hawk, are of particular cultural significance to the Kumeyaay people.

The DEIR erroneously concludes that there would be no impacts to nests because the events of the past years since 1993 have destroyed the main San Miguel Mountain nest site. The conclusion ignores the impact that would result to foraging habit for the golden eagle and other birds of prey with the development of 1,119 homes, an unidentified number of businesses, a fire station, a school, a public park, extensive trails, and extensive public infrastructure into 1,284 acres. The impact to foraging habitat would in turn adversely impact nests located within the Proposed Project's open space areas and to nests located off-site but within foraging areas.

The DEIR also erroneously concludes that the Proposed Project will not have a significant impact on the golden eagle and other birds of prey because the Proposed Project will conserve 776.8 acres of land within the Otay Ranch Resource Management Plan Preserve. This conservation meets the requirement of the 1993 planning documents that require that 1.188 acres of land be preserved for each one acre of land developed. The conservation of 776.8 acres of land goes no further than is required in existing planning documents, yet the conservation is deemed adequate for mitigation of the Proposed Project's impacts to the eagle and other birds of prey. The DEIR does not adequately consider the data provided in the U.S. Department of the Interior U.S. Geological Survey published in February 2016, enclosed with this letter. This letter is being transmitted electronically in five parts to accommodate the size of the enclosure.

T-2-20

T-2-21

T-2-22

T-2-23

T-1-24

T-2-25

T-2-26

T-2-27

T-2-28

Director Mark Wardlaw April 16, 2018 Page 6

According to the DEIR, the configuration of the Proposed Project is such that development of Planning Areas 16 and 19 require improvements to 0.75 miles of Proctor Valley Road from Village 14 to the two planning areas, and additional improvements to Proctor Valley Road beyond the two planning areas to State Route 94. The elimination of development in Planning Areas 16 and 19 would save 278 acres of high biological land from direct impacts and preserve continuity and contiguity of with State-owned lands already protected from development. The elimination of development in Planning Areas 16 and 19 would also avoid the significant impacts of grading and improving an extension of Proctor Valley Road beyond Village 14 to connect with State Route 94.

Although elimination of development in Planning Areas 16 and 19 would not avoid all impacts of the Proposed Project on sensitive biological resources such as the eagle, or on cultural resources, the elimination of that development would lessen those impacts. According to the DEIR, preservation of the high biological value land in these planning areas would preserve existing continuity and contiguity with well over 12,000 acres of already conserved open space. Without being able to support the Proposed Project at this time, the Sycuan Band expresses strong support for elimination of development in Planning Areas 16 and 19 and elimination of the extension of Proctor Valley Road beyond Village 14 to connect to State Route 94.

Thank you in advance for fully considering and addressing the preliminary comments and concerns of the Sycuan Band.

Sincerely,

El Lud

Cynthia L. Eldred, Esq.

THE LAW OFFICE OF CYNTHIA L. ELDRED, APC

Enclosure

c: (via electronic mail only)

Sycuan Band of the Kumeyaay Nation

Mr. Mark Slovick

Mr. Gregory Mattson

Mr. Rob Cameron

Mr. Chris Wahl



T-2-29 et seq.

Prepared for San Diego Association of Governments (SANDAG), California Department of Fish and Wildlife, Bureau of Land Management, and U.S. Fish and Wildlife Service

Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014—February 2016



U.S. Department of the Interior

U.S. Geological Survey

Cover: Photograph showing eagle (GOEA-SD-M001) taking flight after release on Otay Mountain, San Diego County, California. Photograph by Jeremy Sebes, U.S. Geological Survey, December 5, 2014.

Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014–February 2016

By Jeff A. Tracey, Melanie C. Madden,	Jeremy B. Sebes,	, Peter H. Bloom,	Todd E. Katzner, an	d
Robert N. Fisher				

Prepared for San Diego Association of Governments (SANDAG), California Department of Fish and Wildlife, Bureau of Land Management, and U.S. Fish and Wildlife Service

Data Series 994

U.S. Department of the Interior U.S. Geological Survey

U.S. Department of the Interior SALLY JEWELL, Secretary

U.S. Geological Survey Suzette M. Kimball, Director

U.S. Geological Survey, Reston, Virginia: 2016

For more information on the USGS—the Federal source for science about the Earth, its natural and living resources, natural hazards, and the environment—visit http://www.usgs.gov or call 1–888–ASK–USGS.

For an overview of USGS information products, including maps, imagery, and publications, visit http://www.usgs.gov/pubprod/.

Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty.

Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Although this information product, for the most part, is in the public domain, it also may contain copyrighted materials as noted in the text. Permission to reproduce copyrighted items must be secured from the copyright owner.

Suggested citation:

Tracey, J.A., Madden, M.C., Sebes, J.B., Bloom, P.H., Katzner, T.E., and Fisher, R.N., 2016, Biotelemetry data for golden eagles (*Aquila chrysaetos*) captured in coastal southern California, November 2014–February 2016; U.S. Geological Survey Data Series 994, 32 p., http://dx.doi.org/10.3133/ds994.

ISSN 2327-638X (online)

iii

Contents

bstract	t	1
ntroduc	stion	1
/lethods	s	1
Bio	otelemetry	1
Dat	ta Filtering	2
	netry Data for Captured	
	Golden Eagles	
	rledgments	
Referen	ces Cited	32
igur	es	
1.	Map showing golden eagle trapping locations, southern California	4
2.	Map showing location data for eagle GOEA-SD-F001 captured at Boulder Oaks, San Diego County, California, November 22, 2014	5
3.	Map showing location data for eagle GOEA-SD-F002 captured at Cedar Canyon,	
4.	San Diego County, California, November 28, 2014	
5.	San Diego County, California, December 5, 2014	7
	San Diego County, California, December 27, 2014	8
6.	San Diego, California, January 3, 2015	9
7.	Map showing location data for eagle GOEA-SD-F006 captured at Santa Ysabel, San Diego County, California, February 2, 2015	10
8.	Map showing location data for eagle GOEA-SD-F007 captured at Long Potrero, San Diego County, California, February 23, 2015	11
9.	Map showing location data for eagle GOEA-SD-F008 captured at Pamo Valley, San Diego County, California, March 14, 2015	
10.	Map showing location data for eagle GOEA-SD-F009 captured at Rancho Jamul Ecological Reserve, San Diego County, California, November 23, 2015	
11.	Map showing location data for eagle GOEA-RV-F010 captured at Santa Rosa Plateau, Riverside County, California, December 12, 2015	
12.	Map showing location data for eagle GOEA-SD-F011 captured at Proctor Valley, San Diego County, California, December 20, 2015	15
13.	Map showing location data for eagle GOEA-SD-F013 captured at Gregory Mountain, San Diego County, California, February 11, 2016	16
14.	Map showing location data for eagle GOEA-OC-F014 captured at Fremont Canyon, Orange County, California, February 12, 2016	17
15.	Map showing location data for eagle GOEA-OC-F015 captured at Fremont Canyon, Orange County, California, February 12, 2016	
16.	Map showing location data for eagle GOEA-SD-M001 captured at Cedar Canyon, San Diego County, California, December 5, 2014	

iv

Figures—Continued

17.	Map showing location data for eagle GOEA-SD-M002 captured at Marron Valley, San Diego County, California, January 8, 2015	21
18.	Map showing location data for eagle GOEA-SD-M003 captured at Rancho Canada, San Diego County, California, February 3, 2015	2
19.	Map showing location data for eagle GOEA-SD-M004 captured at Barrett Lake, San Diego County, California, February 7, 2015	2
20.	Map showing location data for eagle GOEA-SD-M005 captured at Long Potrero, San Diego County, California, February 23, 2015	23
21.	Map showing location data for eagle GOEA-SD-M006 captured at Barrett Lake, San Diego County, California, December 1, 2015	2
22.	Map showing location data for eagle GOEA-SD-M007 captured at Long Valley, San Diego County, California, December 9, 2015	2
23.	Map showing location data for eagle GOEA-RV-M008 captured at Santa Rosa Plateau, Riverside County, California, December 11, 2015	21
24.	Map showing location data for eagle GOEA-SD-M009 captured at Proctor Valley, San Diego County, California, December 13, 2015	2
25.	Map showing location data for eagle GOEA-SD-M010 captured at Proctor Valley, San Diego County, California, December 17, 2015	2
26.	Map showing location data for eagle GOEA-SD-M011 captured at Barrett Lake, San Diego County, California, December 21, 2015	29
27.	Map showing location data for eagle GOEA-OC-M012 captured at Brush Canyon, Orange County, California, December 27, 2015	31
28.	Map showing location data for all eagles since time of capture, southern California	3

Tables

Conversion Factors

International System of Units to Inch/Pound

Multiply	By To obtain		
kilometer (km)	0.6214	mile (mi)	
millimeter (mm)	0.03937	inch (in.)	
meter per second (m/s)	3.281	foot per second (ft/s)	

Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014–February 2016

By Jeff A. Tracey¹, Melanie C. Madden¹, Jeremy B. Sebes¹, Peter H. Bloom², Todd E. Katzner¹, and Robert N. Fisher¹

Abstract

The status of golden eagles (Aquila chrysaetos) in coastal southern California is unclear. To address this knowledge gap, the U.S. Geological Survey (USGS) in collaboration with local, State, and other Federal agencies began a multiyear survey and tracking program of golden eagles to address questions regarding habitat use, movement behavior, nest occupancy, genetic population structure, and human impacts on eagles. Golden eagle trapping and tracking efforts began in October 2014 and continued until early March 2015. During the first trapping season that focused on San Diego County, we captured 13 golden eagles (8 females and 5 males). During the second trapping season that began in November 2015, we focused on trapping sites in San Diego, Orange, and western Riverside Counties. By February 23, 2016, we captured an additional 14 golden eagles (7 females and 7 males). In this report, biotelemetry data were collected between November 22, 2014, and February 23, 2016. The location data for eagles ranged as far north as San Luis Obispo, California, and as far south as La Paz, Baja California, Mexico.

Introduction

Growing uncertainty about the status of golden eagles (Aquila chrysaetos) in southern California has highlighted the need for ecological information that will allow local managers to evaluate and mitigate the effects of human activities on this species (Scott, 1985; Harlow and Bloom, 1989). Populations of golden eagles in California are typically comprised of resident or migratory breeders, resident or migratory non-breeders (for example, adult floaters or subadults), and seasonal itinerants. A better understanding of the current distribution, status, foraging requirements, and population

¹U.S. Geological Survey.

²Bloom Biological, Inc.

characteristics of golden eagles can help to manage golden eagle habitat and threats/stressors to each nesting territory in coastal southern California. The U.S. Geological Survey (USGS) in collaboration with U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and the San Diego Management and Monitoring Program (SDMMP) began a multi-year survey and tracking program of golden eagles to address questions regarding habitat use, movement behavior, nest occupancy, genetic population structure, and human impacts on eagles. This report presents biotelemetry data associated with the capture of 26 golden eagles from November 22, 2014 through February 23, 2016.

Methods

Biotelemetry

Since October 2014, we have been trapping eagles at targeted sites across San Diego County, California. We began the second season of eagle trapping in November 2015, and included trapping sites in San Diego, Orange, and western Riverside Counties.

Once captured, each eagle was given an eagle ID for this study, a USGS Bird Banding Laboratory leg band (if it did not already have one), and a GPS transmitter that sends data over the mobile phone network (a GPS-GSM transmitter; Dunstan, 1972; Kenward, 1985; Lanzone and others, 2012). The eagle ID consists of a four-letter code for the species, a two-letter code for the county of capture, and an "F" or "M" followed by a numeral (with up to two leading zeros) to indicate the sex and capture order of the individual. For example, the first female eagle captured in San Diego County was given an eagle ID of GOEA-SD-F001. We use the county code OC for Orange County and RV for Riverside County.

2 Biotelemetry Data for Golden Eagles Captured in Coastal Southern California, November 2014–February 2016

Standard morphological measurements and samples were taken from each captured eagle. Measurements included (1) weight, (2) wingspan, (3) hallux and culmen, and (4) characteristics of the primary and secondary flight feathers. Samples included (1) blood samples for genetic and lead testing, (2) swabs of the eyes, mouth and cloaca for chlamydia testing by University of California, Davis, and (3) 2-4 feathers for lead, stable isotope, and genetic testing. For the health of the eagle, rapid processing and release took precedence over collecting measurements and samples. Thus, in some cases we did not collect weight measurements or take blood samples for field lead testing in favor of properly attaching the GPS-GSM unit and releasing the eagle in a timely manner. When time permitted, eagles were tested in the field for lead toxicity using a LeadCare® II testing unit. If lead testing results were greater than $60~\mu\text{L}/\text{dL}$, we planned to deliver the eagle to Scott Weldy DVM (Orange County Bird of Prey Center, Serrano Animal & Bird Hospital) for therapy. All samples were collected under Dr. Peter Bloom's scientific collecting permit (Bloom Biological, Inc.) and delivered to the appropriate parties (University of California, Davis Wildlife Health Center, Todd Katzner of USGS, and Andrew DeWoody of Purdue University; each of whom is permitted to receive samples). No samples were retained in California by USGS. Sex was determined based on body size, weight, and measurements of the hallux and culmen and will be confirmed genetically. Age was estimated based on molt patterns (Bloom and Clark, 2001).

Each captured eagle was fitted with a Cellular Tracking Technologies (CTT™) CTT™-1070a GPS-GSM telemetry unit (Dunstan, 1972; Kenward, 1985; Lanzone and others, 2012). The units were attached to the eagles using 11 mm natural tubular Teflon™ tape fed through the attachment holes on the GSP-GSM unit and around the wings to form a "backpack." The Teflon™ ribbon is non-abrasive and the standard method for attaching telemetry units to eagles. If the eagle had other markings or telemetry devices, other than a USGS Bird Banding Laboratory (BBL) leg band, we were directed by the BBL to remove them.

Data Filtering

Once data were downloaded from CTTTM servers, the data were formatted (for example, formatting dates and converting text strings with latitude and longitude data into numerical values) and merged with data from prior downloads when needed. We applied two filters to the records to eliminate potentially erroneous locations prior to merging the new data with prior data.

To pass the first filter, six conditions had to be satisfied:

- 1. Location had to be at least 2D,
- 2. Horizontal dilution of precision (HDOP) had to be less than or equal to 5,
- Vertical dilution of precision (VDOP), if available, had to be less than or equal to 5,
- Longitudes values had to be available and be on the interval [-180, 180] degrees,
- 5. Latitude values had to be available and be on the interval [-90, 90] degrees, and
- Fixes had to be at least 25 seconds apart (based on discussion with engineers at CTTTM).

The second filter depends on distance metrics. To pass the second filter, two conditions had to be satisfied:

- Location had to be within UTM zones 10, 11, or 12, and
- Rate of displacement had to be realistic (≤ 89.4 m/s horizontal or ≤ 20.0 m/s vertical).

Biotelemetry Data for Captured Golden Eagles

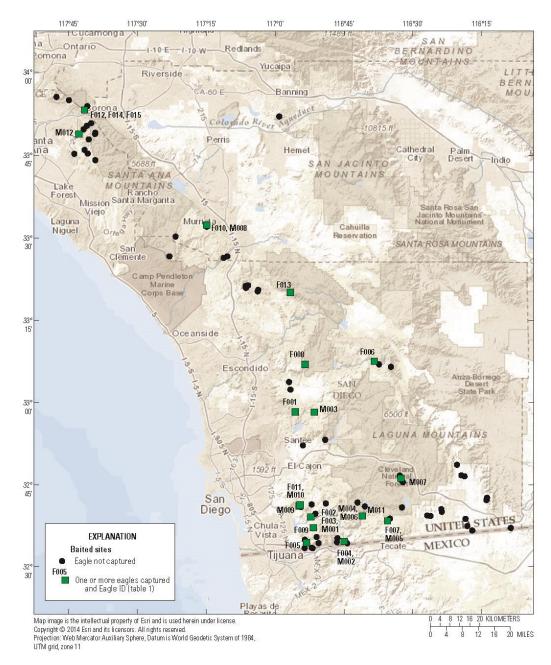
As of February 23, 2016, we captured 27 golden eagles at 16 trapping locations (table 1, fig. 1). Currently, we have 15 eagles with active transmitters, 5 eagles with transmitters of unknown status, 3 eagles with inactive transmitters, and 4 eagles known to have died. An active transmitter is one from which we have received a download within the past 10 days. A transmitter with unknown status is one from which we have received data 11 to 60 days ago, an inactive transmitter is one from which we have not received a download in more than 60 days, and a mortality indicates that we have recovered the eagle's remains. Location data for 26 of the 27 captured golden eagles with transmitters are shown in figures 2–27. The transmitter attached to golden eagle GOEA-OC-F012 malfunctioned and no data were received. Thus, there is not a location map for this golden eagle.

A view of the location data over the entire extent of the area used by the golden eagles is shown in figure 28. Note that a lack of eagle data for a particular area does not necessarily imply that it is not used by eagles we are not tracking.

Table 1. Summary of golden eagles captured in southern California, November 2014–February 2016. [Sex: F, female; M, male. Age: HY, hatch year; TY, third year; FY, fourth year; AFY, after fourth year; AFFY, after fifth year]

		Sex	Age	Status
GOEA-SD-F001 11-22-14	Boulder Oaks	F	AFY	Active
GOEA-SD-F002 11-28-14	Cedar Canyon	F	AFY	Active
GOEA-SD-F003 12-05-14	Cedar Canyon	F	AFY	Mortality
GOEA-SD-F004 12-27-14	Marron Valley	F	TY	Unknown
GOEA-SD-F005 01-03-15	O'Neal Canyon	F	AFY	Inactive
GOEA-SD-F006 02-02-15	Santa Ysabel	F	AFY	Inactive
GOEA-SD-F007 02-23-15	Long Potrero	F	AFFY	Active
GOEA-SD-F008 03-14-15	Pamo Valley	F	TY	Mortality
GOEA-SD-F009 11-23-15	Rancho Jamul Ecological Reserve	F	AFY	Mortality
GOEA-RV-F010 12-12-15	Santa Rosa Plateau	F	AFY	Active
GOEA-SD-F011 12-20-15	Proctor Valley	F	TY	Active
GOEA-OC-F0121 02-10-16	Fremont Canyon	F	AFFY	Unknown
GOEA-SD-F013 02-11-16	Gregory Mountain	F	AFFY	Active
GOEA-OC-F014 02-12-16	Fremont Canyon	F	AFFY	Active
GOEA-OC-F015 02-12-16	Fremont Canyon	F	AFFY	Active
GOEA-SD-M001 12-05-14	Cedar Canyon	M	AFY	Active
GOEA-SD-M002 01-08-15	Marron Valley	M	AFY	Unknown
GOEA-SD-M003 02-03-15	Rancho Canada	M	AFFY	Active
GOEA-SD-M004 02-07-15	Barrett Lake	M	AFFY	Inactive
GOEA-SD-M005 02-23-15	Long Potrero	M	AFFY	Active
GOEA-SD-M006 12-01-15	Barrett Lake	M	AFY	Unknown
GOEA-SD-M007 12-09-15	Long Valley	M	AFY	Active
GOEA-RV-M008 12-11-15	Santa Rosa Plateau	M	HY	Mortality
GOEA-SD-M009 12-13-15	Proctor Valley	M	TY	Unknown
GOEA-SD-M010 12-17-15	Proctor Valley	M	HY	Active
GOEA-SD-M011 12-21-15	Barrett Lake	M	AFY	Active
GOEA-OC-M012 12-27-15	Brush Canyon	M	FY	Active

 $^{^{1}}$ The transmitter attached to golden eagle GOEA-OC-F012 malfunctioned and no data were received. Thus, there is not a location map for this eagle.



4 Biotelemetry Data for Golden Eagles Captured in Coastal Southern California, November 2014–February 2016

Figure 1. Golden eagle trapping locations, southern California.

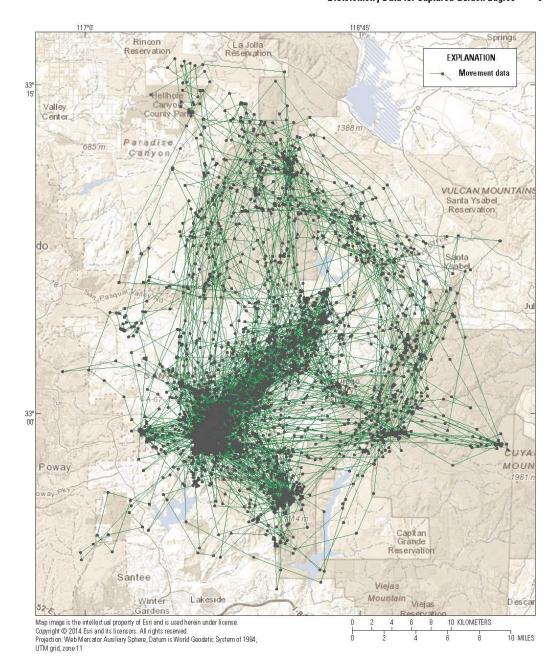


Figure 2. Location data for eagle GOEA-SD-F001 captured at Boulder Oaks, San Diego County, California, November 22, 2014.

EXPLANATION Movement data San Diego UNITED 2 4 6 8 10 KILOMETERS 2 4 6 8 10 MILES Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 8 10 MILES

Figure 3. Location data for eagle GOEA-SD-F002 captured at Cedar Canyon, San Diego County, California, November 28, 2014.

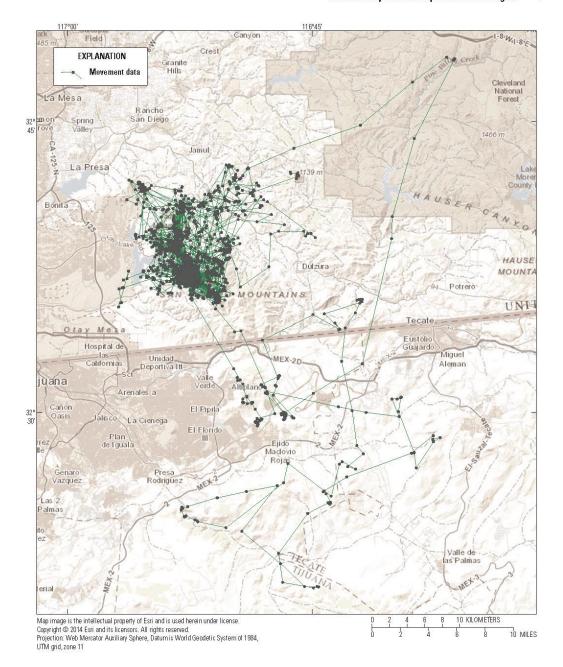


Figure 4. Location data for eagle GOEA-SD-F003 captured at Cedar Canyon, San Diego County, California, December 5, 2014.

116°15' **EXPLANATION** Movement data Rancho. Cucamonga West Pomona Anaheim, Santa Perris Beach Indio Huntington Beach MOUNTAINS Rancho Mission Santa Margarita Lake Forest Murrieta San Clemente amp Pendleton Marine Corps Base Oceanside 00, 33° San Diego UNITED STATES MEXICO Tijuana Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11

Figure 5. Location data for eagle GOEA-SD-F004 captured at Marron Valley, San Diego County, California, December 27, 2014.

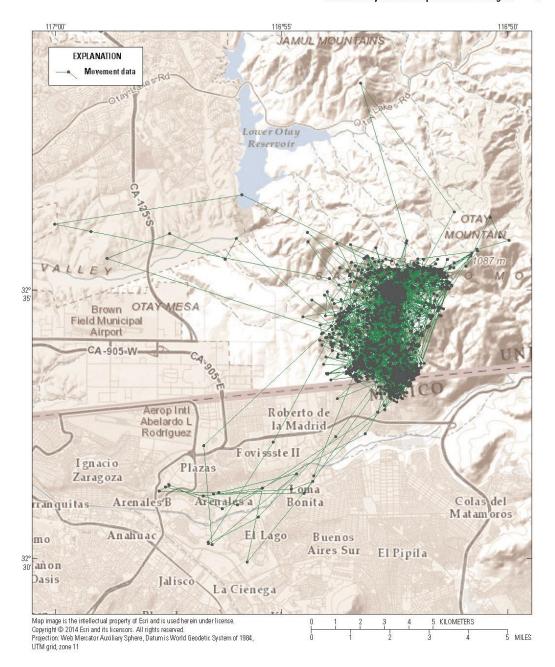


Figure 6. Location data for eagle GOEA-SD-F005 captured at O'Neal Canyon, San Diego, California, January 3, 2015.

Riverside Banning EXPLANATION Anaheim Movement data Indio Santa Palm Pesert Murrieta Oceanside San-Diego San Luis Río Colorado 32° Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 100 KILOMETERS 20 60 100 MILES

Figure 7. Location data for eagle GOEA-SD-F006 captured at Santa Ysabel, San Diego County, California, February 2, 2015.

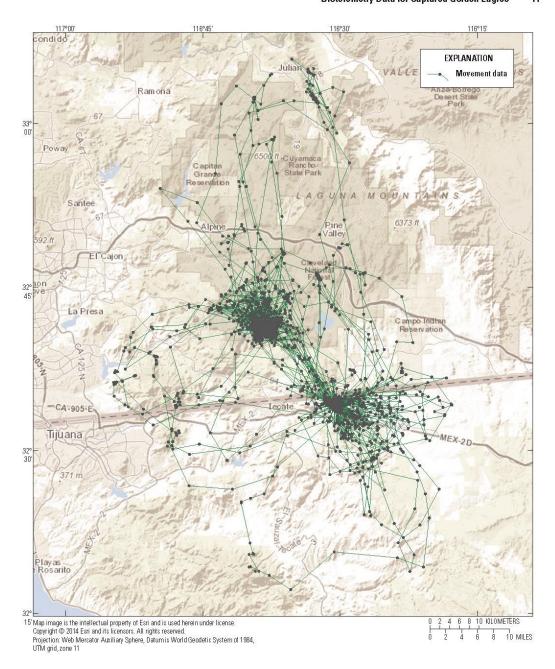


Figure 8. Location data for eagle GOEA-SD-F007 captured at Long Potrero, San Diego County, California, February 23, 2015.

La Jolla Reservation Valley **EXPLANATION** Center Santa Ysabel Reservation scondido Julian VAL Ram Poway Cuyamaca Rancho State Park Capitan Grande Reservation MOU Santee Pine Alpine Valley 1592 ft El Cajon Cleveland National Forest emon 45 rove La Presa Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 KILOMETERS 10 MILES

Figure 9. Location data for eagle GOEA-SD-F008 captured at Pamo Valley, San Diego County, California, March 14, 2015.

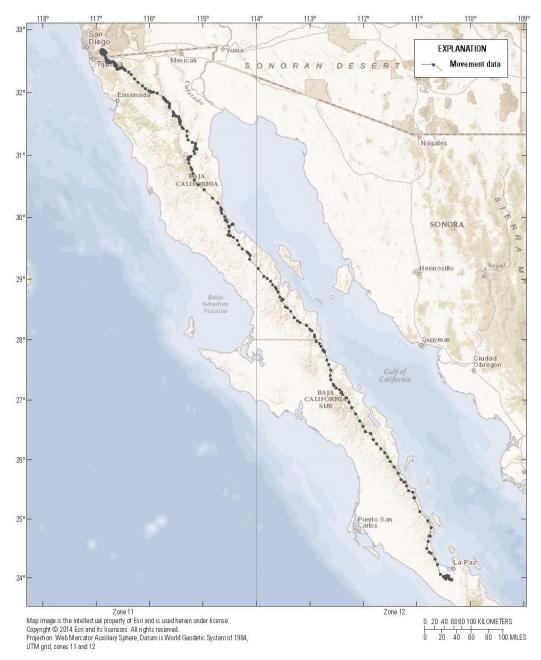


Figure 10. Location data for eagle GOEA-SD-F009 captured at Rancho Jamul Ecological Reserve, San Diego County, California, November 23, 2015.

117°15 **EXPLANATION** 33° 45 Romola Movement data abian Park Wincheste Quail Valley Canyon Lake Lake Elemore Lake Elsinore Hills /ildom ai Auld Valley 33° 35' Murrieta anta Rosa Teme cala Plateau Valley Temecula 33° CANYON Pech 964 m Reser N Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mcrcator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 KILOMETERS 10 MILES

Figure 11. Location data for eagle GOEA-RV-F010 captured at Santa Rosa Plateau, Riverside County, California, December 12, 2015.

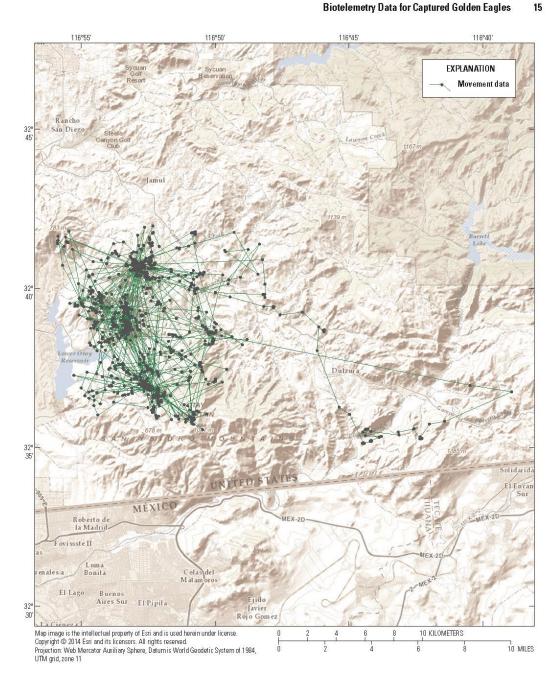


Figure 12. Location data for eagle GOEA-SD-F011 captured at Proctor Valley, San Diego County, California, December 20, 2015.

September 2018 8207

117°01' 117°00' 116°59' 116°58' 116°56" 33° 25' **EXPLANATION** AGUA TIBIA MOUNTAIN 33° 23' 5399 ft Mo Pauma and Yuima Reservation Gomez 33° Pauma Reservation Rd Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mcrcator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 20 KILOMETERS 20 MILES

Figure 13. Location data for eagle GOEA-SD-F013 captured at Gregory Mountain, San Diego County, California, February 11, 2016.

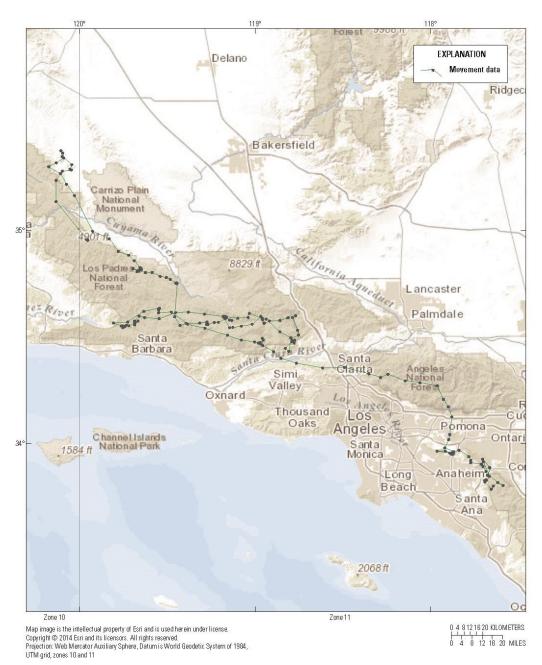


Figure 14. Location data for eagle GOEA-OC-F014 captured at Fremont Canyon, Orange County, California, February 12, 2016.

117°45 117°30' 117°15' 117°00' 116°45 CA-210-E-CA-210-W Rancho Cucamonga **EXPLANATION** San Bernardino Grand AN BERNARDINO Moreno Laguna Niguel Laguna Beach 33° La Jolla Reservation Valley Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 8 10 KILOMETERS 10 MILES

Figure 15. Location data for eagle GOEA-OC-F015 captured at Fremont Canyon, Orange County, California, February 12, 2016.

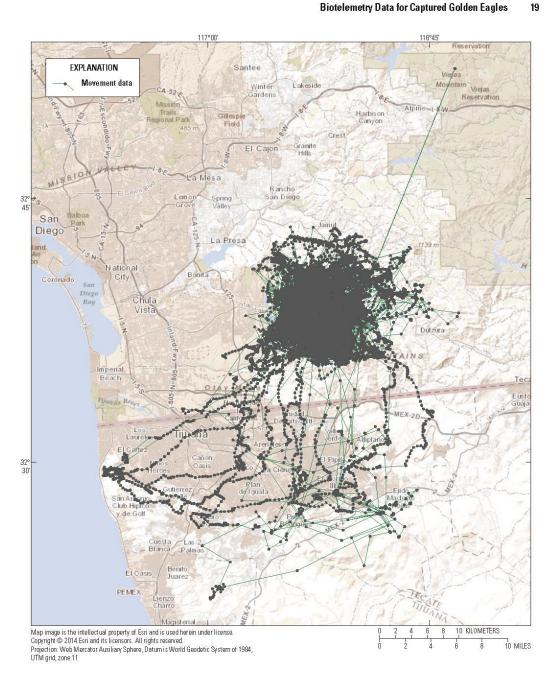


Figure 16. Location data for eagle GOEA-SD-M001 captured at Cedar Canyon, San Diego County, California, December 5, 2014.

September 2018 8207

117°00' 116°45' Grande Reservation EXPLANATION LAGUN Lemon Grove San Diego Chula Vista CA-905 E Tijuana Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 KILOMETERS 10 MILES

Figure 17. Location data for eagle GOEA-SD-M002 captured at Marron Valley, San Diego County, California, January 8, 2015.

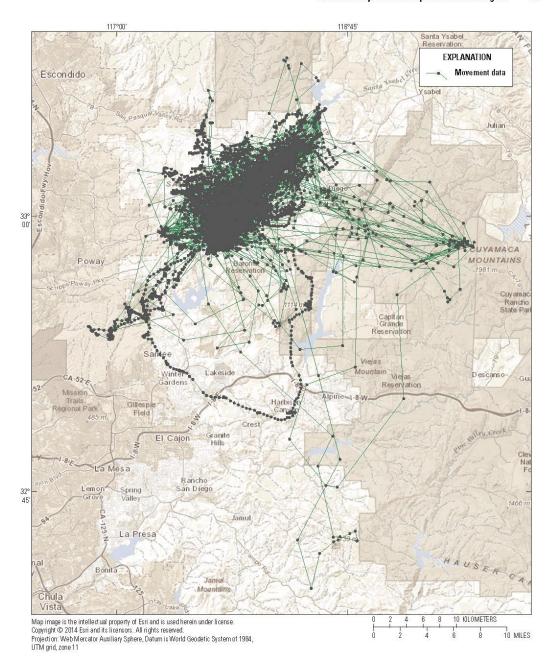


Figure 18. Location data for eagle GOEA-SD-M003 captured at Rancho Canada, San Diego County, California, February 3, 2015.

116°35' EXPLANATION Espinoza Tecal Frace Emiliano Zapata Rinconada Escudero Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 KILOMETERS 7 5 MILES

Figure 19. Location data for eagle GOEA-SD-M004 captured at Barrett Lake, San Diego County, California, February 7, 2015.

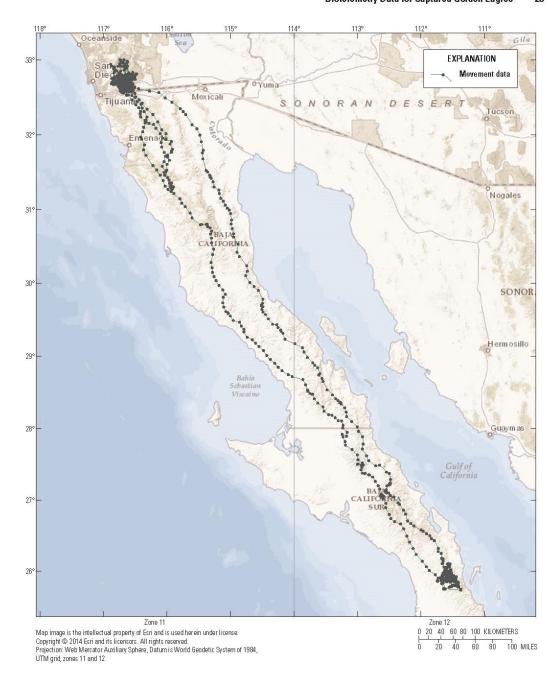


Figure 20. Location data for eagle GOEA-SD-M005 captured at Long Potrero, San Diego County, California, February 23, 2015.

116°30' VALLEY San Diego Country **EXPLANATION** Estates Movement data Oriflamme Mountain. CUYAMACA MOUNTAINS Barona Reservation 1981 m Cuyamaca Rancho State Park Capitan Grande Reservation Viejas Mountain Viejas Reservation Guatay Alpine I-8 W Pine Valley Harbison 1-8-W1-8-E Canyon Crest Cleveland National Forest Jamul Lake 1139 m Morena County Park HAUSER Dulzura MOUNTAIN Campo 10 KILOMETERS Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 MILES

Figure 21. Location data for eagle GOEA-SD-M006 captured at Barrett Lake, San Diego County, California, December 1, 2015.

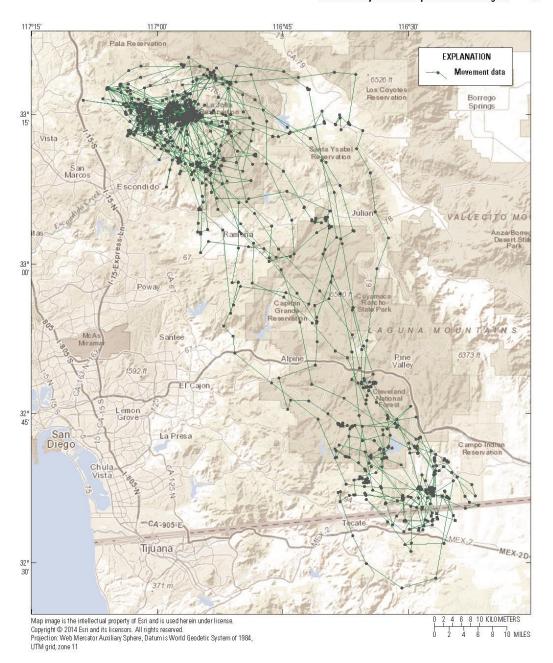


Figure 22. Location data for eagle GOEA-SD-M007 captured at Long Valley, San Diego County, California, December 9, 2015.

117°00 116°45' Temecal Valley **EXPLANATION** Temecula 30° Movement data Pechanga Reservation RIVERSIDE SANDIEGO AGUA TIBIA MOUNTAIN Paum a and Yuim a Reservation 1871 m PA'LOMAR Pala Pala MOUNTAIN Reservation Palom ar Mountain State Park AGUANGA MOUNTAIN Palomar Mountain Rincon Reservation 33° 15' Hidden Valley Center. Canyon County Park OAT HILLS Vista Canyon San Marcos Escondido Rancho SANTA MARIA VALLEY San Diego Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 KILOMETERS

Figure 23. Location data for eagle GOEA-RV-M008 captured at Santa Rosa Plateau, Riverside County, California, December 11, 2015.

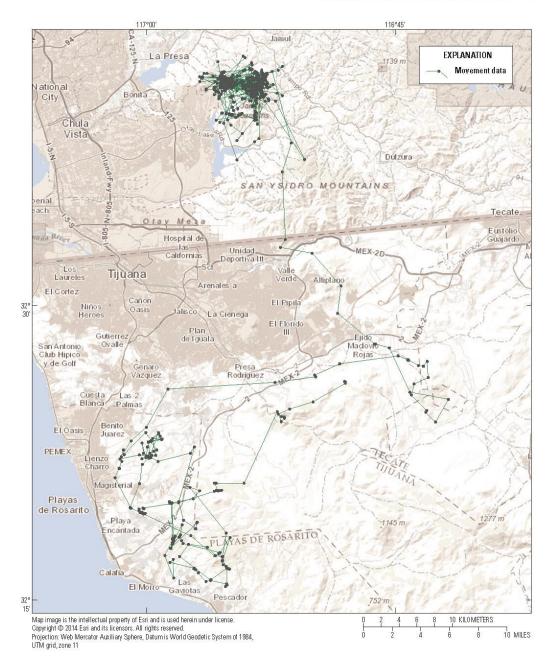


Figure 24. Location data for eagle GOEA-SD-M009 captured at Proctor Valley, San Diego County, California, December 13, 2015.

116°45' 116°15' **EXPLANATION** AGUNA MOUNTAIN 32° emon 45' irove Tijuana Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 KILOMETERS 10 MILES

Figure 25. ILocation data for eagle GOEA-SD-M010 captured at Proctor Valley, San Diego County, California, December 17, 2015.

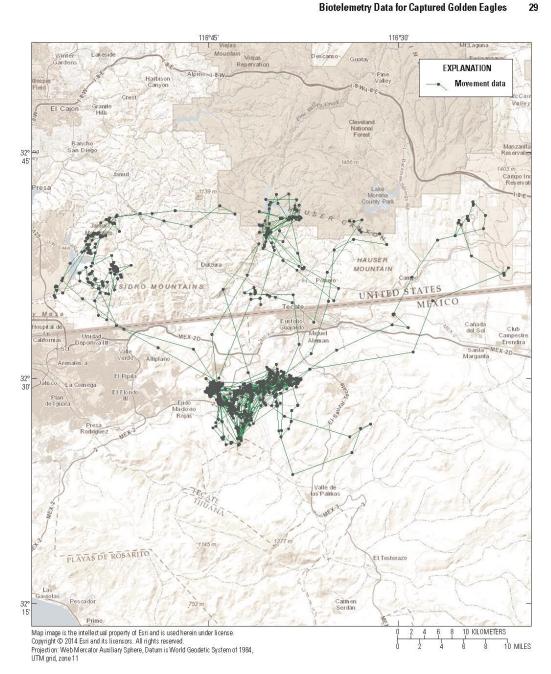


Figure 26. Location data for eagle GOEA-SD-M011 captured at Barrett Lake, San Diego County, California, December 21, 2015.

September 2018 8207

117°30' AN BERNARDING 117°15' Linda Terrace CA-60-E. **EXPLANATION** Chino Chino Mira Movement data Loma Riverside Moreno Valley n Lake Mathe heim Orange Rerris ₃ Santa Ana Sun City 105-N-1-405-S Irvine Lake Lake Elsinore Rancho Santa Margarita Lake Elsinore Mission Lake Vielo Wildom ar Forest Laguna Niguel Murrieta Laguna Beach SINGRE MOUNTAINS Teme 30° San Clemente amp Pendleton Marine Corps Base Fallbrook Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved. Projection: Web Mercator Auxiliary Sphere, Datum is World Geodetic System of 1984, UTM grid, zone 11 10 MILES

Figure 27. Location data for eagle GOEA-OC-M012 captured at Brush Canyon, Orange County, California, December 27, 2015.



Figure 28. Location data for all eagles since time of capture, southern California.

32 Biotelemetry Data for Golden Eagles Captured in Coastal Southern California, November 2014–February 2016

Acknowledgments

We thank the USGS field biologists who have made this project possible, including Jordyn Mulder, Monique Wong, James Molden, Michelle Curtis, Devin Adsit-Morris, Karen Aerni, Nicole Deatherage, Robert Krijgsman, and Cary Cochran. We thank Susan Phillips, Sue Jones, and Keith Miles of USGS for their managerial support. We also thank Bloom Biological Inc. biologists Michael Kuehn, Marcus England, Karly Moore, and Jackie Catino and Wendy Humphrey of Bloom Biological Inc. for administrative support. John Martin, Jeff Wells, Joe Papp, Sharon Coe, Kris Preston, Barbara Kus, Suellen Lynn volunteered to assist in eagle trapping. Members of the numerous agencies provided support, including the California Department of Fish and Wildlife (Karen Miner, Tracie Nelson, Jason Price, Carie Battistone, and Rich Burg); the U.S. Fish and Wildlife Service (Susan Wynn, Mary Beth Woulfe, Tom Dietsch, Jill Terp, John Martin, Randy Nagel, Joel Pagel, and Karen Goebel); the Bureau of Land Management (Amy Fesnock, Joyce Schlachter, and Carrie Simmons), the U.S. Forest Service (Jeff Wells), the County of San Diego (Jennifer Price), the City of San Diego (Nicole McGinnis, Tim Nguyen), SANDAG/SDMMP (Keith Greer, Paul Fromer, Ron Rempel, Yvonne Moore, Kris Preston, and the EMP Working Group), the Irvine Ranch Conservancy (David Raetz, Sherry Fuller, and Jutta Burger), Orange County Parks (John Gump and Sean Bengtson), California State Parks (Ken Kietzer and Michael Puzzo), Pala Band of Mission Indians, Corte Madera Ranch, Jerry Crowe FBI Regional Tactical Training Center (El Toro), Santa Margarita Ecological Reserve, Back Country Land Trust, Santa Rosa Plateau Ecological Reserve (Carole Bell), Gonzalo De León (Centro de Investigaciones Biológicas del Noroeste, S. C.), and Amber Craig (Border Patrol). We thank Winston Vickers (University of California, Davis) and Jeff Lincer (Researchers Implementing Conservation Action) for their support. We thank Andrew McGann at Cellular Tracking Technologies for technical support. Finally, Frank Konyn, Robert Van

Ommering, Brad Scott, and Steve Stiles provided assistance in acquiring bait.

References Cited

- Bloom, P.H., and Clark, W.S., 2001, Molt and sequence of plumages of golden eagles, and a technique for in-hand ageing: North American Bird Bander, v. 26, p. 97–116.
- Dunstan, T.C., 1972, Radio-tagging Falconiform and Strigiform birds: Raptor Research, v. 6, p. 93–102.
- Harlow, D.L., and Bloom, P.H., 1989, Buteos and the golden eagle: Proceedings of the Western Raptor Management Symposium and Workshop, October 26–28, 1987, Boise, Idaho. National Wildlife Federation Scientific and Technical Series 12, p. 102–110.
- Kenward, R.E., 1985, Raptor radio-tracking and telemetry: International Centre for Birds of Prey, Technical Publication 5, p. 409–420.
- Lanzone, M.J., Miller, T.A., Turk, P., Brandes, D., Halverson, C., Maisonneuve, C., Tremblay, J.A., Cooper, J., O'Malley, K., Brooks, R.P., and Katzner, T.E., 2012, Flight responses by a migratory soaring raptor to changing meteorological conditions: Biology Letters, v. 8, p. 710–713.
- Scott, T.A., 1985, Human impacts on the golden eagle population of San Diego County: San Diego State University, San Diego, California, M.S. thesis.

Publishing support provided by the U.S. Geological Survey Science Publishing Network, Tacoma Publishing Service Center

For more information concerning the research in this report, contact the Director, Western Ecological Research Center
U.S. Geological Survey
3020 State Unviersity Drive East
Sacramento, California 95819
http://www.werc.usgs.gov/

