

28 September 2023

State of the Linkage Update 2023

East Branch of the Santa Monica-Sierra Madre Mountains Connection

Introduction

The undeveloped open space of western Los Angeles County and eastern Ventura County is dominated by the rugged mountains and hills of the Sierra Madre and Santa Monica Mountains. Surrounded by developed lands, including the “mega-city” of Los Angeles on the eastern edge, these habitats have long been the focus of conservation efforts which continue today¹. The portion of the open space connection closest to the urbanized San Fernando Valley is known as the “East Branch”, and includes the eastern Simi Hills. This patchwork of federal, state and local conservation land (as well as “fingers” of residential development) is also home to the former Santa Susana Field Laboratory, a decommissioned federal facility awaiting some level of cleanup to be determined.² For many, the vicinity of the SSFL is known as “Sky Valley”, part of the traditional homeland to Native Americans in the region.

In 2021 the Resource Conservation District of the Santa Monica Mountains (RCDSMM) published the “State of the Linkage Report: East Branch of the Santa Monica-Sierra Madre Mountains Connection”. This report, funded by the Santa Ynez Band of Chumash Indians, highlights the most critical portions of the region north and west of Los Angeles that require conservation strategies to maintain ecosystem connectivity.³ In the subsequent two years since the report’s publication, significant changes to the regulatory status have been made regarding one of the flagship species of this area, the mountain lion (*Puma concolor*). These include federal directives on

¹ Cooper, D.S., N.D. Katz, B. Demirci, and F.M. Osborn. 2022. Lessons from the Santa Monica Mountains: Continuing the cycle of conservation. *Frontiers in Sustainable Cities* (sec. Urban Greening) 4.
² California Department of Toxic Substance Control. 2023. Final Program Environmental Impact Report for the Santa Susana Field Laboratory, Ventura County, California. SCH# 2013111068, (February 2023, Released June 2023).
³ Resource Conservation District of the Santa Monica Mountains (RCDSMM) with SC Wildlands (formerly South Coast Wildlands). 2021. STATE OF THE LINKAGE REPORT: East Branch of the Santa Monica-Sierra Madre Mountains Connection (January 2021).

conservation planning, coverage by the California's Endangered Species Act, and ongoing scientific research on local movement ecology of the species. This necessitated an addendum to the 2021 publication. In support of their ongoing work in conservation of cultural and ecological resources in the Santa Clara River Valley, the Santa Ynez Band of Chumash Indians commissioned this addendum to our original "Linkage Report" in August 2023.

Given the recent federal directives, updated data on mountain lion movement and habitat usage, and analysis of RCDSMM biologists, we recommend that the Federal agencies currently managing the SSFL properties reconsider and seek to reduce the footprint of planned soil and habitat removal areas within Sky Valley. Removal of soil to "background" levels would require deep excavation to bedrock, thereby precluding any successful habitat restoration- which requires soil. No qualifying replacement backfill will function as the soil now on site, and no backfill that meets the current "background" composition has been identified. Without the existing soil being retained, several hundred acres of culturally-critical habitat now proposed for removal will be permanently lost.

Further we urge the Department of Toxic Substances Control to conduct a thorough, risk-based assessment that prioritizes continued mountain lion and other wildlife use of the site and the surrounding areas by minimizing permanent habitat loss and connectivity to the greatest extent possible. As noted in the 2021 report, Sky Valley/SSFL remains a critical "pinch-point" within the East Branch connection that may determine the fate of the entire linkage. Thus, failing to adequately protect and preserve this region could irreparably undermine the future ecological health of the region, not to mention decades of conservation investments, which are already in the order of hundreds of millions of dollars.

Recent Regulatory Changes and Information

The following summarizes recent findings and changes to the status of mountain lions in the Los Angeles-Ventura County area, and how these relate to our 2021 assessment of the East Branch of the Santa Monica-Sierra Madre Mountains.

1. "White House Memo": The U.S. Council on Environmental Quality (Executive Office of the President; hereafter "Council") published a memorandum for the heads of federal departments and agencies on March 21, 2023 entitled: "Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors". The memorandum directs federal agencies to *"consider how their actions can support the management, long-term conservation, enhancement, protection, and restoration of year-round habitat, seasonal habitat, stopover habitat, wildlife corridors, watersheds, and other landscape/waterscape/seascape features and processes that promote connectivity."*⁴ Of the best practices detailed in the memo, the following (abbreviated, with italics) items are particularly relevant to the current threats faced by animals within the East Branch Santa Monica-Sierra Madre Connection:
 1. The need for planning at a *landscape scale*;
 2. Advancing plans and actions that improve the resilience of corridors to *climate change*, and that conserve corridors needed to facilitate *climate adaptation*;
 3. Avoiding or minimizing adverse impacts that would *fragment* habitat identified as a priority for connectivity or corridors;
 4. Avoiding the creation of *barriers* to wildlife movement; and
 5. Applying *ecosystem-based* conservation, enhancement, protection, and restoration strategies to affect wildlife conservation.

The Council further instructs federal agencies, when applying the above best practices, to *"consider interagency collaboration and partnerships with connectivity experts in academic institutions, non-profit organizations, Tribal and Indigenous communities, and State Agencies"*.⁵

⁴ Mallory, B. 2023. "Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors," memorandum, Executive Office of the President, Council on Environmental Quality, Washington, D.C. 20503, March 21, 2023, p. 3.

⁵ *Ibid.*, p. 8.

Lastly, the heads of federal agencies must submit (to Council) a progress report 180 days post-release of the guidance (i.e., September 17, 2023).

2. Regulatory Status of Mountain Lion: Following a July 2019 listing petition from the Center for Biological Diversity, the State Fish and Game Commission found (on 4 April 2020) that listing of the population of lions found in Southern California and the Central Coast “may be warranted”, and is currently (Sept. 2023) completing a status review of this population. For now, the species is classified as a “Candidate Species” for listing under the California Endangered Species Act, and is “afforded the same protection as listed species” during the review period.⁶ Habitat fragmentation due to freeways and urban sprawl was cited as a main threat to mountain lions’ future survival, with the effects of their genetic isolation long visible in Los Angeles/Ventura-area populations.⁷ And, while mountain lions’ *general* range was considered within the 2021 State of the East Branch Wildlife Linkage Report, new and more detailed habitat data from the California Wildlife Habitat Relationships (CWHR) information system, as well as a predictive distribution model, now provides finer resolution understanding of preferred habitat types. The CWHR data (last updated on August 15, 2023) demonstrates that mountain lions rely on regions within the East Branch Santa Monica - Sierra Madre Connection that are still not formally protected (e.g., as parks and reserves), and remain under severe threat of degradation. This modeling is validated by recent radio collar data showing that the *entire* Simi Hills were used by a *single* subadult male mountain lion during a study in 2002-2016⁸. This area is situated directly between the Sierra Madre and Santa Monica Mountains, and includes areas urgently threatened by development and fragmentation, as well as those that still require removal of connectivity impedances, such as unused structures and roads, fences, and other barriers.

⁶ California Department of Fish and Wildlife. n.d. “Mountain Lion (*Puma concolor*)” accessed September 7, 2023. Available at: <https://wildlife.ca.gov/Conservation/Mammals/Mountain-Lion>.

⁷ National Park Service. 2020. “First Abnormalities Linked to Inbreeding Depression” accessed September 8, 2023. Press Release. Sept. 9, 2020. Available at: <https://www.nps.gov/samo/learn/news/first-abnormalities-linked-to-inbreeding-depression.htm>.

⁸ Riley, S.P., J.A. Sikich, and J.F. Benson. 2021. Big cats in the big city: Spatial ecology of mountain lions in greater Los Angeles. *J. of Wildlife Management* 85(8):1527-1542

There has, however, been positive progress towards improving connectivity for mountain lions and other wildlife in the East Branch since the 2021 report was published; for example, the Wallis-Annenberg Liberty Canyon Wildlife Crossing broke ground and construction is well underway, set to be completed by 2025, and another crossing is planned for Newhall Pass on the northern edge of the San Fernando Valley.

3. Land (and Lions) as Cultural Resource: The discourse on wildlife connectivity and corridors - assigning a calculation of habitat value to pixels to create color-coded maps - belies the fact that the entire region is considered to be Native American ancestral land. For thousands of years, populations of Chumash, Tongva, and Tataviam would converge in the area of the East Branch and surrounding lands, solidifying cultural and spiritual connections to the natural features and the plants and animals that have long used the area. Over the past 200 years, European development of the East Branch, including massively-expanded infrastructure, has replaced these natural features, and has degraded wildlife connectivity by fragmenting habitat. This habitat fragmentation has led to genetic isolation which critically threatens the health and reproductive output of mountain lions, and it is believed that a failure to maintain genetic flow by conserving key connections in the East Branch could mean the extirpation of local mountain lions before 2050.⁹ If this occurs, the ecological framework of the Santa Monica - Sierra Madre Mountains would dramatically change or even largely collapse, since lions keep deer and other prey species' populations in check. Further, mountain lions may themselves be considered a "cultural resource", in that they are intrinsically part of, and belong to, the land, and are integral to maintaining its function and health. Chumash text documents mountain lions' foundational role in the beginning of the Chumash universe. The sacred Chumash language calls mountain lions the "pets of the sun" - only four other animals (bears, ravens, rattlesnakes, and deer) hold this status in Chumash

⁹ Benson, J. F., Mahoney, P. J., Vickers, T. W., Sikich, J. A., Beier, P., Riley, S. P. D., Ernest, H. B., and Boyce, W.M.. 2019. Extinction vortex dynamics of top predators isolated by urbanization. *Ecological Applications* 29(3):e01868.

culture.¹⁰¹¹ Mountain lion sacrality appears in original texts from neighboring tribes too; mountain lions were not hunted and were considered to be “supernatural helpers”.¹² Natural features of a specific zone identified as a critical linkage area in RCDSMM’s 2021 report - the Santa Susana Field Lab/“Sky Valley” area - suggests the region qualifies as a “Traditional Cultural Landscape/Property” (considered an “artifact” by some authorities), and is therefore of utmost cultural value to the Chumash in particular.¹³ It is clear mountain lions are using the site and that they hold significant cultural value for the Chumash.¹⁴ Eradicating mountain lions from the SSFL site through and severing their connection to the Sierra-Madres would irreparably damage the landscape in all spheres: ecological, cultural, and the realm that exists in their overlap: the intrinsically intertwined eco-cultural sphere. With this added evidence that mountain lions use the site as an essential thoroughfare (see SSFL/Sky Valley Existing + Threatened Mountain Lion Habitat & Documented Use Map Series below) to the Sierra-Madres and their documented foundational role in the Chumash universe, we argue that maintaining wildlife usage and connectivity through this portion of the East Branch linkage is critical to maintaining the irreplaceable eco-cultural integrity of the landscape.

¹⁰ Greer, A. 2013. "Building a Future, Preserving a Past," Palm Springs Life, accessed September 22, 2023. Available at: <https://www.palmspringslife.com/building-a-future-preserving-a-past/>.

¹¹ Ward, M.K. n.d. "TIMOLOQINASH: Another Approach To Interpreting Chumash Indian History - Part 3," accessed September 22, 2023. Available at: <http://www.ocbtracker.com/9902chumash.html>.

¹² Gayton, A.H. 1948. "Yokuijs and Western Mono Ethnography II: Northern Foothill Yokuts and Western Mono," *Anthropological Records* 10:2 (1948). Univ. of California Press, Berkeley and Los Angeles.

¹³ Knight, A. 2017. "United States Department of the Interior, National Park Service, Sky Valley Traditional Cultural Property, National Register of Historic Places Registration Form".

¹⁴ See SSFL/Sky Valley Existing + Threatened Mountain Lion Habitat & Documented Use Map Series

Visual Updates on the Overall Linkage

The attached maps and visual depictions of the Santa Susana Field Lab/Sky Valley illustrate both the current environmental conditions and the irreparable damage to the landscape should DTSC proceed with their current habitat and soil removal strategy.

1. SSFL/Sky Valley Existing Conditions vs. 'Return to Background': a representation of permanent habitat loss under proposed soil removal approach (DTSC 2023).....*pages 8-9*
2. SSFL/Sky Valley Existing + Threatened Mountain Lion Habitat & Documented Use Map Series.....*pages 10-11*

Existing Conditions 2023

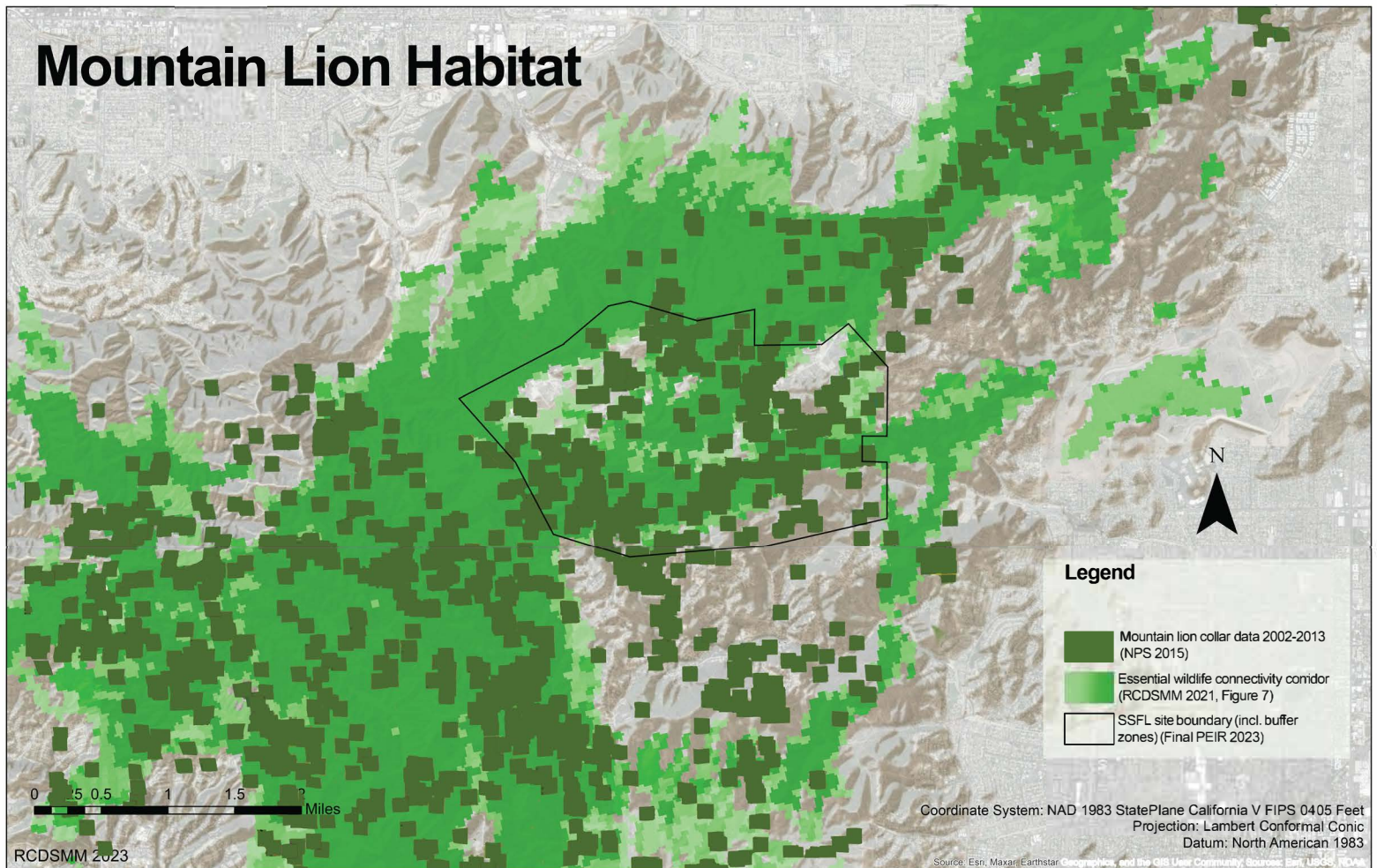


'Return to Background'

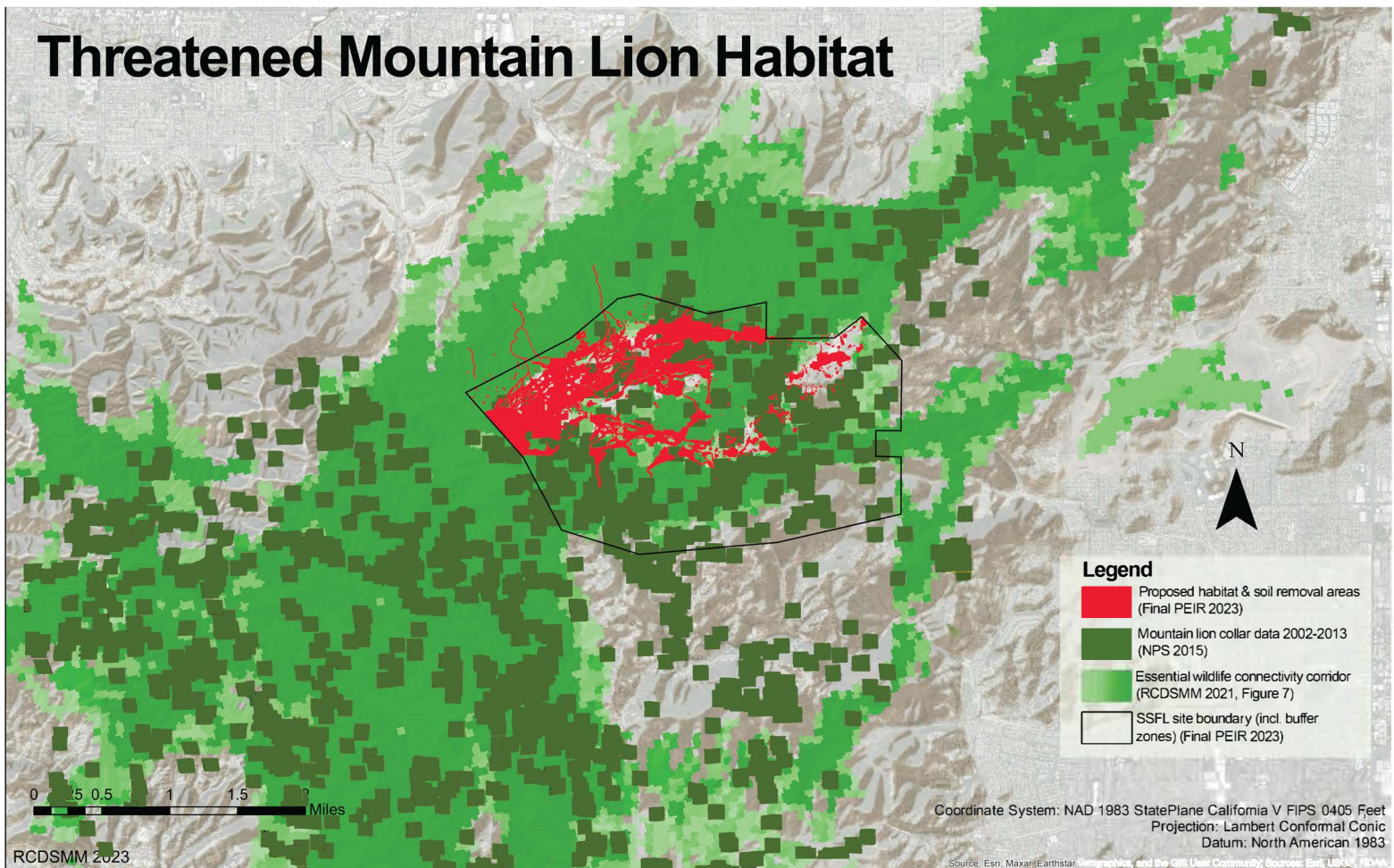
representation of permanent habitat loss under proposed
soil removal approach (DTSC 2023)



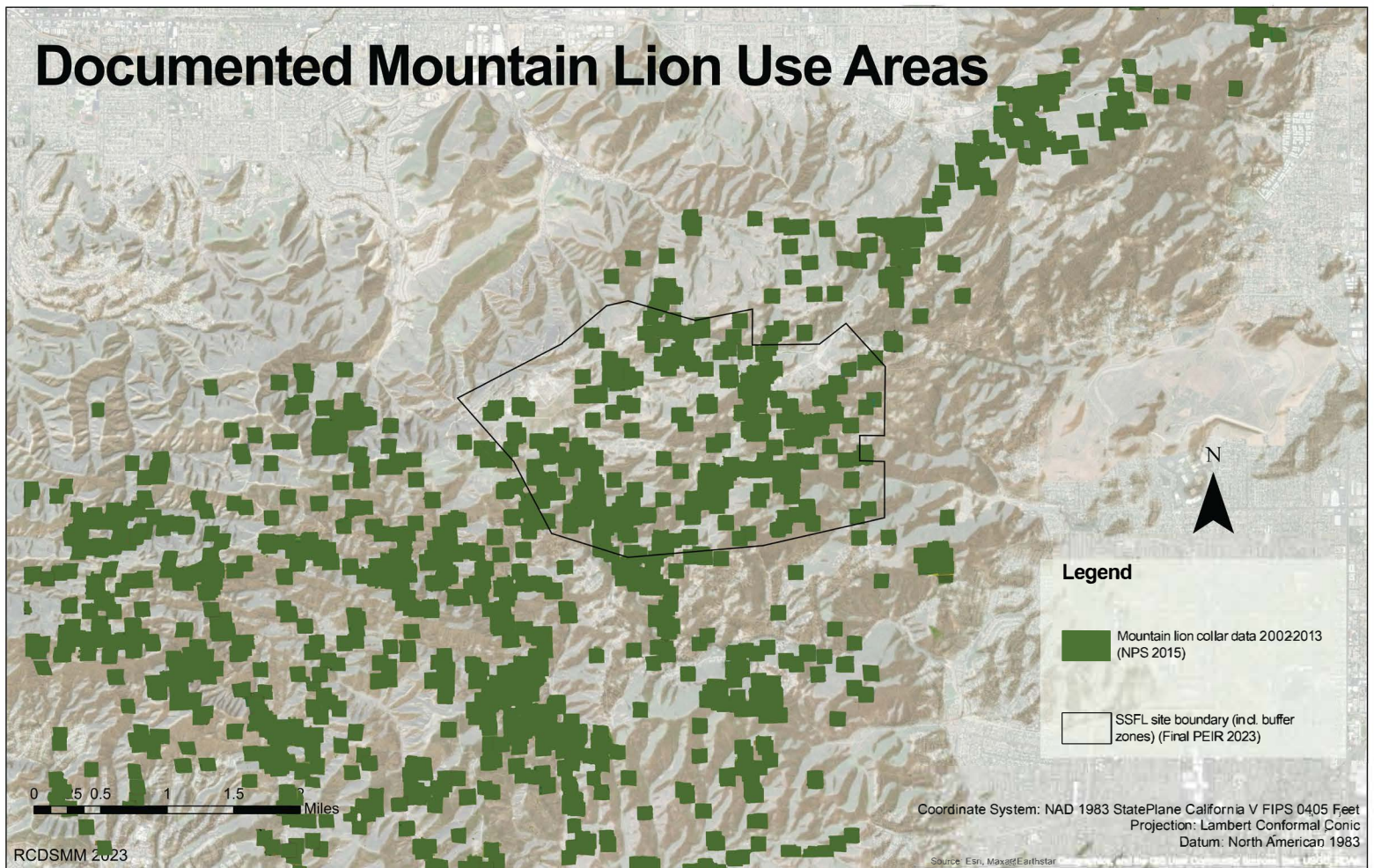
Mountain Lion Habitat



Threatened Mountain Lion Habitat



Documented Mountain Lion Use Areas



Threatened Mountain Lion Use Areas

