



July 20, 2023

*Sent via email*

Jennifer Guetschow  
Supervising Planner  
County of San Luis Obispo  
976 Osos Street, Room 200  
San Luis Obispo, California 93408  
(805) 788-2352  
jGuetschow@co.slo.ca.us

**Re: Dana Reserve Specific Plan, Draft Environmental Impact Report, SCH No. 2021060558**

Dear Ms. Guetschow:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Draft Environmental Impact Report (“DEIR”) for the proposed Dana Reserve Specific Plan Project (“Project”). The Center has reviewed the Draft Environmental Impact Report closely and has found that the DEIR’s analysis of and mitigation for the Project’s impacts to biological resources and wildfire are inadequate. The Center urges the County to correct the deficiencies identified below and recirculate a revised DEIR for public review and comment prior to approving the Project.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in San Luis Obispo County.

**I. The DEIR’s Analysis of and Mitigation for the Project’s Impacts to Biological Resources Is Inadequate.**

The DEIR fails to adequately assess and mitigate the Project’s impacts to special status species, important habitats, and wildlife connectivity. The DEIR fails accurately analyze baseline conditions for numerous important species, including the federally-endangered Pismo Clarkia and California red-legged frog. Further, the DEIR’s proposed mitigation measures to significant and unavoidable impacts do not meet the CEQA standard. In several cases, such as the critically-

imperiled Burton Mesa chaparral, the DEIR correctly states that the impacts to biological resources are significant and unavoidable, but fails to adequately mitigate these impacts. In other cases, such as the endangered plant Pismo Clarkia, the DEIR's finding that significant impacts to biological resources will be mitigated to less than significant is unsubstantiated and fails to meet CEQA's requirements. Additionally, the DEIR incorrectly minimizes the project area's importance to local and regional wildlife connectivity, and fails to mitigate impacts to this important ecological function. The Applicant must conduct additional suitability and occupancy assessments for numerous species, develop effective evidence-based mitigation measures, and fully consider cumulative impacts to ensure that impacts to biological resources are adequately avoided, minimized, and mitigated to the fullest extent possible.

**A. The Applicant Must Re-Analyze Baseline Conditions and Impacts to Pismo clarkia**

California has experienced a significant shift in ecological conditions after the wet winter of 2022-2023. This is true of the Project Area as well. The DEIR's biological surveys were conducted in the winter of 2017 and the spring and summer of 2018- 2021, years with significantly lower precipitation than 2023. Spring rains this year have resulted in the reemergence of rare and endangered plant species (e.g. Cowan, 2023). It is extremely likely that this wet winter has impacted the federally endangered and state-listed Pismo Clarkia in the Project Area as well. The Applicant must conduct additional follow-up surveys to reassess the baseline conditions and potential impacts to sensitive species and habitats after the significant increase in precipitation over the past year.

**B. The DEIR Fails to Adequately Analyze and/or Mitigate Impacts to Special Status Plants and Wildlife.**

*i. Pismo Clarkia is a Federally-Listed Endangered Species, the Impacts to Which are Presumed to be Significant.*

The CEQA Guidelines indicate that a Project can be expected to have significant impacts to biological resources if the Project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (CEQA Guidelines, Appendix G, subd. IV(a).) Accordingly, the DEIR itself indicates that the Project's impacts will be significant if it will "have a substantial adverse effect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species. . . by the California Department of Fish and Game or U.S. Fish and Wildlife Service" (DEIR at 4.4-48; see also CEQA Guidelines § 15065(a)(1) [when performing an initial study, agencies shall make a mandatory finding of significance where a proposed project has the potential to substantially reduce the number or

restrict the range of a listed species], California Fish and Game Code § 2085 [CESA candidate species treated like threatened or endangered species]).

The DEIR fails to adequately assess and mitigate the Project's impacts to Pismo Clarkia. The DEIR erroneously claims that impacts to the federally endangered and state-listed Pismo Clarkia are less than significant with mitigation. The Center concurs with the July 30, 2022 comment letter submitted by the California Native Plant Society San Luis Obispo Chapter that the impacts to Pismo Clarkia are significant and unavoidable (Mooney 2022). In addition, the proposed mitigation is insufficient and improperly deferred. The proposed mitigation measures BIO/mm-2.1 through BIO/mm-2.3 do not provide suitable plans for re-establishing Pismo Clarkia in the Project Area, and they fail to address the negative edge effects that remaining Pismo Clarkia will face and the difficulty of successfully planting Pismo Clarkia. The DEIR fails to provide substantial evidence that their proposed mitigation would be successful.

*a. The Proposed Mitigation is Insufficient and Improperly Deferred*

The DEIR states that implementation of proposed mitigation measures BIO/mm-2.1 through BIO/mm-2.3 would reduce the impacts to Pismo Clarkia to less than significant without providing substantial evidence to support such claims. The proposed mitigation methods are insufficient and improperly deferred.

The DEIR's proposed mitigation BIO/mm-2.3 includes re-establishing Pismo Clarkia at a 3:1 ratio "along appropriate boundaries of preserved oak woodland habitat areas" (DEIR at 4.4-56). The DEIR does not provide a specific plan for this re-establishment. As described in the California Native Plant Society letter (Mooney 2022) and in the most recent Pismo Clarkia 5-Year Review from the U.S. Fish and Wildlife Service (U.S. Fish and Wildlife Service, 2023), Pismo Clarkia is an extremely sensitive species that is difficult to successfully transplant and establish. Numerous attempts to translocate populations have been unsuccessful; those that have been successful have required intensive monitoring and weeding over the course of several years; and even with such treatments, not all plantings are successful (U.S. Fish and Wildlife Service, 2023).

Based on the results of studies described in the U.S. Fish and Wildlife 5-Year Review, successful Pismo Clarkia planting methods are labor-intensive, and may include soil relocation, iterative weeding, and monitoring over the course of several years. In one study described in the Review, Pismo Clarkia populations appeared healthy for the first two to three years after planting, but subsequently significantly declined. Even with such intensive horticultural methods, success is not guaranteed. Edge effects from the adjacent residential area, such as trampling by humans and pets, herbicide, and invasive weeds, will likely have a negative impact

on remaining Pismo Clarkia and will make establishment of additional individuals for mitigation even more difficult. The DEIR has provided no specific plan to account for these challenges. The proposed mitigation is therefore insufficient.

In addition, proposed mitigation measure BIO/mm-2.1 includes the preparation of a Habitat Management Plan, but no details of said plan are provided. Such plans should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to Pismo Clarkia.

This improperly deferred mitigation violates CEQA. (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts “may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR”]). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (See *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37 [review denied].) Here, the DEIR fails to meet these criteria. The lack of adequate details provided in the Pismo Clarkia Habitat Management Plan does not allow the public and decisionmakers to evaluate the mitigation measures being taken; the DEIR violates CEQA.

*b. The Impacts to Pisma Clarkia are Significant and Unavoidable*

The DEIR fails to adequately assess the Project's impacts to Pismo Clarkia. As described above, the proposed mitigation measures BIO/mm-2.1 through BIO/mm-2.3 are insufficient to reduce the impacts to Pismo Clarkia to less than significant; rather, the impacts to Pismo Clarkia are significant and unavoidable. In addition, the population of Pismo Clarkia present in the Project Area is more regionally important than previously known, so any impacts to this population will significantly impact this very range-limited species as a whole. The U.S. Fish and Wildlife 5-Year Review provides new pertinent information on the Pismo Clarkia population in the Project Area specifically. The Pismo Clarkia population present in the Project Area is now the largest population currently reported, and it represents the most southeastern population of the species. The Review notes that if the Project is approved,

“The population will become completely surrounded by development, further isolating it and disrupting its pollinator network. It will become subject to fuels management activities, trampling by pedestrians, herbicides, and other indirect effects from nonnative,

invasive weeds (SWCA Environmental Consultants 2022, Section 4.4 pg. 53). Therefore, the full effects of the development on the taxon remain unknown and negative consequences seem likely... The ultimate effects of this project are likely to have a net detrimental effect on Pismo clarkia and its habitat.” (U.S. Fish and Wildlife Service, 2023)

Pismo Clarkia is also likely to be highly affected by climate change. A recent study predicted that 2/3 of all endemic California plant species will experience range reductions of 80% or greater within a century due to climate change effects including increased temperatures and changes in precipitation (Loarie et al., 2008). Given its reduced geographic range, sensitivity to local conditions, and the destruction and fragmentation of suitable habitat, Pismo Clarkia is unlikely to be able to disperse along changing temperature and precipitation gradients expected with climate change (U.S. Fish and Wildlife Service, 2023). Therefore, connectivity among heterogeneous habitats is critical for the long-term persistence of the species.

Given the new information provided by the latest U.S. Fish and Wildlife Service 5-Year Review and considering the context of climate change, any impact to Pismo Clarkia, its habitat, or connectivity to nearby habitat or open space that would allow the population to shift with changing climate, including those described in the DEIR, will be significant and unavoidable.

***ii. California Red-Legged Frog (CRLF) are a federally-threatened species, the Impacts to Which are Presumed to be Significant***

The DEIR fails to adequately disclose, assess, and mitigate impacts to California red-legged frog (CRLF), a federally-threatened species. The DEIR states that the potential for CRLF to occur is low, yet admits that the NCSD off-site improvement area provides suitable habitat for the species. As noted by the July 23, 2021 comment letter submitted by the California Department of Fish and Wildlife (Vance 2021), CRLF have been observed in the vicinity of the project site. However, the DEIR fails to provide any analysis of CRLF presence. In addition, even if the species is undetected by surveyors, it does not necessarily mean the species is absent, especially if suitable habitat is present. The EIR should include targeted CRLF surveys conducted by USFWS- or CDFW-approved biologists following CDFW and USFWS protocols, or the DEIR should assume CRLF is present in the Project area, including in the off-site NCSD water improvement area.

In addition, the proposed mitigation for impacts to CRLF is insufficient. Mitigation measure BIO/mm-12.1 states that “work areas within 100 feet of known California red-legged frog habitat shall be surveyed by a qualified biologist each day prior to the initiation of construction activities... In the event a California red-legged frog is identified in a work area, all work shall cease until the California red-legged frog has safely vacated the work area.” (DEIR at

4.4-71). However, because no surveys have been conducted, it is unclear what the DEIR means by “known California red-legged frog habitat.” If the DEIR is referencing stream habitat, the 100-foot survey distance is insufficient. CRLF have been found to migrate about 600 feet between breeding ponds and non-breeding upland habitat and streams, with some individuals roaming over 4,500 feet from the water (Fellers & Kleeman, 2007). A survey within only 100 feet of stream habitat is not sufficient to detect CRLF nor mitigate the project’s impacts on this federally-threatened species. The DEIR must clarify the methods described in BIO/mm-12.1 and must implement a more robust mitigation strategy to mitigate impacts to CRLF.

Additionally, mitigation measure BIO/mm-12.1 fails to consider the significant impacts to CRLF habitat that will be caused by construction in the off-side NCSD water improvement area. The DEIR states that “long-term operational impacts to this species would not occur as a result of the proposed project” because any habitat modification from ground-disturbing activities and addition of infrastructure would be temporary (DEIR at 4.4-70), but the DEIR provides no evidence for this claim. The DEIR provides no plan for restoration or mitigation of this habitat disturbance; as such the impacts to CRLF habitat are likely to be significant and long-lasting. The DEIR adequately disclose and mitigate the Project’s significant impacts to CRLF and their habitat.

***iii. Mountain lion are a candidate species under the California Endangered Species Act, the Impacts to Which are Presumed to be Significant***

The DEIR fails to adequately describe, assess, and mitigate impacts to the Central Coastal and Southern California Evolutionarily Significant Unit (ESU) of mountain lions (*Puma concolor*), a candidate species provisionally listed as threatened under CESA. Despite being a special-status species known to occur in and near the Project Area, the DEIR fails to even mention mountains lions at all.

Mountain lions are a key indicator species of wildlife connectivity and healthy ecosystems. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the region could have severe ecological consequences; loss of the ecosystem engineer could have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Many scavengers, including California condors, kit foxes, raptors, and numerous insects, would lose a reliable food source (Barry et al., 2019; Ruth & Elbroch, 2014). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would potentially diminish if this apex predator were lost (Ripple et al., 2014; Ripple & Beschta, 2006, 2008). In fact, a recent literature

review found that mountain lions are important ecosystem engineers and have been documented to have ecological interactions with at least 485 plant and animal species (Labarge et al., 2022).

Mountain lion populations in and around the Project Area are struggling to survive and human activity and land use that inhibits habitat connectivity has adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. There are six identified mountain lion populations in the ESU, and several are facing an “extinction vortex” due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Benson et al., 2016, 2019; Ernest et al., 2003, 2014; Gustafson et al., 2018, 2021; Riley et al., 2014; Vickers et al., 2015). The primary driver of this extinction vortex is lack of connectivity (T. A. Yap et al., 2019).

The Project’s impacts to mountain lions extend beyond its physical footprint. There is plenty of evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans (Smith et al., 2017). The study concluded that even “non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey” (Smith et al., 2017). In addition, mountain lions have been found to respond fearfully upon hearing human vocalizations, avoiding the area and moving more cautiously when hearing humans (Smith et al., 2017; Suraci et al., 2019). Other studies have demonstrated that mountain lion behavior is negatively affected when exposed to other evidence of human presence, such as lighting or vehicles/traffic (Smith et al., 2015; Y. Wang et al., 2017; Wilmers et al., 2013). Therefore, both physical and behavioral barriers drive genetic isolation, and continued land use that further fragments mountain lion habitat in the central coast region without adequately minimizing impacts to functional connectivity will drive pumas in the area to extinction.

Yovovich et al. (2020) further documented the impacts of human activities on local mountain lions, specifically on communication and reproductive behaviors important for their survival. Males use scrapes to delineate territories as well as attract potential mates (Allen et al., 2015, 2016), and the males in the study preferred to use relatively flat areas away from human influence as scrape habitat (Yovovich et al., 2020). Similarly, when nursing females (with kittens less than 8 weeks old) shrank their home ranges to an average of 9 km<sup>2</sup> while their young were most vulnerable, they also selected undeveloped lands away from human disturbance, opting for habitat with protective cover and sufficient water and prey availability (Yovovich et al., 2020). The loss of adequate undisturbed communication and nursery habitat could disrupt important communication and reproductive behaviors that facilitate social structure and overall survival. Thus, continued habitat loss and fragmentation due to roads and development like the proposed

Project that extend into mountain lion habitat with little regard for their movement and behavioral needs threaten the long-term survival of local mountain lions.

In a study that investigated the drivers of fine-scale movement decisions by pumas in fragmented landscapes in the Santa Cruz Mountains, (Suraci et al., 2020) identified that mountain lions prefer larger habitat patches that are closer together and further away from buildings, and they preferred shrub over tree patches. However, mountain lions were willing to accept higher densities of anthropogenic features if target habitat patch areas were larger or the distance between patches was shorter (Suraci et al., 2020). In addition, pumas were found to travel longer distances through open habitats to access larger habitat patches, perhaps for more protective cover and/or for better hunting opportunities within the larger habitat patch areas (Suraci et al., 2020). These findings corroborate those of (Smith et al., 2019), which found that pumas are able to move through partially developed habitat, though they are less likely to move through parcels with higher densities compared to parcels with less dense housing in and around the parcels. In fact, puma avoidance increased sharply as housing density increased up to 41 houses/km<sup>2</sup>, after which avoidance remained high. Although these studies demonstrate that mountain lions have some tolerance of human presence, they more importantly highlight the negative impacts of increased human use/density on the movement and survival of mountain lions and the importance of habitat connectivity among large, intact, heterogeneous habitat patches. The proposed Project would substantially increase human activity in the area while destroying, degrading, and further fragmenting suitable mountain lion habitat.

The DEIR must adequately disclose, assess, and mitigate the Project's impacts to mountain lions.

- iv. The DEIR fails to adequately assess and mitigate the Project's impacts on species of special concern.*
  - a. Western Pond Turtle (WPT) and Two-Striped Gartersnake (TSG), both species of special concern*

The DEIR fails to adequately assess and mitigate the Project's impacts to western pond turtle (WPT) and two-striped garternake (TSG). First, the DEIR provides conflicting information about whether WPT is likely to occur in the off-site NCZD water improvement area. Table 4.4-4 states that the potential for WTP to occur is high; "suitable habitat is present in Nipomo Creek, which is part of the NCSD off-site water-related improvement area along East Teff Street" (DEIR at 4.4-20). However, in section 4.4.1.3.6 the DEIR states that based CNDDDB records the potential for WPT occurrence is low, despite acknowledging that the CNDDDB underrepresents this species' distribution (DEIR at 4.4-34). The DEIR admits that the potential for WPT occurrence is high, yet does not provide any analysis of WPT presence. The Applicant must



address this inconsistency and properly analyze and adequately mitigate the Project's impacts to this sensitive species.

In addition, the DEIR's proposed mitigation measure BIO/mm-12.1 fails to reduce the impacts of off-site NCS D water improvements to the special-status reptiles WPT and TSG to less than significant and is improperly deferred. The mitigation measure offers a vague plan to relocate any individuals encountered, with "exact procedures and protocols for the relocation of the special-status species shall be based upon pre-project consultation with the California Department of Fish and Wildlife" (DEIR at 4.4-71). In addition, no relocation sites are identified. Such plans should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to WPT and TSG. The DEIR provides insufficient detail for the public and decision makers to ascertain whether such measures would adequately mitigate the Project's impacts to WPT and TSG in the NCS D off-site water-related improvement area and nearby Nipomo Creek.

This improperly deferred mitigation violates CEQA. (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR"]). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (See *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37 [review denied].) Here, the DEIR fails to meet these criteria. The lack of adequate details provided in the WPT and TSG relocation plan does not allow the public and decisionmakers to evaluate the mitigation measures being taken; the DEIR violates CEQA.

***b. California legless lizard (CLL) and Blainville's horned lizard (BHL), both species of special concern***

The DEIR also fails to adequately assess and mitigate the Project's impacts on California legless lizard (CLL). The DEIR correctly states that the potential for CLL to occur is high based on habitat suitability. However, the information provided about the surveys conducted for the DEIR are insufficient to fully assess presence or potential presence of the species. The survey details provided in Appendix-E (p26) as well as the DEIR (at 4.4-26) do not state at what time of day CLL surveys were performed. CLL are mostly subterranean and are most active (and therefore most detectable) aboveground in the morning and the evening. If surveys were performed from late morning to afternoon, it is unlikely that CLL would be found, even if the

species were present. Additionally, CLL are particularly difficult to detect. A study testing the efficacy of various CLL survey methods concluded that coverboard surveys do not accurately determine the presence or potential presence of CLL. In fact, they found coverboards (one of the primary methods used in the DEIR's surveys) to be the least effective survey method. All methods underestimated the true abundance of the CLL population (Kuhnz et al., 2005). In addition, even if the species is undetected by surveyors, it does not necessarily mean the species is absent, especially if suitable habitat is present. The Applicant must alter survey methods (e.g. implementing moderate-impact time-constrained searches per Kuhnz et al., 2005) and conduct new targeted surveys to more thoroughly assess whether CLL are present or potentially present at the project site, or the DEIR should assume the species is present in the Project Area.

Further, the DEIR concludes that impacts to CLL and Blainville's horned lizard (BHL) will be less than significant with mitigation. This claim ignores several aspects of these species' natural histories that make them particularly vulnerable to disturbance and development. The impacts to CLL and BHL should be classified as significant and unavoidable.

As described above, CLL are extremely difficult to locate (Kuhnz et al., 2005). As such, any relocation survey is unlikely to successfully relocate more than a fraction of any CLL population present. If CLL are currently present (which is likely), the Project will lead to significant and unavoidable impacts on the population. Those remaining in the proposed open space would also likely suffer from reduced habitat and edge effects due to human occupation, including continued ground disturbance from recreational activities and disturbance and predation by pets (e.g. Loyd et al., 2013).

The impacts of the Project on BHL will also be significant and unavoidable. BHL reproduce by laying eggs. While not much is known about BHL reproductive biology, it is likely that females lay eggs in loose soil in late spring to early summer, but timing can vary year to year based on local conditions (Morey, 1988). Any Project activities occurring at that time will likely destroy BHL nests. In addition, BHL surface activity levels are significantly reduced in the winter months, during which time detection will be extremely difficult (Hager & Brattstrom, 1997). Thus, Project activities occurring during the winter will likely harm and kill BHL. Finally, similar to the effects on CLL, any remaining BHL in the proposed open space would also likely suffer from reduced habitat and edge effects due to human occupation, including continued ground disturbance from recreational activities and disturbance and predation by pets (e.g. Loyd et al., 2013). The effects of the Project on BHL will therefore also be significant and unavoidable.

The DEIR erroneously states that the impacts to these two sensitive reptile species of special concern present or potentially present in the Project Area are less than significant with

mitigation. The impacts should be reclassified as significant and unavoidable, and adequate mitigation measures should be developed and enhanced.

***c. Western Spadefoot (WESP) and Burrowing Owl (BUOW), both species of special concern***

The DEIR fails to adequately assess and mitigate the Project's impacts to western spadefoot (WESP) and burrowing owl (BUOW). The Center concurs with the assertions made in the August 3, 2022 comment letter submitted by the California Department of Fish and Wildlife (Vance 2022) that burrowing owl (BUOW) and western spadefoot (WESP) may be present in the Project Area based on the presence of appropriate habitat. While the DEIR states that BUOW may be present, they incorrectly conclude that the likelihood of occurrence is "low" despite providing no targeted assessment of the species. The DEIR erroneously excludes WESP completely. The EIR should include targeted BUOW and WESP surveys conducted by USFWS- or CDFW-approved biologists following CDFW and USFWS protocols, and adequate species-specific mitigation measures are required to ensure the potential impacts to these sensitive species are less than significant.

***d. American Badger, a species of special concern***

The DEIR fails to adequately assess and mitigate the Project's impacts to American badgers. The Center concurs with the statements in the 2022 CNPS letter that state the Project's impacts to American badger are significant and unavoidable. The DEIR's conclusion that the impacts to American badger will be less than significant with mitigation ignores key aspects of the biology and natural history of American badgers. The American badger is a wide-ranging mesocarnivore that is particularly sensitive to fragmentation (Crooks, 2002). Regardless of the individual den protection and relocation measures proposed in mitigation measure BIO/mm-9.1, the permanent destruction and alteration of suitable American badger habitat due to the proposed Project would therefore likely extirpate American badger from the Project Area and potentially impact the regional viability of the population.

***e. Migratory birds***

The DEIR fails to adequately assess and mitigate impacts to resident and migratory birds. The DEIR states that "For species that fly, such as birds, bats, and insects, the Project Area serves as a wildlife movement corridor between the coast and inland areas, providing both food and cover for animals" (at 4.4-78). The DEIR goes on to say that "permanent loss of habitat and increased presence of human activity and increased vehicular traffic may negatively affect movement" (at 4.4-79). However, the DEIR fails to provide any analysis on potential impacts to migratory birds. The diverse habitats in the Project Area, including oak woodland, oak forest,

Burton Mesa chaparral, and grassland provide significant food resources and shelter to migratory birds. For example, a white-tailed kite, a California fully-protected species, as well as numerous other special-status species including yellow warbler, loggerhead shrike, and yellow-breasted chat, have all been documented immediately adjacent to the Project Area.<sup>1</sup>

In fact, the DEIR fails to mention that the Project Area lies between multiple California Audubon-designated Important Bird Areas (“IBA”) for resident and migratory birds within the Pacific Flyway, a north-south migratory corridor that extends from Alaska to Patagonia.<sup>2</sup> The Santa Maria River Valley and Vandenberg Air Force Base and Santa Ynez Estuary IBAs are less than 15mi southwest of the Project Area, and the Lopez Lake IBA is approximately 10mi north of the Project Area. IBAs are critical for regional, state, and global connectivity particularly for migratory birds that require habitat along their migratory path to find food, shelter, and nesting habitat. Of particular importance are the diverse habitats (oak woodland, oak forest, and Burton Mesa chaparral, and grasslands) in the Project Area that likely provide critical nesting and resting habitat for both resident and migratory birds.

As discussed in more detail below, edge effects like noise and light from Project construction and operation will have impacts on wildlife and wildlife movement. Negative edge effects from human activity, traffic, lighting, noise, domestic pets, pollutants, and invasive weeds have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003). This is important to consider when open space is immediately adjacent to the Project Area, as birds and other wildlife have been found to be sensitive to edge effects. For example, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds (Ware et al., 2015). Subjects exposed to 55 and 61 dBA (simulated traffic noise) exhibited decreased feeding behavior and duration, as well as increased vigilance behavior (Ware et al., 2015). Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. Another study found a 28% decrease in bird abundance in areas when traffic noise was present compared to when there was no traffic noise (McClure et al., 2013). The DEIR fails to adequately analyze and mitigate the Project’s impacts to migratory birds.

### **C. The DEIR Fails to Adequately Mitigate Habitat Impacts.**

#### ***i. The DEIR’s Proposed Mitigation for Impacts to Burton Mesa Chaparral Is Insufficient and Improperly Deferred.***

---

<sup>1</sup> eBird Species Maps tool: <https://ebird.org/map>

<sup>2</sup> Audubon Important Bird Areas of California, available at [https://www.audubon.org/important-bird-areas/state/california?field\\_iba\\_status=1&priority=2](https://www.audubon.org/important-bird-areas/state/california?field_iba_status=1&priority=2) (Accessed July 17, 2023).

The DEIR correctly states that the Project will result in significant and unavoidable impacts to Burton Mesa chaparral, a critically imperiled G1/S1 habitat. Burton Mesa chaparral is only found in limited areas of San Louis Obispo County and Santa Barbara County. The Burton Mesa chaparral present on the Project Area therefore represents a significant portion of all remaining Burton Mesa chaparral.

The DEIR's proposed mitigation BIO/mm-14.1 states that protection, enhancement, and/or restoration of contiguous patches of Burton Mesa chaparral on the Nipomo Mesa is preferred. However, the DEIR provides no specific plan to prioritize this important habitat. Instead, the DEIR claims that such mitigation is infeasible without providing substantial evidence to support such claims, and proposes instead on off-site mitigation in Santa Barbara County at a 2:1 ratio. This mitigation ratio is grossly insufficient given the importance and unique nature of the Burton Mesa chaparral. In addition, the DEIR proposes off-site mitigation that they then admit is likely infeasible due to the rarity of this habitat. The DEIR fails to adequately mitigate the Project's impacts to Burton Mesa chaparral and fails to provide substantial evidence to support their claims that mitigation is infeasible. Impacts to this imperiled habitat could be avoided through the Burton Mesa Chaparral Avoidance Alternative (DEIR at 5-8), which the Project did not adequately consider before discarding.

***ii. The DEIR's Proposed Mitigation for Impacts to Coast Live Oak Woodland and Coast Live Oak Forest Is Insufficient and Improperly Deferred.***

The DEIR correctly states that the Project will result in significant impacts to coast live oak woodland and forest (DEIR at 4.4-79). The DEIR proposes four mitigation measures to mitigate the Project's impacts on individual oak trees, coast live oak woodland, and coast live oak forest (BIO/mm-18.1-18.4). Mitigation measures BIO/mm-18.2 and 18.3 are improperly deferred. BIO/mm-18.2 includes the development of an Oak Tree Replacement Plan that includes an off-site mitigation option (3.b.) However, the DEIR provides no information on where this mitigation would occur, and provides no analysis of potentially suitable habitats. Additionally, BIO/mm-18.3 includes the development of an Oak Woodland Protection and Restoration Plan, yet provides only vague guidelines for what said plan will contain, and provides no additional details. Such plans should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to coast live oak woodland and coast live oak forest. In addition, guaranteed funding to monitor and adaptively manage mitigation lands should be provided.

This improperly deferred mitigation violates CEQA. (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670.) The lack of adequate details provided in the Oak Tree Replacement Plan and Oak Woodland Protection and Restoration Plan

does not allow the public and decisionmakers to evaluate the mitigation measures being taken; the DEIR violates CEQA.

The DEIR's proposed mitigation BIO/mm-18.4 requires off-site preservation of oak woodlands at a 2:1 ratio and identifies the proposed mitigation site as the Dana Ridge Ranch (DEIR at 4.4-92). However, the oak woodlands and forest present at Dana Ridge Ranch are ecologically distinct from those present in the Project Area, and as stated in the DEIR, do not support the same species as the habitats in the Project Area. In fact, the habitat types that occur on Dana Ridge Ranch support *none* of the special status species present in the Project Area (DEIR at 4.4-82). The DEIR's proposed mitigation BIO/mm-18.4 is inappropriate and insufficient.

#### **D. The DEIR Fails to Adequately Analyze and/or Mitigate the Project's Impacts to Wildlife Connectivity.**

The DEIR fails to adequately assess and mitigate the Project's impacts to wildlife connectivity. The DEIR falsely minimizes the importance of the Project Area to local and regional connectivity. The DEIR claims that the Project Area is "a habitat virtually isolated by surrounding development and therefore does not serve the function of habitat connectivity for terrestrial animals" (DEIR at 4.4-78). This claim is based on a broad-strokes generalization and lacks any evidence. In addition, this conclusion conveniently ignores the natural history of numerous species that were documented within the Project Area, whose presence indicate that the Project Area is an important to local and regional habitat connectivity.

Although the Project Area is surrounded by roadways and residential areas, with the exception of the 101 Freeway, aerial imagery shows all surrounding roads are two-lane or dirt roads, which are regularly crossed by wildlife (e.g. Brehme et al., 2013). As an example, Willow Road, the main road bounding the northern edge of the Project Area, is shown in Figure 1 (Google Earth 2023). In addition, the DEIR states "there are no undeveloped open space parcels or wildlife corridors available for wildlife movement south and west of the Project Area." However, there is a large open space directly north of the Project Area, as well as multiple open spaces within several kilometers south (e.g. Nipomo Regional Park) and northwest of the Project Area. Finally, the residential areas surrounding the Project Area are generally low-density, and likely permeable to wildlife (e.g. Smith et al., 2019; Suraci et al., 2020). There is no reason to believe wildlife are *not* moving between the Project Area and surrounding areas.



**Figure 1. Willow Road is a two-lane road on the north side of the Project Area.**

The DEIR concludes that implementation of mitigation measures BIO/mm-1.1-1.6 will lead to *no impact* to the movement of native resident or migratory species (DEIR 4.4-78) without providing a comprehensive analysis or any substantive evidence to support such claims. Development in the Project Area would degrade habitat and increase traffic, light and noise pollution, outdoor pets, and other potential human activities that would negatively affect wildlife movement through the area. The DEIR’s failure to adequately describe and analyze the importance of the Project Area in local and regional connectivity misleads the public and decisionmakers about the full extent of the Project’s impacts and fails to comply with CEQA.

***i. The DEIR Fails to Adequately Assess the Project’s Impacts to Wide-ranging Species That Require Regional Connectivity to Persist.***

The DEIR claims that the Project Area is “a habitat virtually isolated by surrounding development and therefore does not serve the function of habitat connectivity for terrestrial animals” (DEIR at 4.4-78). However, the DEIR’s analysis showed that the Project Area is used by American badgers, a wide-ranging species. A study of American badgers in Monterey, CA found that badger home ranges varied from 1 km<sup>2</sup> to 25 km<sup>2</sup>, a distance much larger than the Project Area (Quinn, 2008). In addition, American badgers are particularly sensitive to fragmentation (Crooks, 2002). The permanent destruction and alteration of suitable American

badger habitat due to the Project would therefore likely extirpate American badger from the Project Area, and potentially impact the regional viability of the population. The DEIR conveniently ignores the natural history of this special-status species and erroneously concludes that the Project would have “no impact on native resident or migratory species.” It is clear that the Project Area is an important connectivity area for American badger, and potentially for other wide-ranging species including other mesopredators like bobcats, skunks, and coyotes. Mountain lions and numerous migratory birds also likely use the Project Area as live-in or move-through habitat. For example, an osprey, a migratory bird species that overwinters along much of California’s coast, was documented in the Project Area.<sup>3</sup> Evidence of mountain lions have also been documented in the vicinity of the Project Area, and given their large home ranges and available suitable habitat within the Project Area, it is possible they move through the Project Area. The DEIR’s conclusion that the Project “does not serve the function of habitat connectivity for terrestrial animals” (DEIR at 4.4-78) is unfounded and not based on the best available science. The DEIR fails to adequately assess and mitigate the Project’s impacts to wildlife movement and habitat connectivity.

***ii. The DEIR Fails to Adequately Assess the Project’s Impacts to Smaller, Less Mobile Species That Require Local Connectivity to Persist.***

The DEIR claims that the Project Area has “poor connectivity to open space for smaller wildlife species, such as snakes, lizards, and nonflying mammals.” This claim is false, misleading, and unsubstantiated. There is no reason to believe that small wildlife are not moving between the Project Area and surrounding areas. The DEIR has provided no evidence that the Project Area “does not serve the function of habitat connectivity for terrestrial animals” other than biased broad strokes and mischaracterization of the surrounding area. The DEIR’s conclusion that the Project would have “no impact on native resident or migratory species” is unfounded and inaccurate.

The DEIR under-represents the importance of the habitat and connectivity for small wildlife. For example, the DEIR stated that a Northern Pacific Rattlesnake skin shed was observed in the Project Area (DEIR at 4.4-8). Northern Pacific Rattlesnakes can migrate over 1 km away from their wintering hibernacula each year, and regularly forage across multiple hectares of habitat (Lomas et al., 2019; Putman et al., 2013). This observation alone shows that herpetofauna can and do access and use the habitat contained in the Project Area and are likely to travel outside of the Project Area as well.

---

<sup>3</sup> <https://www.inaturalist.org/observations/103334424>



The above example highlights one species, yet the same reasoning applies to other small species like snakes, lizards, and nonflying mammals. The DEIR provides no evidence that any of these taxa *do not* move between the Project Area and the surrounding open space. The DEIR's conclusion that the Project "does not serve the function of habitat connectivity for terrestrial animals" (DEIR at 4.4-78) is unsubstantiated and not founded in science.

***iii. The DEIR Fails to Adequately Assess and Mitigate the Project's Cumulative Impacts to Wildlife Connectivity.***

The DEIR fails to adequately assess and mitigate significant cumulative impacts to wildlife connectivity associated with the Project. The DEIR acknowledges that the cumulative impacts to biological resources would be significant and unavoidable (DEIR at 4.4-94), but this conclusion is based only on on-site impacts to biological resources. The DEIR fails to acknowledge the cumulative impacts to wildlife connectivity throughout the region, and it fails to include other projects in the region that would contribute to the cumulative impacts to wildlife connectivity. As noted in the DEIR, San Luis Obispo County is expecting numerous new residential (Tract 244, Woodlands Tract 2341 & 3126, Brandt) and commercial (1560 Mesa, LLC, LFOA, LLC, Warren Family Investment PTP, Ball Tagawa Growers PTP, NF Davis Drier & Elevator Ince) development projects (DEIR at 4.4-94). The combined effects of these developments will include significant habitat loss and reduced wildlife connectivity in the region.

Already tenuous, the remaining connectivity in this area is vital to the long-term survival of local wildlife. The cumulative impacts of this and other Projects being planned and proposed in the area will drive wide-ranging species like American badgers towards local extinction. Connectivity is also critical for the health and function of the existing ecosystems in and around the Project Area, especially the sensitive Burton Mesa chaparral, Coast Live Oak Woodland, and Coast Live Oak Forest. Given the rarity and importance of these habitat types in San Luis Obispo County, the DEIR must adequately analyze cumulative impacts to connectivity. The DEIR's failure to adequately disclose the Project's cumulative impacts misleads the public and decisionmakers about the full extent of the Project's impacts to wildlife connectivity.

**II. The DEIR Fails to Adequately Disclose the Site's Fire History and Analyze the Project's Impacts to Wildfire Risk.**

The Project is located in and immediately adjacent to state-designated high and moderate fire hazard severity zones. Wildfires due to lightning strikes and Indigenous cultural burning have occurred on California's landscapes for millennia. They're a natural and necessary process for many of California's ecosystems. But some of the recent fires have been exceptionally harmful to communities. In the past 200 years since European colonization, forced relocation and

cultural genocide of Native Tribes, fire suppression and poor land management combined with poor land-use planning that places more people in fire-prone landscapes have shifted historical fire regimes throughout the heterogeneous ecosystems of the state. In addition, hotter, drier and more extreme weather conditions due to climate change make the landscape more conducive to wildfire ignitions and spread. Yet the DEIR fails to adequately consider how disrupted fire regimes and climate change worsening wildfire conditions will affect the Project's impacts to wildfire risk.

In 2018, the State officially recognized that introduction of low or intermediate density development in the wildland urban interface increases ignition risk. (OPR 2018 Final Statement of Reasons – Update to CEQA Guidelines Checklist]; see also *Clews Land & Livestock, LLC v. City of San Diego* (2017) 19 Cal.App.5th 161, 193 [recognizing potential for significant environment effects when project brings new development to a wildfire prone area].) Moreover, as discussed in a 2021 Center Report, “Built to Burn: California’s Wildlands Developments are Playing with Fire,” policymakers must reckon with California’s wildfire history and acknowledge that reckless land-use policies are increasing wildfire risk and putting more people in harm’s way (Yap et al., 2021a).

Almost all (95-97%) contemporary wildfires in California have been unintentionally caused by people, including powerlines, car sparks, arson, etc. (Balch et al., 2017; Keeley & Syphard, 2019). The proposed Project will bring more people and increased human activity into fire-prone landscapes and increase ignition risk. Such a Project requires careful and comprehensive analyses of the area’s fire history, the various ecosystems’ fire ecology, and potential mitigation measures to reduce risk of ignition and fire within and adjacent to the Project Area and spreading to nearby communities.

***a. The DEIR Needs to Incorporate Traditional Ecological Knowledge and Indigenous Science Into Its Wildfire Analysis.***

The DEIR fails to mention or discuss the area’s historical fire regimes and the role Indigenous communities likely played in shaping the fire ecology of habitats in and adjacent to the Project Area. Indigenous communities should be included in discourse over climate change and wildfire. They are disproportionately impacted by wildfire. Native Americans were found to be six times more likely than other groups to live in high fire-prone areas, and high vulnerability due to socioeconomic barriers makes it more difficult for these communities to recover after a large wildfire (Davies et al., 2018). In addition, farmworkers, who are majority people of color and often include migrant workers that come from Indigenous communities, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet

farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid (Herrera, 2018; Kardas-Nelson et al., 2020; Parshley, 2018).

Ramos, 2022 states, “Indigenous communities have often been marginalized in the sciences through research approaches that are not inclusive of their cultures and histories.” Traditional ecological knowledge (“TEK”) is often excluded from analyses or distilled to conform to Western science (Ramos, 2022). EIRs, like this one, often fail to acknowledge that Indigenous communities and cultural burning played a role in California’s historical fire activity and often only mention previous wildfires in the area in CalFire records. This perpetuates the exclusion and marginalization of Indigenous communities and TEK. Consultation with local Native Tribes and incorporation of Indigenous science, including but not limited to oral histories, ethnographies (that may include burn scars and charcoal records), and archeological data should be incorporated in fire history analysis. As a society, we need to work towards integrative research that “transcends disciplinary boundaries” and employs a range of methodological options to get a deeper understanding of the relationship between people and ecosystems (Ramos, 2022). Doing so will help inform fire management strategies and mitigation measures that work towards reducing harms of wildfire to people while facilitating beneficial fire for the appropriate ecosystems.

***b. The DEIR Fails to Adequately Assess and Mitigate the Project’s Wildfire Impacts.***

As detailed in a 2021 Center Report (T. Yap et al., 2021), development in highly fire-prone areas increases unintentional ignitions, places more people at risk (within and downwind of the Plan area), and destroys native shrubland habitats that support high levels of biodiversity. Almost all contemporary wildfires in California (95-97%) are caused by humans in the wildland urban interface (Balch et al., 2017; Keeley & Syphard, 2019; Radeloff et al., 2018; Syphard et al., 2007). For example, the 2019 Kincade Fire, 2018 Camp and Woolsey fires, and 2017 Tubbs and Thomas fires were sparked by powerlines or electrical equipment. And although many of the 2020 fires were sparked by a lightning storm, the Apple Fire was caused by sparks from a vehicle, the El Dorado Fire was caused by pyrotechnics at a gender-reveal celebration, the Blue Ridge Fire was likely caused by a house fire, and electrical equipment is suspected to have ignited the Silverado and Zogg fires.

Recent wildfires have been exceptionally harmful to people. Between 2015 and 2020 almost 200 people in the state were killed in wildfires, more than 50,000 structures burned, hundreds of thousands of people had to evacuate their homes and endure power outages, and millions were exposed to unhealthy levels of smoke and air pollution. Human-caused wildfires at the urban wildland interface that burn through developments are becoming more common with housing and human infrastructure extending into fire-prone habitats, and homes and structures

can add fuel to fires and increase spread (Knapp et al., 2021). This is increasing the frequency and toxicity of emissions near communities in and downwind of the fires. Buildings and structures often contain plastic materials, metals, and various stored chemicals that release toxic chemicals when burned, such as pesticides, solvents, paints, and cleaning solutions (Weinhold, 2011). This has been shown with the 2018 Camp Fire that burned 19,000 structures; the smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area and CARB found that high levels of heavy metals like lead and zinc traveled more than 150 miles (California Air Resources Board, 2021).

In addition, there are significant economic impacts of wildfires on residents throughout the state. One study estimated that wildfire damages from California wildfires in 2018 cost \$148.5 billion in capital losses, health costs related to air pollution exposure, and indirect losses due to broader economic disruption cascading along with regional and national supply chains (D. Wang et al., 2021). Meanwhile the cost of fire suppression and damages in areas managed by the California Department of Forestry and Fire (Cal Fire, 2021) has skyrocketed to more than \$23 billion during the 2015-2018 fire seasons.

***i. The DEIR fails to adequately assess and mitigate the Project's impacts to wildfire risk, including safe evacuation.***

The DEIR erroneously concludes the Project would result in less than significant impacts to wildfire risk. Development in and near high fire-prone areas should be avoided. If unavoidable, mitigation measures should require structures to have ember-resistant vents, fire-resistant roofs, and irrigated defensible space immediately adjacent to structures. External sprinklers with an independent water source could reduce structures' flammability. Rooftop solar and clean energy microgrids could reduce fire risk from utilities' infrastructure during extreme weather. In addition, mitigation measures should include equitably retrofitting existing communities near the Project Area with similar fire-resilient measures and providing wildfire personal protective equipment (e.g., N95 masks, air purifiers) to nearby communities. Education and awareness for employees, customers, and nearby communities should be provided and include how to reduce ignition risk. Although the DEIR complies with Chapter 7A of California Building Code and Chapter R337 of the California Residential Code, compliance with the fire code has not shown an improvement in fire safety or ignition reduction. A 2021 study found that 56% of homes built during or after 2008 (when the new fire building code went into effect) burned in the Camp Fire (Knapp et al., 2021). The researchers show that there was no significant difference in fire survival between buildings built between 1997 - 2007 and 2008 - 2018 (11 years before and after code was in effect) (Knapp et al., 2021). This study also found that homes can add fuel to fires and fire safety is not guaranteed (Knapp et al., 2021).

The DEIR fails to provide evidence that the Project's impacts on an adopted emergency

evacuation plan is less than significant with mitigation. Although the DEIR states that “Based on the scale of proposed development, it is likely that, in the event of an evacuation, the rate of egress from the Specific Plan Area would be reduced” (DEIR at 4.20-13), the DEIR does not adequately mitigate for this impact. The DEIR provides no analysis related to evacuation speed or efficacy, nor does it provide any mitigation for the potential reduction in egress rate with an increased human population in the area due to the proposed Project. Instead, the proposed mitigation measures (PS/mm-1.1) are focused on a) identifying temporary refuge areas that include “1. Parking lots in commercial and multi-family residential areas, 2. Neighborhood parks, 3. Public parks, 4. Neighborhood pocket parks” and b) public outreach to “provide information regarding emergency planning and altering within the Specific Plan Area” (DEIR at 4.20-13). The DEIR has provided no evidence that these proposed refuge areas would be safe in the event of a wildfire. Such areas, surrounded by residential structures and within a fire hazard severity zone, would likely also burn and be unsafe for people to shelter in. Without a robust emergency evacuation plan, the outreach component of the proposed mitigation is irrelevant. This lack of adequate analysis and mitigation endangers the lives of the development’s occupants, as well as those of surrounding communities. The DEIR’s proposed emergency evacuation plan mitigation is wholly inadequate.

In addition, the Project should require wildfire mitigation that includes emergency services and evacuation plans that are inclusive and consider diverse populations and vulnerable groups. Wildfire impacts disproportionately affect low-income and minority communities. As discussed in the Center’s 2021 Built to Burn report (T. Yap et al., 2021):

Past environmental hazards have shown that those in at-risk populations (e.g., low-income, elderly, disabled, non-English-speaking, homeless) often have limited resources for disaster planning and preparedness (Richards, 2019). Vulnerable groups also have fewer resources to have cars to evacuate, buy fire insurance, implement defensible space around their homes, or rebuild, and they have less access to disaster relief during recovery (Davis, 2018; Fothergill & Peek, 2004; Harnett, 2018; Morris, 2019; Richards, 2019).

In addition, emergency services often miss at-risk individuals when disasters happen because of limited capacity or language constraints (Richards, 2019). For example, evacuation warnings are often not conveyed to disadvantaged communities (Davies et al., 2018). In the aftermath of wildfires and other environmental disasters, news stories have repeatedly documented the lack of multilingual evacuation warnings leaving non-English speakers in danger (Axelrod, 2017; Banse, 2018; Gerety, 2015; Richards, 2019). Survivors are left without resources to cope with the death of loved ones, physical injuries and

emotional trauma from the chaos that wildfires have inflicted on their communities.

Health impacts from wildfires, particularly increased air pollution from fine particulates (PM<sub>2.5</sub>) in smoke, also disproportionately affect vulnerable populations, including low-income communities, people of color, children, the elderly and people with pre-existing medical conditions (Delfino et al., 2009; Hutchinson et al., 2018; Jones et al., 2020; Künzli et al., 2006; Reid et al., 2016).

Increased PM<sub>2.5</sub> levels during wildfire events have been associated with increased respiratory and cardiovascular emergency room visits and hospitalizations, which were disproportionately higher for low socioeconomic status communities and people of color (Hutchinson et al., 2018; Jones et al., 2020; Liu et al., 2017; Reid et al., 2016). Similarly, asthma admissions were found to have increased by 34% due to smoke exposure from the 2003 wildfires in Southern California, with elderly and child age groups being the most affected (Künzli et al., 2006).

Farmworkers, who are majority people of color, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid (Herrera, 2018; Kardas-Nelson et al., 2020; Parshley, 2018).

The DEIR fails to adequately assess and mitigate the Project's impacts on wildfire risk, including safe evacuation.

***ii. The DEIR's Proposed Mitigation for Impacts to Wildfire is Improperly Deferred.***

The DEIR's only proposed mitigation measure to reduce the impacts of wildfire risk in the proposed Project Area to less than significant is a set of Covenants, Conditions, and Restrictions (CCR) that shall be developed, implemented, and enforced by the future Homeowner's Association (HOA) in collaboration with the County. The proposed HOA CCR is improperly deferred mitigation. Such plans should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to wildfire. In addition, insufficient detail is provided for the HOA CCR. The DEIR lists several topics that *may* be included in the CCR, but does not specify any enforceable requirements. The DEIR provides insufficient detail for the public and decision makers to ascertain whether such measures would adequately mitigate the Project's impacts to

wildfire risk in the Project Area. Additionally, the proposed HOA CCR places the entire burden of fire safety on community members and disregards the Applicant's role in endangering lives by placing more people in high fire-prone areas, thus sidestepping responsibility and dismissing the need for proven mitigation measures.

The lack of adequate details regarding mitigation measures being readily provided for wildfire safety does not allow the public and decisionmakers to evaluate the mitigation measures being taken; the DEIR violates CEQA.

The proposed mitigation also ignores impacts to fire protection services and first responders. Placing more roads and development in fire-prone areas will further burden already strained people and resources. Funding is already lacking for the increasing costs of fire suppression in California. According to Cal Fire, costs were over \$4.6 billion in 2016-2020 (Cal Fire, 2021). But the DEIR does not provide a mechanism for developers to reimburse Cal Fire and local jurisdictions for the many millions (or billions) of dollars that will likely expend when—not if—San Luis Obispo County community members need to be defended from natural or human-caused wildfires in the vicinity. If costs are not sufficiently covered by the developers, California and federal residents end up paying in the form of fire insurance premiums and taxes that support Cal Fire and federal government subsidies and grants for homes in high-risk areas. And these costs do not include other indirect/hidden costs associated with wildfires, such as the costs of doctors' appointments, medication, sick days taken from places of work, funerals, etc. As the costs of housing in California continues to increase, these costs will also continue to rise. Given the current lack of funding and shortage of firefighting personnel, any development in high fire-prone areas should be required to provide adequate funding and resources for firefighting operations and safety measures.

### **III. CONCLUSION**

Thank you for the opportunity to submit comments on the Draft Environmental Impact Report for the Dana Reserve Specific Plan Project. Due to the shortcomings described above, the County should make corrections to the EIR and Project—including properly analyzing and mitigating for the Projects significant impacts to biological resources, wildlife connectivity, and its wildfire risks—and recirculate a revised and legally adequate EIR for public review and comment.

Given the possibility that the Center will be required to pursue legal remedies in order to ensure that the County complies with its legal obligations including those arising under CEQA, we would like to remind the County of its statutory duty to maintain and preserve all documents and communications that may constitute part of the "administrative record" of this proceeding. (§ 21167.6(e); *Golden Door Properties, LLC v. Superior* ((2020) 53 Cal.App.5th 733.) The

administrative record encompasses any and all documents and communications that relate to any and all actions taken by the County with respect to the Project, and includes “pretty much everything that ever came near a proposed [project] or [] the agency’s compliance with CEQA . . .” (*County of Orange v. Superior Court* (2003) 113 Cal.App.4th 1, 8.) The administrative record further includes all correspondence, emails, and text messages sent to or received by the County’s representatives or employees, that relate to the Project, including any correspondence, emails, and text messages sent between the County’s representatives or employees and the Applicant’s representatives or employees. Maintenance and preservation of the administrative record requires that, *inter alia*, the County (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.

Please add Center staff members Sofia Prado-Irwin ([spradoirwin@biologicaldiversity.org](mailto:spradoirwin@biologicaldiversity.org)) and Hallie Kutak ([hkutak@biologicaldiversity.org](mailto:hkutak@biologicaldiversity.org)) to your notice list for all future updates to the Project. Do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Sofia', written in black ink.

Sofia Prado-Irwin  
Scientist  
Center for Biological Diversity  
1212 Broadway, Suite #800  
Oakland, CA 94612  
(510) 844-7100 x548  
[spradoirwin@biologicaldiversity.org](mailto:spradoirwin@biologicaldiversity.org)



## References

- Allen, M. L., Wittmer, H. U., Houghtaling, P., Smith, J., Elbroch, L. M., & Wilmers, C. C. (2015). The Role of Scent Marking in Mate Selection by Female Pumas (*Puma concolor*). *PLOS ONE*, *10*(10), e0139087. <https://doi.org/10.1371/journal.pone.0139087>
- Allen, M. L., Yovovich, V., & Wilmers, C. C. (2016). Evaluating the responses of a territorial solitary carnivore to potential mates and competitors. *Scientific Reports*, *6*(1), 27257. <https://doi.org/10.1038/srep27257>
- Axelrod, J. (2017, December 13). California wildfires spark issues of bilingual emergency communications. *American City and County*. <https://www.americancityandcounty.com/2017/12/13/california-wildfires-spark-issues-of-bilingual-emergency-communications/>
- Balch, J. K., Bradley, B. A., Abatzoglou, J. T., Nagy, R. C., Fusco, E. J., & Mahood, A. L. (2017). Human-started wildfires expand the fire niche across the United States. *Proceedings of the National Academy of Sciences*, *114*(11), 2946–2951. <https://doi.org/10.1073/pnas.1617394114>
- Banse, T. (Director). (2018, April 20). *How Do You Say 'Evacuate' In Tagalog? In A Disaster, English Isn't Always Enough*. NWPB. <https://www.nwpb.org/2018/04/20/how-do-you-say-evacuate-in-tagalog-in-a-disaster-english-isnt-always-enough/>
- Barry, J. M., Elbroch, L. M., Aiello-lammens, M. E., Sarno, R. J., Seelye, L., Kusler, A., & Quigley, H. B. (2019). Pumas as ecosystem engineers: Ungulate carcasses support beetle assemblages in the Greater Yellowstone Ecosystem. *Oecologia*, *189*, 577–586.
- Benson, J. F., Mahoney, P. J., Sikich, J. A., Serieys, L. E. K., Pollinger, J. P., Ernest, H. B., & Riley, S. P. D. (2016). Interactions between demography, genetics, and landscape connectivity increase extinction probability for a small population of large carnivores in a major metropolitan area. *Proceedings of the Royal Society B: Biological Sciences*, *283*(1837), 20160957.
- Benson, J. F., Mahoney, P. J., Vickers, T. W., Sikich, J. A., Beier, P., Riley, S. P. D., Ernest, H. B., & Boyce, W. M. (2019). Extinction vortex dynamics of top predators isolated by urbanization. *Ecological Applications*, *29*(3), e01868.
- Brehme, C. S., Tracey, J. A., Mcclenaghan, L. R., & Fisher, R. N. (2013). Permeability of Roads to Movement of Scrubland Lizards and Small Mammals: Animal Movement and Road Permeability. *Conservation Biology*, *27*(4), 710–720. <https://doi.org/10.1111/cobi.12081>

- Cal Fire. (2021). *Emergency Fund Fire Suppression Expenditures*. California Department of Forestry and Fire Protection.
- California Air Resources Board. (2021). *Camp Fire Air Quality Data Analysis*.
- Cowan, J. (2023, May 22). She's Out to Save Rare Wildflowers, but First She Has to Find Them. *The New York Times*.
- Crooks, K. R. (2002). Relative Sensitivities of Mammalian Carnivores to Habitat Fragmentation. *Conservation Biology*, 16(2), 488–502. <https://doi.org/10.1046/j.1523-1739.2002.00386.x>
- Davies, I. P., Haugo, R. D., Robertson, J. C., & Levin, P. S. (2018). The unequal vulnerability of communities of color to wildfire. *PLOS ONE*, 13(11), e0205825. <https://doi.org/10.1371/journal.pone.0205825>
- Davis, M. (2018, December 5). A tale of two wildfires: Devastation highlights California's stark divide. *The Guardian*. <https://www.theguardian.com/us-news/2018/dec/04/california-wildfires-paradise-malibu-wealth-class>
- Delfino, R. J., Brummel, S., Wu, J., Stern, H., Ostro, B., Lipsett, M., Winer, A., Street, D. H., Zhang, L., Tjoa, T., & Gillen, D. L. (2009). The relationship of respiratory and cardiovascular hospital admissions to the southern California wildfires of 2003. *Occupational and Environmental Medicine*, 66(3), 189–197. <https://doi.org/10.1136/oem.2008.041376>
- Environmental Law Institute. (2003). *Conservation thresholds for land use planners* (Environmental Law).
- Ernest, H. B., Boyce, W. M., Bleich, V. C., May, B., Stiver, S. J., & Torres, S. G. (2003). Genetic structure of mountain lion (*Puma concolor*) populations in California. *Conservation Genetics*, 4, 353–366.
- Ernest, H. B., Vickers, T. W., Morrison, S. A., Buchalski, M. R., & Boyce, W. M. (2014). Fractured genetic connectivity threatens a Southern California puma (*Puma concolor*) population. *PLoS ONE*, 9(10).
- Fellers, G. M. and, & Kleeman, P. M. (2007). California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation. *Journal of Herpetology*, 41(2), 276–286.
- Fothergill, A., & Peek, L. A. (2004). Poverty and Disasters in the United States: A Review of Recent Sociological Findings. *Natural Hazards*, 32(1), 89–110. <https://doi.org/10.1023/B:NHAZ.0000026792.76181.d9>

- Gerety, R. M. (Director). (2015, September 1). *Farm Workers In Wildfire Areas Aren't Always Aware Of Evacuation Plans*. NWPB. <https://www.npr.org/2015/09/01/436525793/farm-workers-in-wildfire-areas-arent-always-aware-of-evacuation-plans>
- Gustafson, K. D., Gagne, R. B., Buchalski, M. R., Vickers, T. W., Riley, S. P. D., Sikich, J. A., Rudd, J. L., Dellinger, J. A., LaCava, M. E. F., & Ernest, H. B. (2021). Multi-population puma connectivity could restore genomic diversity to at-risk coastal populations in California. *Evolutionary Applications*.
- Gustafson, K. D., Gagne, R. B., Vickers, T. W., Riley, S. P. D., Wilmers, C. C., Bleich, V. C., Pierce, B. M., Kenyon, M., Drazenovich, T. L., Sikich, J. A., Boyce, W. M., & Ernest, H. B. (2018). Genetic source–sink dynamics among naturally structured and anthropogenically fragmented puma populations. *Conservation Genetics*, 20(2), 215–227.
- Hager, S. B., & Brattstrom, B. H. (1997). Surface Activity of the San Diego Horned Lizard *Phrynosoma coronatum blainvillii*. *The Southwestern Naturalist*, 42(3), 339–344.
- Harnett, S. (2018, September 19). Low-Income Communities Struggle To Recover After A Wildfire. *KQED*.
- Herrera, J. (2018). As Wildfire Smoke Fills the Air, Farmworkers Continued to Work, Even as Public-School Students and Others Were Told to Stay Home and Indoors. *Pacific Standard*.
- Hutchinson, J. A., Vargo, J., Milet, M., French, N. H. F., Billmire, M., Johnson, J., & Hoshiko, S. (2018). The San Diego 2007 wildfires and Medi-Cal emergency department presentations, inpatient hospitalizations, and outpatient visits: An observational study of smoke exposure periods and a bidirectional case-crossover analysis. *PLOS Medicine*, 15(7), e1002601. <https://doi.org/10.1371/journal.pmed.1002601>
- Jones, C. G., Rappold, A. G., Vargo, J., Cascio, W. E., Kharrazi, M., McNally, B., Hoshiko, S., & with the CARES Surveillance Group. (2020). Out-of-Hospital Cardiac Arrests and Wildfire-Related Particulate Matter During 2015–2017 California Wildfires. *Journal of the American Heart Association*, 9(8), e014125. <https://doi.org/10.1161/JAHA.119.014125>
- Kardas-Nelson, M., Alvarenga, J., & Tuirán, R. A. (2020, October 6). Farmworkers forced to put harvest over health during wildfires. *InvestigateWest*.
- Keeley, J. E., & Syphard, A. D. (2019). Twenty-first century California, USA, wildfires: Fuel-dominated vs. wind-dominated fires. *Fire Ecology*, 15(1), 24, s42408-019-0041-0. <https://doi.org/10.1186/s42408-019-0041-0>

- Knapp, E. E., Valachovic, Y. S., Quarles, S. L., & Johnson, N. G. (2021). Housing arrangement and vegetation factors associated with single-family home survival in the 2018 Camp Fire, California. *Fire Ecology*, *17*(1), 25. <https://doi.org/10.1186/s42408-021-00117-0>
- Kuhnz, L. A., Burton, R. K., Slattery, P. N., & Oakden, J. M. (2005). Microhabitats and Population Densities of California Legless Lizards, with Comments on Effectiveness of Various Techniques for Estimating Numbers of Fossorial Reptiles. *Journal of Herpetology*, *39*(3), 395–402. <https://doi.org/10.1670/126-04A.1>
- Künzli, N., Avol, E., Wu, J., Gauderman, W. J., Rappaport, E., Millstein, J., Bennion, J., McConnell, R., Gilliland, F. D., Berhane, K., Lurmann, F., Winer, A., & Peters, J. M. (2006). Health Effects of the 2003 Southern California Wildfires on Children. *American Journal of Respiratory and Critical Care Medicine*, *174*(11), 1221–1228. <https://doi.org/10.1164/rccm.200604-519OC>
- Labarge, L. R., Planck, M., Behavior, A., & Elbroch, L. M. (2022). Pumas *Puma concolor* as ecological brokers: A review of their biotic relationships. *Mammal Review*.
- Liu, J. C., Wilson, A., Mickley, L. J., Ebisu, K., Sulprizio, M. P., Wang, Y., Peng, R. D., Yue, X., Dominici, F., & Bell, M. L. (2017). Who Among the Elderly Is Most Vulnerable to Exposure to and Health Risks of Fine Particulate Matter From Wildfire Smoke? *American Journal of Epidemiology*, *186*(6), 730–735. <https://doi.org/10.1093/aje/kwx141>
- Loarie, S. R., Carter, B. E., Hayhoe, K., McMahon, S., Moe, R., Knight, C. A., & Ackerly, D. D. (2008). Climate Change and the Future of California's Endemic Flora. *PLoS ONE*, *3*(6), e2502. <https://doi.org/10.1371/journal.pone.0002502>
- Lomas, E., Maida, J. R., Bishop, C. A., & Larsen, K. W. (2019). Movement Ecology of Northern Pacific Rattlesnakes (*Crotalus o. oregonus*) in Response to Disturbance. *Herpetologica*, *75*(2), 153. <https://doi.org/10.1655/D-17-00060>
- Loyd, K. A. T., Hernandez, S. M., Carroll, J. P., Abernathy, K. J., & Marshall, G. J. (2013). Quantifying free-roaming domestic cat predation using animal-borne video cameras. *Biological Conservation*, *160*, 183–189. <https://doi.org/10.1016/j.biocon.2013.01.008>
- McClure, C. J. W., Ware, H. E., Carlisle, J., Kaltenecker, G., & Barber, J. R. (2013). An experimental investigation into the effects of traffic noise on distributions of birds: Avoiding the phantom road. *Proceedings of the Royal Society B: Biological Sciences*, *280*(1773), 20132290. <https://doi.org/10.1098/rspb.2013.2290>

- Morey, S. (1988). Life History Account for Blainville's Horned Lizard. In D. C. Zeiner, W. F. J. Laudenslayer, K. E. Mayer, & M. White (Eds.), *California's Wildlife. Vol. I-III*. California Depart. of Fish and Game.
- Morris, B. (2019, April 23). How the Ultra-Wealthy are Making Themselves Immune to Natural Disasters. *Los Angeles Magazine*. <https://www.lamag.com/citythinkblog/how-the-ultra-wealthy-are-making-themselves-immune-to-natural-disasters/>
- Parshley, L. (2018, December 7). The Lingering Effects of Wildfires Will Disproportionately Hurt People of Color. *VICE*.
- Putman, B. J., Lind, C., & Taylor, E. N. (2013). Does Size Matter? Factors Influencing the Spatial Ecology of Northern Pacific Rattlesnakes (*Crotalus oreganus oreganus*) in Central California. *Copeia*, 2013(3), 485–492. <https://doi.org/10.1643/CE-12-048>
- Quinn, J. H. (2008). *The ecology of the American badger Taxidea taxus in California: Assessing conservation needs on multiple scales*. University of California Davis.
- Radeloff, V. C., Helmers, D. P., Kramer, H. A., Mockrin, M. H., Alexandre, P. M., Bar-Massada, A., Butsic, V., Hawbaker, T. J., Martinuzzi, S., Syphard, A. D., & Stewart, S. I. (2018). Rapid growth of the US wildland-urban interface raises wildfire risk. *Proceedings of the National Academy of Sciences*, 115(13), 3314–3319. <https://doi.org/10.1073/pnas.1718850115>
- Ramos, S. C. (2022). Understanding Yurok traditional ecological knowledge and wildlife management. *The Journal of Wildlife Management*, 86(1). <https://doi.org/10.1002/jwmg.22140>
- Reid, C. E., Jerrett, M., Tager, I. B., Petersen, M. L., Mann, J. K., & Balmes, J. R. (2016). Differential respiratory health effects from the 2008 northern California wildfires: A spatiotemporal approach. *Environmental Research*, 150, 227–235. <https://doi.org/10.1016/j.envres.2016.06.012>
- Richards, R. (2019). *After the Fire: Vulnerable Communities Respond and Rebuild*. Center for American Progress. <https://www.americanprogress.org/article/fire-vulnerable-communities-respond-rebuild/>
- Riley, S. P. D., Serieys, L. E. K., Pollinger, J. P., Sikich, J. A., Dalbeck, L., Wayne, R. K., & Ernest, H. B. (2014). Individual behaviors dominate the dynamics of an urban mountain lion population isolated by roads. *Current Biology*, 24(17), 1989–1994.

- Ripple, W. J., & Beschta, R. L. (2006). Linking a cougar decline , trophic cascade , and catastrophic regime shift in Zion National Park. *Biological Conservation*, *133*, 397–408.
- Ripple, W. J., & Beschta, R. L. (2008). Trophic cascades involving cougar, mule deer, and black oaks in Yosemite National Park. *Biological Conservation*, *141*, 1249–1256.
- Ripple, W. J., Estes, J. A., Beschta, R. L., Wilmers, C. C., Ritchie, E. G., Hebblewhite, M., Berger, J., Elmhagen, B., Letnic, M., Nelson, M. P., Schmitz, O. J., Smith, D. W., Wallach, A. D., & Wirsing, A. J. (2014). Status and ecological effects of the world 's largest carnivores. *Science*, *343*(6167), 1241484.
- Ruth, T. K., & Elbroch, L. M. (2014). The carcass chronicles: Carnivory, nutrient flow, and biodiversity. *Wild Felid Monitor*, 14–19.
- Smith, J. A., Duane, T. P., & Wilmers, C. C. (2019). Moving through the matrix: Promoting permeability for large carnivores in a human-dominated landscape. *Landscape and Urban Planning*, *183*, 50–58. <https://doi.org/10.1016/j.landurbplan.2018.11.003>
- Smith, J. A., Suraci, J. P., Clinchy, M., Crawford, A., Roberts, D., Zanette, L. Y., & Wilmers, C. C. (2017). Fear of the human ‘super predator’ reduces feeding time in large carnivores. *Proceedings of the Royal Society B: Biological Sciences*, *284*(1857), 20170433. <https://doi.org/10.1098/rspb.2017.0433>
- Smith, J. A., Wang, Y., & Wilmers, C. C. (2015). Top carnivores increase their kill rates on prey as a response to human-induced fear. *Proceedings of the Royal Society B: Biological Sciences*, *282*(1802), 20142711. <https://doi.org/10.1098/rspb.2014.2711>
- Suraci, J. P., Clinchy, M., Zanette, L. Y., & Wilmers, C. C. (2019). Fear of humans as apex predators has landscape-scale impacts from mountain lions to mice. *Ecology Letters*, *22*(10), 1578–1586. <https://doi.org/10.1111/ele.13344>
- Suraci, J. P., Nickel, B. A., & Wilmers, C. C. (2020). Fine-scale movement decisions by a large carnivore inform conservation planning in human-dominated landscapes. *Landscape Ecology*, *35*(7), 1635–1649. <https://doi.org/10.1007/s10980-020-01052-2>
- Syphard, A. D., Radeloff, V. C., Keeley, J. E., Hawbaker, T. J., Clayton, M. K., Stewart, S. I., & Hammer, R. B. (2007). Human Influence on California Fire Regimes. *Ecological Applications*, *17*(5), 1388–1402. <https://doi.org/10.1890/06-1128.1>
- U.S. Fish and Wildlife Service. (2023). *Pismo Clarkia (Clarkia speciosa ssp. Immaculata) 5-Year Review: Evaluation and Summary*. Ventura Fish and Wildlife Office.

- Vickers, T. W., Sanchez, J. N., Johnson, C. K., Morrison, S. A., Botta, R., Smith, T., Cohen, B. S., Huber, P. R., Ernest, H. B., & Boyce, W. M. (2015). Survival and mortality of pumas (*Puma concolor*) in a fragmented, urbanizing landscape. *PLoS ONE*, *10*(7), 1–18.
- Wang, D., Guan, D., Zhu, S., Kinnon, M. M., Geng, G., Zhang, Q., Zheng, H., Lei, T., Shao, S., Gong, P., & Davis, S. J. (2021). Economic footprint of California wildfires in 2018. *Nature Sustainability*, *4*(3), 252–260. <https://doi.org/10.1038/s41893-020-00646-7>
- Wang, Y., Smith, J. A., & Wilmers, C. C. (2017). Residential development alters behavior, movement, and energetics in an apex predator, the puma. *PLOS ONE*, *12*(10), e0184687. <https://doi.org/10.1371/journal.pone.0184687>
- Ware, H. E., McClure, C. J. W., Carlisle, J. D., & Barber, J. R. (2015). A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. *Proceedings of the National Academy of Sciences*, *112*(39), 12105–12109. <https://doi.org/10.1073/pnas.1504710112>
- Weinhold, B. (2011). Fields and Forests in Flames: Vegetation Smoke & Human Health. *Environmental Health Perspectives*, *119*(9), A386–A393.
- Wilmers, C. C., Wang, Y., Nickel, B., Houghtaling, P., Shakeri, Y., Allen, M. L., Kermish-Wells, J., Yovovich, V., & Williams, T. (2013). Scale dependent behavioral responses to human development by a large predator, the puma. *PLoS ONE*, *8*(4).
- Yap, T. A., Rose, J. P., & Cummings, B. (2019). *A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA)*.
- Yap, T., Rose, J. P., Broderick, P., & Prabhala, A. (2021). *Built to Burn: California's Wildlands Developments Are Playing With Fire*. Center for Biological Diversity.
- Yovovich, V., Allen, M. L., Macaulay, L. T., & Wilmers, C. C. (2020). Using spatial characteristics of apex carnivore communication and reproductive behaviors to predict responses to future human development. *Biodiversity and Conservation*, *29*(8), 2589–2603. <https://doi.org/10.1007/s10531-020-01990-y>