

Attachment 1

From: [Wendy Krupnick](#)
To: [Rawson, Alisa](#)
Subject: [EXTERNAL] Roseland Creek Park
Date: Sunday, September 19, 2021 9:57:08 PM

Dear Ms. Rawson,

I will not be able to attend the hearing for the Roseland Creek Community Park Master Plan on September 28. So I am submitting my comments here.

I do not live in Roseland but am somewhat familiar with this site and have been following the proposals for a community park for several years. Although I appreciate that the proposed Plan keeps the majority of the site natural, there are two features which I feel are inappropriate.

My main concern is about the large lawn. As you know, we are in a severe drought and many scientists consider this period to be a "mega-drought" which could go on indefinitely. I know several people whose wells have gone dry and many local farmers and ranchers are struggling due to lack of water. No new lawns should be considered in this region and most existing lawns should be converted to drought tolerant ground cover, mulch or other permeable material. A lawn is not needed to have a park! There are many examples of well used nature parks around the country without lawns.

My second concern is that the parking area may be larger than needed. If this park really is to server the local community, most people will be able to walk or ride bikes to get there. The park should be designed to maximize pedestrian and bicycle access, with adequate access for wheel chairs as well.

Thank you for considering my comments.

Wendy Krupnick

Santa Rosa

From: [Mary Goe](#)
To: [Rawson, Alisa](#)
Subject: [EXTERNAL] Roseland Creek Park master plan adoption
Date: Sunday, September 19, 2021 2:34:55 PM

Hi

I am quite dismayed at the lack of maintenance currently at this park. It is filled with litter and abandoned homeless encampments. Please see attached photos.

I ask that the city not spend money on parking lots at this park until they can maintain what we have currently. I shudder to think how much more trash will end up in the park if we get parking lots with no maintenance. If there's not money for cleaning up the park how can there be money to build parking lots?

Thanks

Mary

Sent from my iPhone

From: [Mary Goe](#)
To: [Rawson, Alisa](#)
Subject: [EXTERNAL] Photos of trash at Roseland Creek Park
Date: Sunday, September 19, 2021 2:36:03 PM

Please help the neighborhood keep this park clean.



Sent from my iPhone



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Oakland, CA 94612

www.lozeaudrury.com
richard@lozeaudrury.com

Via E-mail and U.S. First Class Mail

September 20, 2021

Mayor Chris Rogers and
Honorable Members of the City Council
City of Santa Rosa
100 Santa Rosa Avenue
Santa Rosa, CA 95404
crogers@srcity.org

Jen Santos, Deputy Director
City of Santa Rosa
Recreation and Parks Department
55 Stony Point Road
Santa Rosa, CA 95401
jsantos@srcity.org

Alisa Rawson, Administrative Technician
arawson@srcity.org

**Re: Comment on the Mitigated Negative Declaration, Roseland Creek
Community Park**

Dear Mayor Rogers, Honorable Members of the City Council, and Ms. Santos:

I am writing on behalf of Roseland Action, an unincorporated ad hoc community organization founded by six Roseland residents in 1993, regarding the Initial Study and Mitigated Negative Declaration ("MND") prepared for the Project known as Roseland Creek Community Park Project, located in the City of Santa Rosa ("Project").

After reviewing the IS/MND, we conclude that it fails to analyze all environmental impacts and implement all necessary mitigation measures, and that there is a fair argument that the Project may have adverse environmental impacts. Roseland Action respectfully requests that the City withdraw the IS/MND and instead prepare an environmental impact report ("EIR") for the Project.

These comments have been prepared with the assistance of wildlife biologist Shawn Smallwood, Ph.D. Dr. Smallwood's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference and entirety.

I. PROJECT DESCRIPTION

The Project proposes to develop a community park on approximately 19.49 acres of City-owned property located at 1027 McMinn Avenue and 1360, 1370, and 1400 Burbank Avenue. The proposed park would include a nature center, an outdoor classroom/community garden, picnic areas, a shade structure, a multi-use turf area, a nature-themed play area, sports court, parking areas, and a network of universally accessible trails including two footbridges across Roseland Creek. Roseland Creek flows through the lower portion of the site and the site is surrounded by single- and multi-family residential land uses on the north and east, rural residential uses to the south, and an elementary school to the west. The project site itself is mostly undeveloped and contains grassland, oak woodland, and riparian habitat zones.

According to the General Plan, the area is currently zoned as Medium-Density Residential and the project site is also identified as Parks/Recreation and a Proposed Community Park. The area is zoned as Open Space – Recreation (OSR-SR) and Multi Family Residential (R-3-18-SR) in a Scenic Road combining district (-SR).

Approvals and permits that may be required for the project include, but are not limited to: General Plan Amendment, Specific Plan Amendment, Tree Removal Permit, Grading Permit, Building Permit, USFWS Consultation, Lake and Streambed Alteration Agreement (CDFW), Sonoma County Agricultural Preservation and Open Space District (SCAPOS) Conservation Easement, and SCAPOS Master Plan Approval.

II. LEGAL STANDARD

As the California Supreme Court has held, “[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.” *Communities for a Better Env’t v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 (*CBE v. SCAQMD*) (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). “Significant environmental effect” is defined very broadly as “a substantial or potentially substantial adverse change in the environment.” Pub. Res. Code (“PRC”) § 21068; see also 14 CCR § 15382. An effect on the environment need not be “momentous” to meet the CEQA test for significance; it is enough that the impacts are “not trivial.” *No Oil, Inc.*, 13 Cal.3d at 83. “The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope

of the statutory language.” *Communities for a Better Env’t v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 (*CBE v. CRA*).

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an “environmental ‘alarm bell’ whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return.” *Bakersfield Citizens*, 124 Cal.App.4th at 1220. The EIR also functions as a “document of accountability,” intended to “demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.” *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process “protects not only the environment but also informed self-government.” *Pocket Protectors*, 124 Cal.App.4th at 927.

An EIR is required if “there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.” PRC § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 CCR § 15371), only if there is not even a “fair argument” that the project will have a significant environmental effect. PRC, §§ 21100, 21064. Since “[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process,” by allowing the agency “to dispense with the duty [to prepare an EIR],” negative declarations are allowed only in cases where “the proposed project will not affect the environment at all.” *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study “to a point where clearly no significant effect on the environment would occur, and . . . there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.” PRC §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, “may” means a reasonable possibility of a significant effect on the environment. PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, 124 Cal.App.4th at 927; *League for Protection of Oakland’s etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–05.

Under the “fair argument” standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency’s decision. 14 CCR § 15064(f)(1);

Pocket Protectors, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The “fair argument” standard creates a “low threshold” favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors*, 124 Cal.App.4th at 928.

The “fair argument” standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

This ‘fair argument’ standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency’s decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

Kostka & Zishcke, *Practice Under CEQA*, §6.29, pp. 273-274. The Courts have explained that “it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency’s determination. Review is de novo, with a preference for resolving doubts in favor of environmental review.” *Pocket Protectors*, 124 Cal.App.4th at 928 (emphasis in original).

CEQA requires that an environmental document include a description of the project’s environmental setting or “baseline.” CEQA Guidelines § 15063(d)(2). The CEQA “baseline” is the set of environmental conditions against which to compare a project’s anticipated impacts. *CBE v. SCAQMD*, 48 Cal.4th at 321. CEQA Guidelines section 15125(a) states, in pertinent part, that a lead agency’s environmental review under CEQA:

...must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124–25 (“*Save Our Peninsula*”).) As the court of appeal has explained, “the impacts of

the project must be measured against the ‘real conditions on the ground,’” and not against hypothetical permitted levels. *Id.* at 121–23.

III. DISCUSSION

A. The Project Will Have Significant Impacts on Biological Resources That the IS/MND Fails to Adequately Analyze and Mitigate.

Shawn Smallwood, PhD reviewed the IS/MND’s analysis of the Project’s biological impacts. Dr. Smallwood’s comment letter and CV are attached as Exhibit A.

1. The IS/MND is both incomplete and inaccurate in its characterization of the environmental setting as it relates to wildlife.

The evening of August 24, 2021, Dr. Smallwood visited the project site and its vicinity and performed a reconnaissance level survey of wildlife utilizing the area of the Project. Ex. A, p. 1. Dr. Smallwood reconnoitered the area for 3 hours and 31 minutes. *Id.* During that brief visit, he observed the presence of 38 species of vertebrate wildlife at the Project site. *Id.* at 5. Of the species he observed, 3 were non-native and 35 were endemic, which amounted to less than 8% of species observed being non-native. *Id.* Based on this, Dr. Smallwood was able to conclude that the park is “relatively intact, ecologically, and [] rich in wildlife.” *Id.* Dr. Smallwood also forecasted that had he stayed at the project site longer, or conducted surveys at different times of day, he could have observed many additional species. *Id.* at 10-11. He notes that although he did not observe special-status species during the course of his survey, a greater survey effort with appropriate survey methods likely would have revealed the presence of these species. *Id.* at 12.

Dr. Smallwood first notes that the biological resources survey conducted by WRA Environmental Consultants (“WRA”) was missing “the most basic information” necessary for the public and decision-makers to adequately assess the Project’s impact on biological resources. *Id.* at 13. Specifically, Dr. Smallwood states that the survey should have included information on “how many biologists performed the survey, names and qualifications of survey personnel, time of day the survey took place, how long the survey lasted, and which specific methods were used.” *Id.* This lack of information about the details of WRA’s survey also meant that Dr. Smallwood was unable to assess why the WRA found such a small number of species in their survey – WRA reported detecting only 6 species, while Dr. Smallwood detected 6 species in only his first 6 minutes on the site. *Id.*

Every CEQA document must start from a “baseline” assumption. The CEQA “baseline” is the set of environmental conditions against which to compare a project’s anticipated impacts. *Communities for a Better Env’t. v. So. Coast Air Qual. Mgmt. Dist.*

(2010) 48 Cal. 4th 310, 321. Unfortunately, the IS/MND's failure to explain the details of their survey resulted in an unclear baseline. An unclear baseline such as the one used by the City here ultimately "mislead[s] the public" by engendering inaccurate analyses of environmental impacts and mitigation measures for biological resources. See *San Joaquin Raptor Rescue Center*, 149 Cal.App.4th 645, 656; *Woodward Park Homeowners*, 150 Cal.App.4th 683, 708-711.

Dr. Smallwood next found error in the literature and database reviews conducted by WRA. *Id.* WRA only used the California Natural Diversity Data Base (CNDDDB) as a reference for which species had been seen in the area, and did not report having interviewed any local experts, which resulted in WRA's conclusion that only 36 special-status species were known in the vicinity. *Id.* Dr. Smallwood, however, reviewed two other databases, eBird and iNaturalist, which revealed the possible presence of 62 special-status species in the area. *Id.*

2. The IS/MND's biological resources section premised its conclusions about possible impacts on overly narrow characterizations of species' habitats.

Dr. Smallwood identified three main areas in which the IS/MND failed to accurately characterize species habitats, which led to a skewed analysis of the Project's potential impact on these habitats. The three areas are discussed below.

- a. California Tiger Salamander habitat

The first flaw that Dr. Smallwood found was in the IS/MND's discussion of the California tiger salamander ("CTS") and its conclusion that the CTS would likely not be impacted. The IS/MND admits that the Project is located within the CTS's designated critical habitat. However, the IS/MND concluded that the CTS was unlikely to occur in the area because of a lack of suitable habitat at the site itself and a barrier between the site and the "nearest documented extant breeding occurrence of the species." Ex. A, p.14; IS/MND, p. 37. Dr. Smallwood points out that this analysis fails to consider whether there are barriers to *undocumented* extant breeding occurrences. *Id.* Without having conducted detection surveys on properties south of the Project site, Dr. Smallwood notes that the IS/MND could not have determined that there were no CTSs on those properties. *Id.*

Dr. Smallwood states that based on his research, the CTS's habitat is more extensive than what was stated in the IS/MND, leading to the IS/MND's erroneous conclusion that the CTS could not be sustained on the Project site. *Id.* Dr. Smallwood points out that the IS/MND also wrongly concluded that CTSs were unlikely to occur on the Project site in part because there were no mammal burrows observed. IS/MND, p. 36-37. According to Dr. Smallwood, CTSs also use soil cracks to enter and exit

subterranean environments, and Dr. Smallwood in fact has previously observed a CTS exiting a soil crack. Ex. A, p. 14-15, Photo 21.

b. Incorrect conclusions about breeding habitat

The next aspect of the IS/MND that Dr. Smallwood found lacking was the conclusion that the only significant habitat impacts were those to breeding habitat. *Id.* at 16. The IS/MND relied on this distinction between breeding habitat and other types of habitats to conclude that as long as there was not breeding habitat for any particular species on site, there would not be a significant impact. *Id.* However, Dr. Smallwood states that “all of a species’ habitat is of critical importance to the species regardless of where breeding sites are located.” *Id.*

c. Northern California black walnut habitat

Lastly, Dr. Smallwood found mischaracterizations in the IS/MND’s discussion of the California black walnuts on the Project site. *Id.* Dr. Smallwood considered it misleading to have omitted these trees from certain maps and discussions in the IS/MND. *Id.* While the IS/MND characterized the walnut trees as dead and dying in order to omit them from certain aspects of the report, Dr. Smallwood points out that the old nature of the trees in fact makes them more valuable to species, which take advantage of cavities in the trees to create granaries and nests. *Id.* The IS/MND also categorized what Dr. Smallwood identified as black walnut savannah as non-native grassland, further misleading the public as to the environmental setting of the Project. *Id.*

Based on his studies of the site and databases, Dr. Smallwood concluded the following:

Of the special-status species in Table 2, I conclude 8 certainly occur in the Park, 35 probably occur, and 17 possibly occur. Of the 4 species WRA determined have no chance of occurring, I conclude 1 is possible and 3 are probable. Of the 10 species WRA determined unlikely, I agree 2 are unlikely but I conclude 5 are possible and 3 are probable. I conclude that California tiger salamander possibly occurs on site, depending on whether the species can find opportunities for subterranean aestivation and pools at least occasionally remaining inundated until May. If California tiger salamanders occur in Roseland Creek Community Park, then the proposed project would have a significant adverse impact on the species. The only way to determine whether California tiger salamanders use the Park would be to perform protocol-level detection surveys for the species during the appropriate time of year both within the Park and on neighboring properties to the south.

Id. at 16-20, see Table 2. Because Dr. Smallwood has provided substantial evidence of a fair argument that this impact from the Project may be significant, the City must analyze such impacts in an EIR.

3. The IS/MND failed to complete a full analysis of the degree of habitat loss that would occur on the Project site.

Regarding mitigation on the site, the IS/MND states that it will mitigate for the loss of 1.37 acres of CTS habitat. IS/MND, p. 43. However, it then goes on to say that improvements from the Project will not result in more than 20% impervious surfaces on the property, which Dr. Smallwood fairly assumes means 20% of the Project site will be replaced with impervious surfaces. Ex. A, p. 20. This in turn would mean that at least 3.9 acres of wildlife habitat would be eliminated by the Project, a much greater amount than that being accounted for in the IS/MND. *Id.* Dr. Smallwood states that the impacts of this habitat loss must be analyzed, because habitat loss can result in both “immediate numerical decline of wildlife” and “permanent loss of productive capacity.” *Id.* Extrapolating from previous studies, Dr. Smallwood estimates that the estimated loss of habitat due to the Project could lead to about 44,000 fewer birds in California over the next century. *Id.*

Because this impact was not addressed in the IS/MND and Dr. Smallwood has presented substantial evidence of a fair argument that habitat loss will impact species, the City must prepare an EIR to analyze the impact.

4. The IS/MND failed to address the cumulative impacts of past, ongoing, and future projects on wildlife.

The IS/MND fails to assess cumulative impacts on wildlife. Ex. A, p. 20; CEQA Guidelines § 15065(a) (“A lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur . . . The project has possible environmental effects that are individually limited but cumulatively considerable”). An EIR is needed to analyze the cumulative impacts from loss of habitat and other potential disturbances caused by the Project.

5. The IS/MND’s proposed mitigation measures are insufficient to address the potential impacts identified by Dr. Smallwood’s survey.

Dr. Smallwood’s final critique of the IS/MND is that its proposed mitigation measures are insufficient to reduce impacts to less than significant levels. The IS/MND proposes to conduct preconstruction, take-avoidance surveys for several species, which Dr. Smallwood agrees are appropriate, but still misleading. Ex. A, p. 21. He points out that “it must be understood by decision-makers and the public that such surveys typically detect small fractions of the animals targeted” due to the targeted species’ ability to conceal themselves. *Id.* In addition, he notes that such preconstruction surveys


do not prevent habitat loss, and are largely inconsequential without first performing detection surveys, a step that Dr. Smallwood recommends. *Id.*

Dr. Smallwood concludes his comments by stating that “the most appropriate mitigation would be a reduction of the scope of the project.” *Id.* Unlike the IS/MND’s characterization of the project as one that would preserve and enhance the area, Dr. Smallwood’s assessment demonstrates that it would in fact destroy much of the natural area through ground disturbance and other damage, bring higher levels of foot traffic, add pollutants, and degrade habitats. *Id.*

IV. CONCLUSION

In light of the above comments, the City must prepare an EIR for the Project and the draft EIR should be circulated for public review and comment in accordance with CEQA. Thank you for considering these comments.

Sincerely,



Richard Toshiyuki Drury
LOZEAU DRURY LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Jen Santos, Deputy Director
City of Santa Rosa
Recreation and Parks Department
55 Stony Point Road
Santa Rosa, CA 95401

7 September 2021

RE: Roseland Creek Community Park Project

Dear Ms. Santos,

I write to comment on the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the proposed Roseland Creek Community Park Project (City of Santa Rosa 2019 + 2021 Master Plan map). I understand the Project would add the following to the 19.49-acre Park: parking lots with artificial lighting, nature center and restrooms, covered picnic areas with BBQ facilities, an outdoor classroom, community gardens, paved 10-foot-wide paths through the forests, a play area, a multi-use turf area, fitness stations, and a sports court. WRA (2019) further identifies a dog park as part of the Project. And all of this would be added to a Park "... designed to preserve and enhance the habitat values of the existing grassland, oak woodland, riparian and purple needlegrass habitat areas on the site" (City of Santa Rosa 2019).

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I authored numerous papers on special-status species issues. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-five years, including at many proposed project sites. My CV is attached.

SITE VISIT

I visited the site of the proposed project for 3 hours and 31 minutes on 24 August 2021, starting at 06:46 hours. With binoculars, I walked around the site, stopping periodically to perform visual scans for vertebrate wildlife. Conditions were overcast with coastal fog and cool with no wind. Pedestrians, joggers and dog-walkers occasionally traversed the Park during my survey.

The site's vegetation cover centers around riparian forest along Roseland Creek (Photo 1), including annual and perennial grassland (Photo 2), woodland savannah (Photos 3 and 4), oak woodland, and some ornamentals around the cleared pads of two abandoned home sites (Photo 5). Prominent in the Park are the many cavities in trunks and limbs of mature trees, many used in granaries of acorn woodpeckers and some as nest sites (Photos 6 and 7). Surrounding the site to the east, west and north are residential neighborhoods, and to the south are grasslands or rural homes.

Photo 1. *Riparian forest along the creek portion of Roseland Creek Community Park, 24 August 2021.*





Photo 2. Grassland, including purple needlegrass in the distance, at the Roseland Creek Community Park, 24 August 2021.

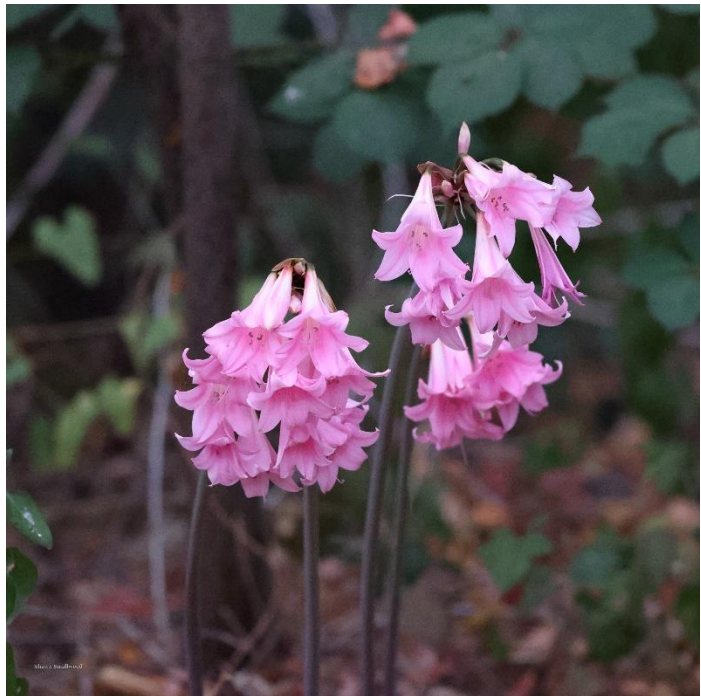


Photo 3. Annual grassland/savannah at the Roseland Creek Community Park, 24 August 2021.



Photo 4. Site of former residence at the Roseland Creek Community Park, 24 August 2021.

Photo 5. Naked ladies are scattered around the sites of former homes within the Roseland Creek Community Park, 24 August 2021.





Photos 6 and 7. *Acorn woodpecker granary (left) and nest cavities (right) at the Roseland Creek Community Park, 24 August 2021.*

While visiting the site, I detected 38 species of vertebrate wildlife, 5 of which were special-status species (Table 1). The site supports oak titmouse, of which there are many, and Anna's hummingbirds (Photos 8 and 9). I saw Nuttall's woodpeckers and a colony of acorn woodpeckers (Photos 10 and 11), Pacific-slope flycatcher and black phoebe (Photos 12 and 13), California scrub-jays and mourning doves (Photos 14 and 15), hooded orioles (Photo 16) and turkey vultures (Photo 17), among other species. I also saw invasive species, including wild turkeys and Eastern fox squirrels, both species of which were introduced to California from their natural ranges east of the Mississippi River, and a house cat on the hunt (Photo 18). Occurrences of non-native species, and more explicitly the ratio of non-native to endemic species, reflect on the ecological integrity of a place (Smallwood 1994). In the case of Roseland Creek Community Park, the ratio of 3 non-native to 35 endemic species of vertebrate wildlife, or <8% of the species I detected, indicates a high degree of ecological integrity. Given its interior location within the City of Santa Rosa, I would have expected a higher percentage of non-native species. The Park is relatively intact, ecologically, and it is rich in wildlife.

Missing, however, were small mammal burrows. In my experience, the lack of mammal burrows is unusual, and tends to reflect clay soils or intense eradication efforts.

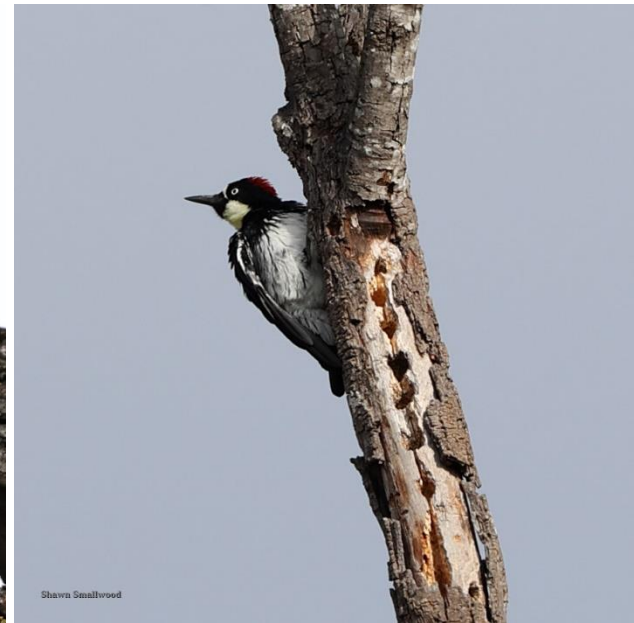
Table 1. *Species of wildlife I observed during 3.5 hours on 24 August 2021.*

Common name	Species name	Status¹	Notes
Wild turkey	<i>Meleagris gallopavo</i>	Non-native	Feathers, calls
Turkey vulture	<i>Cathartes aura</i>	BOP	Roosting
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP	Calling
Cooper's hawk	<i>Accipiter cooperii</i>	WL, BOP	Calling
Mourning dove	<i>Zenaida macroura</i>		
Anna's hummingbird	<i>Calypte anna</i>		Territory defense
Belted kingfisher	<i>Ceryle alcyon</i>		Flyover
Acorn woodpecker	<i>Melanerpes formicivorus</i>		Colony/granaries
Downy woodpecker	<i>Picoides pubescens</i>		Foraged
Nuttall's woodpecker	<i>Pica nuttalli</i>	BCC	Foraged
Pacific-slope flycatcher	<i>Empidonax difficilis</i>		
Black phoebe	<i>Sayornis nigricans</i>		Foraged
Warbling vireo	<i>Vireo gilvus</i>		Foraged
Hutton's vireo	<i>Vireo huttoni</i>		Foraged
California scrub-jay	<i>Aphelocoma californica</i>		Social drama
Common raven	<i>Corvus corax</i>		
American crow	<i>Corvus brachyrhynchos</i>		Foraged
Oak titmouse	<i>Baeolophus inornatus</i>	BCC	Many
Bushtit	<i>Psaltiparus minimus</i>		
White-breasted nuthatch	<i>Sitta carolinensis</i>		Many; foraged
Bewick's wren	<i>Thryomanes bewickii</i>		Foraged
Western bluebird	<i>Sialia mexicana</i>		Fledglings
American robin	<i>Turdus migratorius</i>		Fledglings
Northern mockingbird	<i>Mimus polyglottos</i>		
Cedar waxwing	<i>Bombycilla cedrorum</i>		Fledglings
Orange-crowned warbler	<i>Vermivora celata</i>		
Wilson's warbler	<i>Wilsonia pusilla</i>		
California towhee	<i>Pipilo crissalis</i>		
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>		Fledglings
Dark-eyed junco	<i>Junco hyemalis</i>		
Hooded oriole	<i>Icterus cucullatus</i>		
House finch	<i>Carpodacus mexicanus</i>		Fledglings
Lesser goldfinch	<i>Carduelis psaltria</i>		
American goldfinch	<i>Carduelis tristis</i>		
Black-tailed jackrabbit	<i>Lepus californicus</i>		
Eastern fox squirrel	<i>Sciurus niger</i>	Non-native	
Western gray squirrel	<i>Sciurus griseus</i>		
House cat	<i>Felis catus</i>	Non-native	

¹ Listed as BCC = US Fish and Wildlife Service's Bird Species of Conservation Concern, BOP = California Fish and Game Code 3503.5 (Birds of Prey), WL = Taxa to Watch List (Shuford and Gardali 2008).



Photos 8 and 9. Oak titmouse (left) and Anna's hummingbird (above) at the Roseland Creek Community Park, 24 August 2021.



Photos 10 and 11. Nuttall's woodpecker (left) and acorn woodpecker at its granary (right) within the Roseland Creek Community Park, 24 August 2021.



Photos 12 and 13. Pacific-slope flycatcher (left) and black phoebe (right) at the Roseland Creek Community Park, 24 August 2021.



Photos 14 and 15. California scrub-jay (left) and mourning dove (right) at the Roseland Creek Community Park, 24 August 2021.

Photo 16. Hooded oriole within the Roseland Creek Community Park, 24 August 2021.



Photo 17. Turkey vulture roosts within the riparian forest of Roseland Creek Community Park, 24 August 2021.



Photo 18. *House cat in Roseland Creek Community Park, 24 August 2021.*

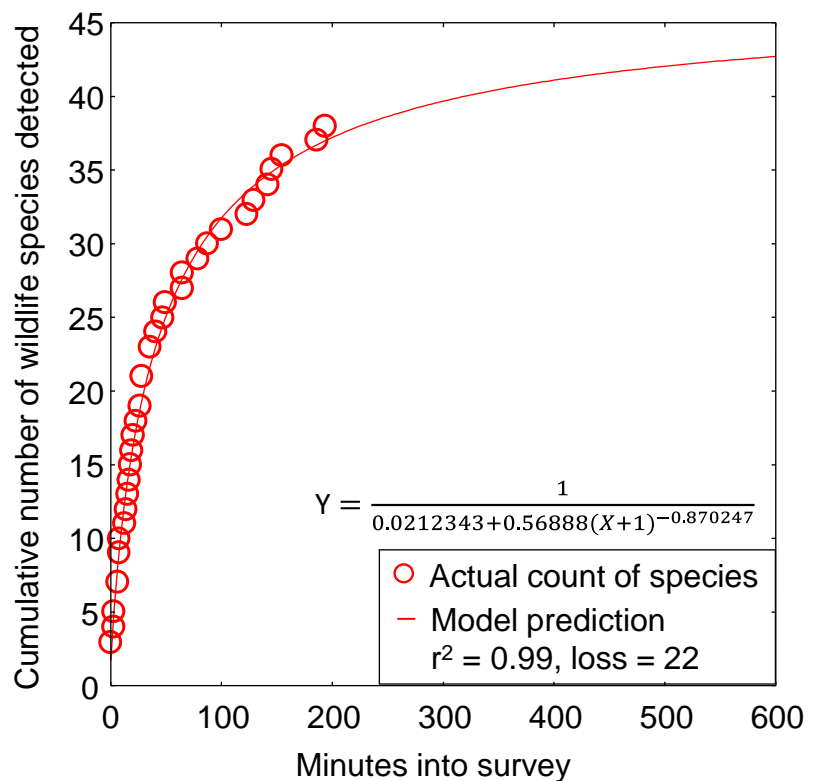


My detections of 38 species of vertebrate wildlife should be interpreted within the context of my survey effort, because my detection of 38 species does not mean that only those 38 species occur at the site. This point is important because it goes to WRA's (2019) survey effort and its interpretation, which I will address below. The results of one reconnaissance-level survey should qualify as thin empirical foundation for characterizing the wildlife community as part of the environmental setting of a proposed project site. Such surveys better serve as starting points toward characterization of a site's wildlife community. With only so many species detectable in the short time I had to perform visual-scan surveys on 24 August 2021, I would have been remiss to have reported or implied that only 38 species of wildlife occur in the Park. However, when surveys are diligently performed and their outcomes analyzed appropriately and fully reported, the number of species detected within the survey effort can inform of the number of species likely to be detected with a larger survey effort during the same times of year. This potential is of critical importance when making determinations about occurrence likelihoods of special-status species.

By recording when I detected each species, I was able to forecast the number of species likely to be detected with a longer effort using the same visual scan method. Figure 1 shows my cumulative count of species detected with increasing time into my survey on 24 August 2021. Just as I have seen for many other survey efforts, a nonlinear regression model fit the data very well, explaining >99% of the variation in my cumulative count, and the model showed progress towards the inevitable asymptote of the number of species detectable over a longer time period using the same survey method. In the case of this project site, my model predicted I would have eventually

detected another 9 species on the 24th of August. The pattern in the data from the project site indicates that I would have kept detecting species as the day progressed.

Figure 1. Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on visual scans on 24 August 2021 at the project site. Note that the relationship would differ if the survey was based on another method or during night or another season. Also note that the cumulative number of vertebrate species across all methods, times of day, and seasons would increase substantially.

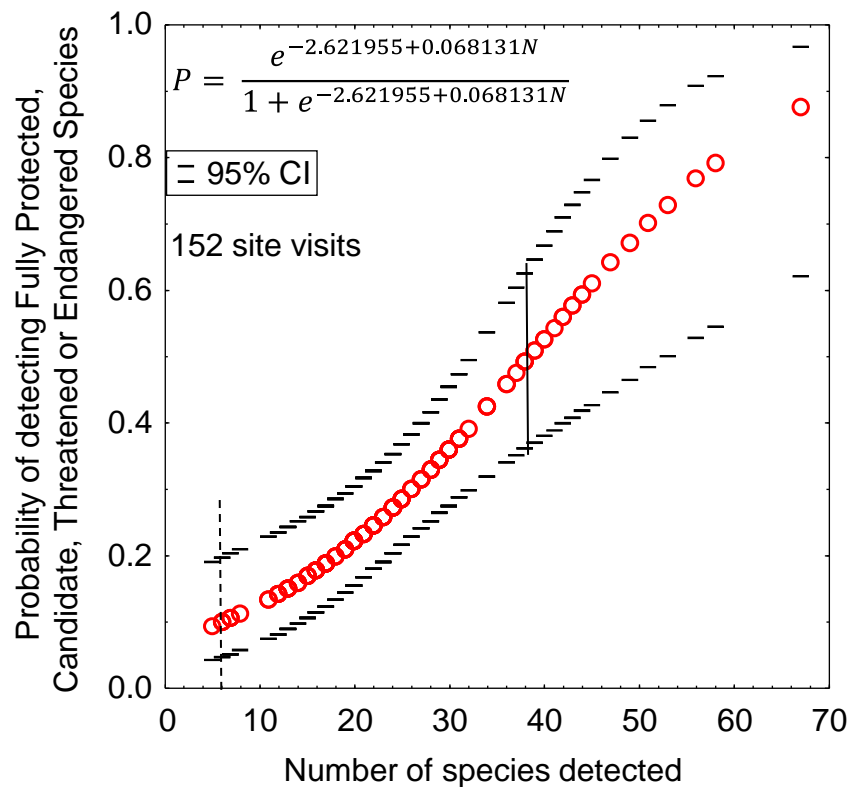


I could have detected many more species than predicted by also performing surveys at other times of day to detect nocturnal and crepuscular species, or surveys in different seasons and years to detect migrants and species with multi-annual cycles of abundance, or surveys of different methods such as by use of acoustic detectors or thermal-imaging for bats, owls, and nocturnally migratory birds, and live-trapping for small mammals. As it was, I detected 38 species on 24 August 2021. My reconnaissance-level survey, performed carefully and analyzed appropriately, informs me that the Park is home to numerous species of wildlife, many as yet to be documented in biological surveys. What my survey does not inform me, and what detection surveys could, is which of the potentially occurring special-status species actually occur at the site in addition to those I had the good fortune to detect.

The likelihood of detecting special-status species is typically lower than that of more common species. This difference can be explained by rarity of special-status species, which also tend to be more cryptic, fossorial, or active during nocturnal periods when reconnaissance surveys are not performed. Another useful relationship from careful recording of species detections and subsequent comparative analysis is the probability of detection of listed species as a function of an increasing number of vertebrate wildlife species detected (Figure 2). (Note that listed species number fewer than special-status species, which are inclusive of listed species.) As demonstrated in Figure 1, the number of species detected is largely a function of survey effort. Therefore, greater survey effort

increases the likelihood that listed species will be detected, which by the way, is the first tenet of detection surveys for special-status species. Based on the outcomes of 152 previous surveys that I performed at sites of proposed projects, my survey effort at the project site carried a 50% chance of detecting a listed species, whereas the survey effort of WRA (2019) carried a 10% chance of detecting a listed species (Figure 2). As it turned out, I did not have the good fortune to detect a listed species, but the odds are that I would if I tried again. Given the odds, WRA would need to perform another 9 surveys at the level of their 2 May 2017 survey to have a reasonable chance of detecting a listed species. My main point is that more survey effort is needed before determining whether listed species of wildlife are absent from the Park. Not only is a greater survey effort needed, but also the appropriate survey methods.

Figure 2. Probability of detecting ≥ 1 Candidate, Threatened or Endangered Species of wildlife listed under California or federal Endangered Species Acts, based on survey outcomes that I logit-regressed on the number of wildlife species I detected as an expert witness during 152 site visits across California. The dashed vertical line represents the number of species WRA (2019) detected, and the solid vertical line represents the number of species I detected at the project site on 24 August 2021.



BIOLOGICAL IMPACTS ASSESSMENT

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. Methods to achieve this first step typically include surveys of the site for biological resources and reviews of literature, data bases and local experts for documented occurrences of special-status species. The IS/MND, however, is both incomplete and inaccurate in its characterization of the environmental setting as it relates to wildlife. The survey of the site for biological resources was too cursory. The supporting review of literature and data bases was also

much too cursory. I found additional problems with the premises used to determine occurrence likelihoods, and with the interpretation of available information. I will comment on these problems, but first I will comment on the biological resources survey.

In support of the IS/MND, WRA (2019) performed a biological resources survey at the Park on 2 May 2017. Other than reporting the date of the survey (2 May 2017) and its three objectives, WRA (2019) neglected to report the most basic information needed to assess the rigor of the biological survey. Decision-makers and the public ought to be informed about how many biologists performed the survey, names and qualifications of survey personnel, time of day the survey took place, how long the survey lasted, and which specific methods were used. Consumers of the IS/MND need to know these fundamentals because as I pointed out earlier, the number of wildlife species detected is largely a function of survey effort. WRA (2019) should have reported the level of effort committed to the Park and the methods used.

WRA reported their detections of 6 species of vertebrate wildlife. Given what I saw at the Park during my 3.5-hour visit, I am astounded that the WRA biologist(s) who surveyed the site on 2 May 2017 detected a mere 6 species of wildlife (WRA 2019). WRA detected 15% of the species I detected within a Park filled with the sights and sounds of wildlife. Walking into the patch of old Northern California black walnuts, I detected my first 6 species within 6 minutes of my arrival to the Park. Before I departed the patch of black walnuts for oak woodland, I had detected 19 species of wildlife within my first 26 minutes. Why was my survey outcome so different from WRA's? Without knowing how WRA performed their survey or who did it, I am at a loss for explanation. But I can conclude that the wildlife community of Roseland Creek Community Park is incompletely and inaccurately characterized in the IS/MND. I can also conclude that the biological resources survey provided an unacceptably poor basis for an analysis of potential project impacts to wildlife.

The literature and database reviews were also much too cursory to support an analysis of potential project impacts. WRA reported no interviews with local experts. WRA's sole source of documented sightings in the project area was California Natural Diversity Data Base (CNDDDB). CNDDDB can be a helpful resource, but it is not the only resource available, nor is it the best resource for certain taxa such as birds. Whereas WRA (2019:13) reported, "A total of 36 special-status wildlife species are known in the vicinity based upon review of the resources and databases...", my reviews of eBird and iNaturalist combined with my own surveys in the area reveal 62 special-status species of wildlife known to occur in the area (Table 2). I doubt that California red-legged frog, Foothill yellow-legged and Caspian tern occur at the site anymore, so I would reduce the number of potentially occurring special-status species to 59.

The cursory approach taken by WRA resulted in many odd contradictions between WRA's occurrence-likelihood determinations and what members of the public have reported seeing at and near the Park. Of the 14 species that WRA determined to have no chance of occurrence or unlikely to occur, Vaux's swift was reported in eBird within a mile or so of the Park, and 12 species were reported within several miles (Table 2). Of the 35 special-status species that appear in Table 2 but which were not addressed by

WRA, 6 have been detected in the Park, 4 have been detected within 1 mile of the Park, and another 17 have been reportedly detected within several miles of the Park. Again, the incomplete review of available information has left the characterization of the Park's wildlife community incomplete and inaccurate.

Earlier I mentioned that I would comment on additional problems I noticed with WRA's analysis of species' occurrence likelihoods. Here forth I add those comments.

WRA premised their conclusions of potential project impacts on overly narrow characterizations of species' habitats. For example, WRA describes California tiger salamander as the following: "...annual grassland habitat and mammal burrows. Seasonal ponds and vernal pools crucial to breeding." Based on this narrow characterization, WRA (2019) concluded, "Although the Project Area is within designated critical habitat (the "Santa Rosa Plain Unit"; USFWS 2016) for California tiger salamander (CTS; *Ambystoma californiense*), this species is unlikely to occur in the Project Area, due to the lack of suitable wetland breeding habitat, lack of suitable upland dispersal and aestivation habitat and significant barriers to dispersal between the Project Area and the nearest documented extant breeding occurrence of the species." The IS/MND (p. 37) adds, "At the time of the site visit, small mammal burrows, the typical subterranean refugia for CTS, were not observed." However, barriers to dispersal might not exist between the Project Area and the nearest *undocumented* extant breeding occurrence. After all, documented occurrences are not the only occurrences. Unless detection surveys were performed on all the properties south of the Park, one cannot determine absence of California tiger salamanders on those properties.

Contrary to the statement quoted above, California tiger salamanders do not aestivate solely in mammal burrows, nor do they breed solely in ponds and vernal pools that might be readily delineable by annual inundation. The premise that California tiger salamanders require regular inundation for breeding is in error. Ponds where I recorded California tiger salamanders, including at Concord Naval Weapons Station (Smallwood and Morrison 2007) and elsewhere, were not always regularly inundated. I found California tiger salamander larvae in ephemeral ponds such as rain pools (Photos 19 and 20) and water pooled at culverts. What's needed are for ponds to remain inundated long enough into the spring for larvae to reach maturity, but this need not happen every year.

Another erroneous premise is that California tiger salamanders aestivate solely in mammal burrows. Where the clay content of soils is too high for fossorial mammals, the soil tends to crack open in fall and winter as it becomes moist. These soil cracks are also used by California tiger salamander to exit and return to subterranean environments on either end of the breeding season. Photo 21, though unfocused on the subject, shows an adult California tiger salamander exiting a soil crack on its way to a breeding pool one rainy night. California tiger salamanders are known to travel as far as 2.2 km between aestivation sites and breeding ponds (Orloff 2011).

Photos 19 and 20. California tiger salamander larvae collected from a rain pond that was only about ankle-deep. The lower photo shows the pond from about 30 m away. Rain ponds such as this one are not wet every year. Photos by K. Shawn Smallwood.



Photo 21, left. California tiger salamander (sorry for the blur) exiting a soil crack (hard to see) in an area with clay soils. Photo by K. Shawn Smallwood.

Another flawed WRA premise was that only impacts to breeding habitat qualify as significant impacts. For multiple species, such as for peregrine falcon, WRA (2019) contrives a distinction between nesting habitat and foraging habitat or other types of habitat. WRA then states that though peregrine falcon may occasionally forage at the site, they do not breed there and thus project impacts would be less than significant. In reality, all of a species' habitat is of critical importance to the species regardless of where breeding sites are located. After all, no matter where a species breeds, members of the species cannot breed successfully without also surviving migration and the non-breeding season. Animals cannot breed successfully with insufficient forage or opportunities for stopover refugia during migration or opportunities for staging areas or for mate-selection and all the other functions the animal must perform to successfully breed. Species for which WRA determined occurrence likelihood based on whether it would breed on site were inaccurately and incompletely characterized as part of the wildlife community at Roseland Creek Community Park.

Another habitat mischaracterization could be found in WRA's treatment of the Northern California black walnuts on site. I understand that the walnuts have survived from an earlier time when they were managed for agricultural use, and I understand that the surviving trees are relatively old, but it was misleading of WRA to characterize these trees as simply dead and dying and to omit them from maps of vegetation cover and discussions of wildlife use of the Park. The old age of the walnuts is an attribute that makes these trees all the more valuable to wildlife. Half of the species I detected in the Park were on and between these black walnuts, including fledglings of multiple bird species. The trees are full of cavities used as granaries and nest sites. A large colony of acorn woodpeckers is centered on these trees. The warblers I saw were among these trees. And so were the cedar waxwings, mourning doves, black phoebes, white-breasted nuthatches, oak titmouse, black-headed grosbeaks, house finches, lesser goldfinches, and northern mockingbirds. These trees need to be brought back into the analysis of potential project impacts to wildlife.

The habitat categories depicted in Figure 4.1-1 of the IS/MND are too crude and are therefore misleading. What is mapped as Developed Landscaped is mostly Oak savannah with a few ornamental trees and shrubs. Only portions of those parcels were once developed, and the remainder of each is covered by natural vegetation. Also, related to my comments in my preceding paragraph, much of what is categorized as non-native grassland is more like black walnut savannah. Those black walnuts are important to wildlife; they are an important component of the existing environmental setting.

My determinations of species occurrence likelihoods are much more optimistic, and I believe more accurate, than those of WRA. Of the special-status species in Table 2, I conclude 8 certainly occur in the Park, 35 probably occur, and 17 possibly occur. Of the 4 species WRA determined have no chance of occurring, I conclude 1 is possible and 3 are probable. Of the 10 species WRA determined unlikely, I agree 2 are unlikely but I conclude 5 are possible and 3 are probable. I conclude that California tiger salamander possibly occurs on site, depending on whether the species can find opportunities for subterranean aestivation and pools at least occasionally remaining inundated until May.

Table 2. Occurrence likelihoods of special-status species of vertebrate wildlife at Roseland Creek Community Park, according to WRA and based on my own review of eBird and iNaturalist and my surveys at and near the Park, where ‘on site’ means within Roseland Creek Community Park, ‘very close’ means within a mile of the Park, ‘nearby’ means within several miles of the Park, and ‘In region’ means within 10 miles or so of Santa Rosa (it can mean within 50 miles in the cases of bat species).

Species	Scientific name	Status ¹	Occurrence likelihood		
			WRA	eBird, iNaturalist, site visits	Smallwood
California tiger salamander	<i>Ambystoma californiense</i>	FT, CT	Unlikely	Recent nearby	Possible
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	Unlikely	Nearby	Unlikely
Foothill yellow-legged frog	<i>Rana boylei</i>	CE, SSC	Unlikely	Nearby	Unlikely
Western pond turtle	<i>Emys marmorata</i>	SSC	Moderate	Nearby	Possible
Caspian tern	<i>Hydroprogne caspia</i>	BCC		Nearby	Unlikely
California gull	<i>Larus californicus</i>	WL		Very close	Probable
Turkey vulture	<i>Cathartes aura</i>	BOP		On site	Certain
Osprey	<i>Pandion haliaetus</i>	WL, BOP		Nearby	Possible
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA, BCC, CFP		Nearby	Possible
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, BCC, CFP	Unlikely	Nearby	Possible
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP		On site	Certain
Ferruginous hawk	<i>Buteo regalis</i>	BCC, WL, BOP	Unlikely	Nearby	Possible
Swainson’s hawk	<i>Buteo swainsoni</i>	BCC, CT		Nearby	Possible
Rough-legged hawk	<i>Buteo regalis</i>	BOP		Nearby	Possible
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP		On site	Certain
Sharp-shinned hawk	<i>Accipiter striatus</i>	WL, BOP		On site	Certain
Cooper’s hawk	<i>Accipiter cooperi</i>	WL, BOP		On site	Certain
Northern harrier	<i>Circus cyaneus</i>	SSC ₃ , BOP		Nearby	Probable
White-tailed kite	<i>Elanus leucurus</i>	CFP, BOP	Mod-High	Very close	Probable
American kestrel	<i>Falco sparverius</i>	BOP		Nearby	Probable
Merlin	<i>Falco columbarius</i>	WL, BOP		Nearby	Probable
Prairie falcon	<i>Falco mexicanus</i>	BCC, WL, BOP		Nearby	Probable
Peregrine falcon	<i>Falco peregrinus</i>	BCC, CFP	None	Nearby	Probable
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC ₂	Unlikely	Nearby	Possible
Great-horned owl	<i>Bubo virginianus</i>	BOP		Nearby	Probable
Long-eared owl	<i>Asio otus</i>	SSC ₃ , BOP		In region	Possible

Species	Scientific name	Status ¹	Occurrence likelihood		
			WRA	eBird, iNaturalist, site visits	Smallwood
Short-eared owl	<i>Asio flammeus</i>	SSC ₃ , BOP		In region	Possible
Barn owl	<i>Tyto alba</i>	BOP		Very close	Probable
Western screech-owl	<i>Megascops kennicotti</i>	BOP		Nearby	Probable
Costa's hummingbird	<i>Calypte costae</i>	BCC		Nearby	Possible
Allen's hummingbird	<i>Selasphorus sasin</i>	BCC	Mod-High	Nearby	Probable
Rufous hummingbird	<i>Selasphorus rufus</i>	BCC		Nearby	Probable
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	High	On site	Certain
Lewis's woodpecker	<i>Melanerpes lewis</i>	BCC		Nearby	Probable
Vaux's swift	<i>Chaetura vauxi</i>	SSC ₂	Unlikely	Very close	Probable
Willow flycatcher	<i>Epidomax trailii</i>	CE, BCC		Nearby	Probable
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC, SSC ₂	None	Nearby	Probable
Oak titmouse	<i>Baeolophus inornatus</i>	BCC		On site	Certain
Horned lark	<i>Eremophila alpestris</i>	WL		Nearby	Probable
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC, SSC ₂	Mod-High	On site	Certain
San Francisco common yellowthroat	<i>Geothlypis trichas sinuosa</i>	SSC ₃		Very close	Probable
Yellow warbler	<i>Setophaga petechia</i>	BCC, SSC ₂	None	Nearby	Probable
Yellow-breasted chat	<i>Icteria virens</i>	SSC ₃	Mod-High	Nearby	Probable
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC ₂		In region	Possible
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC ₂	Unlikely	Nearby	Possible
Summer tanager	<i>Piranga rubra</i>	SSC ₁		Nearby	Probable
Tricolored blackbird	<i>Agelaius tricolor</i>	CT, BCC	Unlikely ²	Nearby	Probable
Yellow-headed blackbird	<i>X. xanthocephalus</i>	SSC ₃		In region	Possible
Lawrence's goldfinch	<i>Spinus lawrencei</i>	BCC	Unlikely	In region	Probable
Pallid bat	<i>Antrozous pallidus</i>	SSC, WBWG H	Moderate	Nearby	Probable
Townsend's big-eared bat	<i>Plecotus t. townsendii</i>	SSC, WBWG H	Moderate	Nearby	Probable
Silver-haired bat	<i>Lasionycteris noctivagans</i>	WBWG:M		In region	Probable
Western red bat	<i>Lasiurus blossevillii</i>	SSC, WBWG H	Moderate	Nearby	Probable
Little brown bat	<i>Myotis lucifugus</i>	WBWG:M		Very close	Probable
Canyon bat	<i>Parastrellus hesperus</i>	WBWG:M		In region	Probable
Small-footed myotis	<i>Myotis cililabrum</i>	WBWG M		In region	Probable

Species	Scientific name	Status ¹	Occurrence likelihood		
			WRA	eBird, iNaturalist, site visits	Smallwood
Miller's myotis	<i>Myotis evotis</i>	WBWG M		In region	Probable
Fringed myotis	<i>Myotis thysanodes</i>	WBWG H	Moderate	In region	Probable
Long-legged myotis	<i>Myotis volans</i>	WBWG H	Moderate	In range	Probable
Yuma myotis	<i>Myotis yumanensis</i>	WBWG LM	Moderate	In range	Probable
Hoary bat	<i>Lasiurus cinereus</i>	WBWG LM	Moderate	In region	Probable
American badger	<i>Taxidea taxus</i>	SSC	None	Nearby	Possible

¹ Listed as FT or FE = federally Threatened or Endangered, BGEPA = Bald and Golden Eagle Protection Act, BCC = US Fish and Wildlife Service's Bird Species of Conservation Concern, CT or CE = California Threatened or Endangered, CFP = California Fully Protected (California Fish and Game Code §3511 – birds; §4700 – mammals), BOP = California Fish and Game Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3 (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), WBWG = Western Bat Working Group with low, medium and high conservation priorities.

² The IS/MND (page 37) assigns moderate to high likelihood of nesting in the Park by tricolored blackbird. This assignment of occurrence likelihood is at great odds with the unlikely occurrence determined by WRA (2019).

If California tiger salamanders occur in Roseland Creek Community Park, then the proposed project would have a significant adverse impact on the species. The only way to determine whether California tiger salamanders use the Park would be to perform protocol-level detection surveys for the species during the appropriate time of year both within the Park and on neighboring properties to the south. It would need to be determined whether rain pools remain inundated through May and whether cracks in the soil open up in fall and winter. But even if detection surveys support an absence determination, the project would impinge on the capacity of the Park to help recover the species.

HABITAT LOSS

Although the IS/MND proposes to mitigate for the loss of 1.37 acres of California tiger salamander upland habitat, on page 8 it says “Park improvements shall not result in impervious surfaces of more than 20 percent on this property.” I assume this means City of Santa Rosa intends to replace 20% of the Park with impervious surfaces. If true, then the Project would eliminate 3.9 acres of wildlife habitat, not counting additional intrusive impacts. The impacts of this loss need to be analyzed.

Habitat loss not only results in the immediate numerical decline of wildlife, but also in permanent loss of productive capacity (Smallwood 2015). For example, two study sites in grassland/wetland/woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982) for an average 34.3 nests per acre. Applying this density to the project site, 34.3 nests/acre multiplied against 3.9 acres would predict a loss of 134 bird nests. The average number of fledglings per nest in Young’s (1948) study was 2.9. Assuming Young’s (1948) study site typifies bird productivity, then the project would prevent the production of 389 fledglings per year. After 100 years and assuming an average generation time of 5 years, the lost capacity of both breeders and annual fledgling production can be estimated from the following formula: $\{(nests/year \times chicks/nest \times number\ of\ years) + ((2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation))\}$. In the case of this project, this formula predicts **the project would deny California 44,260 birds over the next century due solely to loss of terrestrial habitat**. This predicted loss would be substantial, and would qualify as significant impacts that have yet to be addressed by the IS/MND. A fair argument can be made for the need to prepare an EIR to appropriately analyze potential project impacts to wildlife.

CUMULATIVE IMPACTS

The IS/MND does not provide an analysis of cumulative impacts to wildlife. A fair argument can be made for the need to prepare an EIR to analyze cumulative impacts.

MITIGATION

The IS/MND proposes preconstruction, take-avoidance surveys for bat roosts, western pond turtle, and if construction must commence during the breeding season, then also nesting birds (MM BIO-1.1, -2.1, -4.2). Whereas I agree that preconstruction surveys

would be appropriate, it must be understood by decision-makers and the public that such surveys typically detect small fractions of the animals targeted. Bats, pond turtles and nesting birds are highly adept at concealment to avoid predation. With so many trees on site and such high structural complexity, the notion that more than a few animals would be detected would be fantasy. Furthermore, preconstruction, take-avoidance surveys ultimately fail to prevent the impacts of habitat loss, resulting in the loss of productive capacity of the Park.

Preconstruction surveys should not be performed without first having performed detection surveys. Preconstruction surveys are no substitute for detection surveys. Species detection surveys are needed to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory mitigation and other forms of mitigation. Detection survey protocols and guidelines are available from resource agencies for most special-status species. Otherwise, professional standards can be learned from the scientific literature and species' experts.

The IS/MND proposes to schedule construction, if feasible, to avoid biologically sensitive periods for California tiger salamander (October 15 through April 14), breeding birds (February 1 through August 15), and bat maternity (April 1 through August 15). These collective periods of avoidance leaves only August 16 through October 14. This two-month window should be explicitly defined as the only permissible time period for activities that would potentially disturb the subject species or the habitats upon which they depend.

Compensatory mitigation is proposed only for California tiger salamander, but it would be appropriate for western pond turtle, breeding birds, and other special-status species. However, the most appropriate mitigation would be a reduction of the scope of the project.

CONCLUDING COMMENTS

Although the IS/MND states that the Park is “designed to preserve and enhance the habitat values of the existing grassland, oak woodland, riparian and purple needlegrass habitat areas on the site,” the proposed project destroys rather than preserves and does nothing to enhance habitat values. The project would destroy 20% of the Park’s natural area through ground disturbance, damage to trees and tree removals, and imposition of impervious surfaces. It would induce greater levels of infiltration, such as by visitors with dogs. It would also add pollutants such as from rubber particulates spreading from the proposed turf and roundworms introduced by dog feces. Habitat degradation and habitat destruction are contrary processes to “preservation.” As for habitat enhancements, I saw not a single project element that would enhance habitat of any species.

If the goal is to enhance habitat values of the Park, I offer the following suggestions:

- Plant a few Northern California black walnuts to replace the existing walnuts as they naturally senesce;
- Take steps to increase the extent of purple needlegrass;
- Enforce the prohibition against camping in the Park;
- Introduce and encourage Botta's pocket gophers (*Thomomys bottae*) and California ground squirrels (*Otospermophilus beecheyi*);
- Reduce occupancy by feral and free-ranging domestic house cats through public education and a program of trap, neuter and release.

If the goal is to preserve habitat values of the Park, then I suggest not covering natural soils and vegetation with asphalt, turf, and structures. I suggest adding no lights to the Park, and no picnic or BBQ facilities. Leaving the Park as undisturbed as possible would best preserve its habitat values.

From the points of view of non-volant wildlife species, Roseland Creek Community Park is in a state of near-total isolation from other natural areas. American badgers and other terrestrial mammals, reptiles and amphibians can reach the Park only via Roseland Creek or across rural properties to the south. The status of the Park represents the ultimate outcome of habitat fragmentation, which means there is little if any opportunity for effective compensatory mitigation to offset the project's interference with wildlife movement in the region. As one of the last patches of open space, Roseland Creek Community Park is undoubtedly of vital importance to wildlife in need of stop-over refugia during migration or dispersal and of staging for long-distance foraging.

Thank you for your attention,



Shawn Smallwood, Ph.D.

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- Young, H. 1948. A comparative study of nesting birds in a five-acre park. *The Wilson Bulletin* 61:36-47.

Kenneth Shawn Smallwood

Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 668 professional publications, including:
 - 88 peer reviewed publications
 - 24 in non-reviewed proceedings
- 554 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised

the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities based on ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County

to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science, *U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a \$718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founts of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al.* v. Rockwell International *et al.*, No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a \$553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a “properly functioning HCP.” Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson’s hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersed treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. *Diversity* 12(98); doi:10.3390/d12030098.

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. *Journal of Wildlife Management* 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities. *Diversity* 12(84); doi:10.3390/d12020084.

Smallwood, K. S., and D. A. Bell. 2020. Effects of wind turbine curtailment on bird and bat fatalities. *Journal of Wildlife Management* 84:684-696. DOI: 10.1002/jwmg.21844

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Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. *Journal of Raptor Research* 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. *Journal of Wildlife Management* 82:1169-1184.

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. *Wildlife Society Bulletin* 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine-wildlife interactions. Pages 255-276 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. *Human-Wildlife Interactions* 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel *Micnemidocoptes* mite in a Golden Eagle (*Aquila chrysaetos*). *Journal of Avian Medicine and Surgery* 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., *Wildlife habitat conservation: concepts, challenges, and solutions*. John Hopkins University Press, Baltimore, Maryland, USA.

Mete, A., N. Stephenson, K. Rogers, M. G. Hawkins, M. Sadar, D. Guzman, D. A. Bell, J. Shipman, A. Wells, K. S. Smallwood, and J. Foley. 2014. Emergence of *Knemidocoptic* mange in wild Golden Eagles (*Aquila chrysaetos*) in California. *Emerging Infectious Diseases* 20(10):1716-1718.

Smallwood, K. S. 2013. Introduction: Wind-energy development and wildlife conservation.

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Smallwood, K. S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. Wildlife Society Bulletin 37:19-33. + Online Supplemental Material.

Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting Burrowing Owl Abundance in the Altamont Pass Wind Resource Area, California. Wildlife Society Bulletin: 37:787-795.

Smallwood, K. S., D. A. Bell, B. Karas, and S. A. Snyder. 2013. Response to Huso and Erickson Comments on Novel Scavenger Removal Trials. Journal of Wildlife Management 77: 216-225.

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Smallwood, K. S., D. A. Bell, S. A. Snyder, and J. E. DiDonato. 2010. Novel scavenger removal trials increase estimates of wind turbine-caused avian fatality rates. Journal of Wildlife Management 74: 1089-1097 + Online Supplemental Material.

Smallwood, K. S., L. Neher, and D. A. Bell. 2009. Map-based repowering and reorganization of a wind resource area to minimize burrowing owl and other bird fatalities. Energies 2009(2):915-943. <http://www.mdpi.com/1996-1073/2/4/915>

Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. The Condor 111:247-254.

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Smallwood, K. S. and B. Karas. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. Journal of Wildlife Management 73:1062-1071.

Smallwood, K. S. 2008. Wind power company compliance with mitigation plans in the Altamont Pass Wind Resource Area. Environmental & Energy Law Policy Journal 2(2):229-285.

Smallwood, K. S., C. G. Thelander. 2008. Bird Mortality in the Altamont Pass Wind Resource Area, California. Journal of Wildlife Management 72:215-223.

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Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Rugge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. Journal of Wildlife Management 71:1513-1524.

Cain, J. W. III, K. S. Smallwood, M. L. Morrison, and H. L. Loffland. 2005. Influence of mammal activity on nesting success of Passerines. J. Wildlife Management 70:522-531.

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- Morrison, M. L., K. S. Smallwood, and L. S. Hall. 2002. Creating habitat through plant relocation: Lessons from Valley elderberry longhorn beetle mitigation. *Ecological Restoration* 21: 95-100.
- Zhang, M., K. S. Smallwood, and E. Anderson. 2002. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. Pages 757-768 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), *Managing for Healthy Ecosystems*, Lewis Publishers, Boca Raton, Florida USA.
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Comments on Environmental Documents (Year; pages)

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- 14 Charles Hill Circle Design Review (2021; 11);
- SDG Commerce 217 Warehouse IS, American Canyon (2021; 26);
- Mulqueeney Ranch Wind Repowering Project DSEIR (2021; 98);
- Clawiter Road Industrial Project IS/MND, Hayward (2021; 18);
- Garnet Energy Center Stipulations, New York (2020);
- Heritage Wind Energy Project, New York (2020: 71);
- Ameresco Keller Canyon RNG Project IS/MND, Martinez (2020; 11);

- Cambria Hotel Project Staff Report, Dublin (2020; 19);
- Central Pointe Mixed-Use Staff Report, Santa Ana (2020; 20);
- Oak Valley Town Center EIR Addendum, Calimesa (2020; 23);
- Coachillin Specific Plan MND Amendment, Desert Hot Springs (2020; 26);
- Stockton Avenue Hotel and Condominiums Project Tiering to EIR, San Jose (2020; 19);
- Cityline Sub-block 3 South Staff Report, Sunyvale (2020; 22);
- Station East Residential/Mixed Use EIR, Union City (2020; 21);
- Multi-Sport Complex & Southeast Industrial Annexation Suppl. EIR, Elk Grove (2020; 24);
- Sun Lakes Village North EIR Amendment 5, Banning, Riverside County (2020; 27);
- 2nd comments on 1296 Lawrence Station Road, Sunnyvale (2020; 4);
- 1296 Lawrence Station Road, Sunnyvale (2020; 16);
- Mesa Wind Project EA, Desert Hot Springs (2020; 31);
- 11th Street Development Project IS/MND, City of Upland (2020; 17);
- Vista Mar Project IS/MND, Pacifica (2020; 17);
- Emerson Creek Wind Project Application, Ohio (2020; 64);
- Replies on Wister Solar Energy Facility EIR, Imperial County (2020; 12);
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- Crimson Solar EIS/EIR, Mojave Desert (2020, 35) not submitted;
- Sakioka Farms EIR tiering, Oxnard (2020; 14);
- 3440 Wilshire Project IS/MND, Los Angeles (2020; 19);
- Replies on 2400 Barranca Office Development Project EIR, Irvine (2020; 8);
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- Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 4);
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- Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 3);
- Lots 4-12 Oddstad Way Project IS/MND, Pacifica (2020; 16);
- Declaration on DDG Visalia Warehouse project (2020; 5);
- Terraces of Lafayette EIR Addendum (2020; 24);
- AMG Industrial Annex IS/MND, Los Banos (2020; 15);
- Replies to responses on Casmalia and Linden Warehouse (2020; 15);
- Clover Project MND, Petaluma (2020; 27);
- Ruby Street Apartments Project Env. Checklist, Hayward (2020; 20);
- Replies to responses on 3721 Mt. Diablo Boulevard Staff Report (2020; 5);
- 3721 Mt. Diablo Boulevard Staff Report (2020; 9);
- Steeno Warehouse IS/MND, Hesperia (2020; 19);
- UCSF Comprehensive Parnassus Heights Plan EIR (2020; 24);
- North Pointe Business Center MND, Fresno (2020; 14);
- Casmalia and Linden Warehouse IS, Fontana (2020; 15);
- Rubidoux Commerce Center Project IS/MND, Jurupa Valley (2020; 27);
- Haun and Holland Mixed Use Center MND, Menifee (2020; 23);
- First Industrial Logistics Center II, Moreno Valley IS/MND (2020; 23);
- GLP Store Warehouse Project Staff Report (2020; 15);
- Replies on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 29);
- 2nd comments on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 34);

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- Levine-Fricke Softball Field Improvement Addendum, UC Berkeley (2020; 16);
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- Sand Hill Supplemental EIR, Altamont Pass (2019; 17);
- 1700 Dell Avenue Office Project, Campbell (2019, 28);
- 1180 Main Street Office Project MND, Redwood City (2019; 19);
- Summit Ridge Wind Farm Request for Amendment 4, Oregon (2019; 46);
- Shafter Warehouse Staff Report (2019; 4);
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- The Ranch at Eastvale EIR Addendum, Riverside County (2020; 19);
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- 27 South First Street IS, San Jose (2019; 23);
- 2nd replies on Times Mirror Square Project EIR, Los Angeles (2020; 11);
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- Times Mirror Square Project EIR, Los Angeles (2019; 18);
- East Monte Vista & Aviator General Plan Amend EIR Addendum, Vacaville (2019; 22);
- Hillcrest LRDP EIR, La Jolla (2019; 36);
- 555 Portola Road CUP, Portola Valley (2019; 11);
- Johnson Drive Economic Development Zone SEIR, Pleasanton (2019; 27);
- 1750 Broadway Project CEQA Exemption, Oakland (2019; 19);
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- Cordelia Industrial Buildings MND (2019; 14);
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- Olympic Holdings Inland Center Warehouse Project MND, Rancho Cucamonga (2019; 14);
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- PARS Global Storage MND, Murietta (2019; 13);
- Slover Warehouse EIR Addendum, Fontana (2019; 16);
- Seefried Warehouse Project IS/MND, Lathrop (2019; 19)
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- Merced Landfill Gas-To-Energy Project IS/MND (2019; 12);
- West Village Expansion FEIR, UC Davis (2019; 11);
- Site visit, Doheny Ocean Desalination EIR, Dana Point (2019; 11);

- Replies to responses on Avalon West Valley Expansion EIR, San Jose (2019; 10);
- Avalon West Valley Expansion EIR, San Jose (2019; 22);
- Sunroad – Otoy 50 EIR Addendum, San Diego (2019; 26);
- Del Rey Pointe Residential Project IS/MND, Los Angeles (2019; 34);
- 1 AMD Redevelopment EIR, Sunnyvale (2019; 22);
- Lawrence Equipment Industrial Warehouse IS/MND, Banning (2019; 14);
- SDG Commerce 330 Warehouse IS, American Canyon (2019; 21);
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- Lake House IS/ND, Lodi (2019; 33);
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- Stirling Warehouse MND, Victorville (2018; 18);
- LDK Warehouse MND, Vacaville (2018; 30);
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- South Hayward Development IS/MND (2018; 9);
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- 2nd replies to responses on Dove Hill Road Assisted Living Project MND (2018; 11);
- Replies to responses on Dove Hill Road Assisted Living Project MND (2018; 7);
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- Deer Ridge/Shadow Lakes Golf Course EIR, Brentwood (2018; 21);
- Pyramid Asphalt BLM Finding of No Significance, Imperial County (2018; 22);
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- CUP2017-16, Costco IS/MND, Clovis (2018; 11);
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- Ventura Hilton IS/MND (2018; 30);
- North of California Street Master Plan Project IS, Mountain View (2018: 11);
- Tamarind Warehouse MND, Fontana (2018; 16);
- Lathrop Gateway Business Park EIR Addendum (2018; 23);
- Centerpointe Commerce Center IS, Moreno Valley (2019; 18);
- Amazon Warehouse Notice of Exemption, Bakersfield (2018; 13);
- CenterPoint Building 3 project Staff Report, Manteca (2018; 23);
- Cessna & Aviator Warehouse IS/MND, Vacaville (2018; 24);
- Napa Airport Corporate Center EIR, American Canyon (2018, 15);
- 800 Opal Warehouse Initial Study, Mentone, San Bernardino County (2018; 18);
- 2695 W. Winton Ave Industrial Project IS, Hayward (2018; 22);
- Trinity Cannabis Cultivation and Manufacturing Facility DEIR, Calexico (2018; 15);
- Shoe Palace Expansion IS/MND, Morgan Hill (2018; 21);
- Newark Warehouse at Morton Salt Plant Staff Report (2018; 15);
- Northlake Specific Plan FEIR “Peer Review”, Los Angeles County (2018; 9);
- Replies to responses on Northlake Specific Plan SEIR, Los Angeles County (2018; 13);
- Northlake Specific Plan SEIR, Los Angeles County (2017; 27);
- Bogle Wind Turbine DEIR, east Yolo County (2017; 48);
- Ferrante Apartments IS/MND, Los Angeles (2017; 14);
- The Villages of Lakeview EIR, Riverside (2017; 28);
- Data Needed for Assessing Trail Management Impacts on Northern Spotted Owl, Marin County (2017; 5);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4);
- Pyramid Asphalt IS, Imperial County (Declaration) (2017; 5);
- San Geronio Crossings EIR, Riverside County (2017; 22);
- Replies to responses on Jupiter Project IS and MND, Apple Valley (2017; 12);
- Proposed World Logistics Center Mitigation Measures, Moreno Valley (2017, 2019; 12);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12);
- PG&E Company Bay Area Operations and Maintenance HCP (2017; 45);
- Central SoMa Plan DEIR (2017; 14);
- Suggested mitigation for trail impacts on northern spotted owl, Marin County (2016; 5);
- Colony Commerce Center Specific Plan DEIR, Ontario (2016; 16);

- Fairway Trails Improvements MND, Marin County (2016; 13);
- Review of Avian-Solar Science Plan (2016; 28);
- Replies on Pyramid Asphalt IS, Imperial County (2016; 5);
- Pyramid Asphalt IS, Imperial County (2016; 4);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14);
- Santa Anita Warehouse MND, Rancho Cucamonga (2016; 12);
- CapRock Distribution Center III DEIR, Rialto (2016: 12);
- Orange Show Logistics Center IS/MND, San Bernardino (2016; 9);
- City of Palmdale Oasis Medical Village Project IS/MND (2016; 7);
- Comments on proposed rule for incidental eagle take, USFWS (2016, 49);
- Replies on Grapevine Specific and Community Plan FEIR, Kern County (2016; 25);
- Grapevine Specific and Community Plan DEIR, Kern County (2016; 15);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study, San Bernardino (2016; 6);
- Tri-City Industrial Complex Initial Study, San Bernardino (2016; 5);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02, Beaumont (2016; 12);
- Kimball Business Park DEIR (2016; 10);
- Jupiter Project IS and MND, Apple Valley, San Bernardino County (2016; 9);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18);
- Palo Verde Mesa Solar Project EIR, Blythe (2016; 27);
- Reply on Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 14);
- Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 41);
- Reply on Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 38);
- Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 31);
- Second Reply on White Pines Wind Farm, Ontario (2015, 6);
- Reply on White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 10);
- White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 9);
- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9);
- Replies on 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6);
- Willow Springs Solar Photovoltaic Project DEIR, Rosamond (2015; 28);
- Sierra Lakes Commerce Center Project DEIR, Fontana (2015, 9);
- Columbia Business Center MND, Riverside (2015; 8);
- West Valley Logistics Center Specific Plan DEIR, Fontana (2015, 10);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10);
- World Logistic Center Specific Plan FEIR, Moreno Valley (2015, 12);
- Elkhorn Valley Wind Power Project Impacts, Oregon (2015; 143);
- Bay Delta Conservation Plan EIR/EIS, Sacramento (2014, 21);
- Addison Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Addison Wind Energy Project DEIR, Mojave (2014, 15);
- Addison and Rising Tree Wind Energy Project FEIR, Mojave (2014, 12);
- Palen Solar Electric Generating System FSA (CEC), Blythe (2014, 20);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9);
- Seven Mile Hill and Glenrock/Rolling Hills impacts + Addendum, Wyoming (2014; 105);

- Rising Tree Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Rising Tree Wind Energy Project DEIR, Mojave (2014, 15);
- Soitec Solar Development Project PEIR, Boulevard, San Diego County (2014, 18);
- Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3);
- Alta East Wind Energy Project FEIS, Tehachapi Pass (2013, 23);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16);
- Clearwater and Yakima Solar Projects DEIR, Kern County (2013, 9);
- West Antelope Solar Energy Project IS/MND, Antelope Valley (2013, 18);
- Cuyama Solar Project DEIR, Carrizo Plain (2014, 19);
- Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49);
- Kingbird Solar Photovoltaic Project EIR, Kern County (2013, 19);
- Lucerne Valley Solar Project IS/MND, San Bernardino County (2013, 12);
- Tule Wind project FEIR/FEIS (Declaration) (2013; 31);
- Sunlight Partners LANDPRO Solar Project MND (2013; 11);
- Declaration in opposition to BLM fracking (2013; 5);
- Blythe Energy Project (solar) CEC Staff Assessment (2013;16);
- Rosamond Solar Project EIR Addendum, Kern County (2013; 13);
- Pioneer Green Solar Project EIR, Bakersfield (2013; 13);
- Replies on Soccer Center Solar Project MND (2013; 6);
- Soccer Center Solar Project MND, Lancaster (2013; 10);
- Plainview Solar Works MND, Lancaster (2013; 10);
- Alamo Solar Project MND, Mojave Desert (2013; 15);
- Replies on Imperial Valley Solar Company 2 Project (2013; 10);
- Imperial Valley Solar Company 2 Project (2013; 13);
- FRV Orion Solar Project DEIR, Kern County (PP12232) (2013; 9);
- Casa Diablo IV Geothermal Development Project (2013; 6);
- Reply on Casa Diablo IV Geothermal Development Project (2013; 8);
- Alta East Wind Project FEIS, Tehachapi Pass (2013; 23);
- Metropolitan Air Park DEIR, City of San Diego (2013;);
- Davidon Homes Tentative Subdivision Rezoning Project DEIR, Petaluma (2013; 9);
- Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10);
- Campo Verde Solar project FEIR, Imperial Valley (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8);
- North Steens Transmission Line FEIS, Oregon (Declaration) (2012; 62);
- Summer Solar and Springtime Solar Projects Ism Lancaster (2012; 8);
- J&J Ranch, 24 Adobe Lane Environmental Review, Orinda (2012; 14);
- Replies on Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 8);
- Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 9);
- Desert Harvest Solar Project EIS, near Joshua Tree (2012; 15);
- Solar Gen 2 Array Project DEIR, El Centro (2012; 16);
- Ocotillo Sol Project EIS, Imperial Valley (2012; 4);
- Beacon Photovoltaic Project DEIR, Kern County (2012; 5);
- Butte Water District 2012 Water Transfer Program IS/MND (2012; 11);

- Mount Signal and Calxico Solar Farm Projects DEIR (2011; 16);
- City of Elk Grove Sphere of Influence EIR (2011; 28);
- Sutter Landing Park Solar Photovoltaic Project MND, Sacramento (2011; 9);
- Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4);
- Ivanpah Solar Electric Generating System (ISEGS) (Declaration) (2011; 9);
- Draft Eagle Conservation Plan Guidance, USFWS (2011; 13);
- Niles Canyon Safety Improvement Project EIR/EA (2011; 16);
- Route 84 Safety Improvement Project (Declaration) (2011; 7);
- Rebuttal on Whistling Ridge Wind Energy Power DEIS, Skamania County, (2010; 6);
- Whistling Ridge Wind Energy Power DEIS, Skamania County, Washington (2010; 41);
- Klickitat County's Decisions on Windy Flats West Wind Energy Project (2010; 17);
- St. John's Church Project DEIR, Orinda (2010; 14);
- Results Radio Zone File #2009-001 IS/MND, Conaway site, Davis (2010; 20);
- Rio del Oro Specific Plan Project FEIR, Rancho Cordova (2010;12);
- Results Radio Zone File #2009-001, Mace Blvd site, Davis (2009; 10);
- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009; 9);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Second Declaration) (2008; 17);
- Draft 1A Summary Report to CAISO (2008; 10);
- Hilton Manor Project Categorical Exemption, County of Placer (2009; 9);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142);
- Delta Shores Project EIR, south Sacramento (2009; 11 + addendum 2);
- Declaration in Support of Care's Petition to Modify D.07-09-040 (2008; 3);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Declaration) (2008; 16);
- Colusa Generating Station, California Energy Commission PSA (2007; 24);
- Rio del Oro Specific Plan Project Recirculated DEIR, Mather (2008: 66);
- Replies on Regional University Specific Plan EIR, Roseville (2008; 20);
- Regional University Specific Plan EIR, Roseville (2008: 33);
- Clark Precast, LLC's "Sugarland" project, ND, Woodland (2008: 15);
- Cape Wind Project DEIS, Nantucket (2008; 157);
- Yuba Highlands Specific Plan EIR, Spenceville, Yuba County (2006; 37);
- Replies to responses on North Table Mountain MND, Butte County (2006; 5);

- North Table Mountain MND, Butte County (2006; 15);
- Windy Point Wind Farm EIS (2006; 14 and Powerpoint slide replies);
- Shiloh I Wind Power Project EIR, Rio Vista (2005; 18);
- Buena Vista Wind Energy Project NOP, Byron (2004; 15);
- Callahan Estates Subdivision ND, Winters (2004; 11);
- Winters Highlands Subdivision IS/ND (2004; 9);
- Winters Highlands Subdivision IS/ND (2004; 13);
- Creekside Highlands Project, Tract 7270 ND (2004; 21);
- Petition to California Fish and Game Commission to list Burrowing Owl (2003; 10);
- Altamont Pass Wind Resource Area CUP renewals, Alameda County (2003; 41);
- UC Davis Long Range Development Plan: Neighborhood Master Plan (2003; 23);
- Anderson Marketplace Draft Environmental Impact Report (2003; 18);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003; 6);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002; 23);
- Replies on East Altamont Energy Center evidentiary hearing (2002; 9);
- Revised Draft Environmental Impact Report, The Promenade (2002; 7);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002; 3);
- UC Merced -- Declaration (2002; 5);
- Replies on Atwood Ranch Unit III Subdivision FEIR (2003; 22);
- Atwood Ranch Unit III Subdivision EIR (2002; 19);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002; 20);
- Silver Bend Apartments IS/MND, Placer County (2002; 13);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001; 26);
- Colusa County Power Plant IS, Maxwell (2001; 6);
- Dog Park at Catlin Park, Folsom, California (2001; 5);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000; 10);
- Metcalf Energy Center, California Energy Commission FSA (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000; 4);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7);
- Affidavit of K. Shawn Smallwood in Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy (1999: 9).
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Sunset Sky ranch Airport Use Permit IS/MND (1999);
- Ballona West Bluffs Project Environmental Impact Report (1999; oral presentation);
- Draft Recovery Plan for Giant Garter Snake (Fed. Reg. 64(176): 49497-49498) (1999; 8);
- Draft Recovery Plan for Arroyo Southwestern Toad (1998);
- Pacific Lumber Co. (Headwaters) HCP & EIR, Fortuna (1998; 28);
- Natomas Basin HCP Permit Amendment, Sacramento (1998);

- San Diego Multi-Species Conservation Program FEIS/FEIR (1997; 10);

Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.’s Conditional Use Permit PLN2014-00028 (2015; 8);
- Covell Village PEIR, Davis (2005; 19);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping (2003; 7.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis candensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7.);
- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

Position Statements I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society—Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California’s 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed “No Surprises,” “Safe Harbor,” and “Candidate Conservation Agreement” rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No.

103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Presentations at Professional Meetings and Seminars

Dog detections of bat and bird fatalities at wind farms in the Altamont Pass Wind Resource Area. East Bay Regional Park District 2019 Stewardship Seminar, Oakland, California, 13 November 2019.

Repowering the Altamont Pass. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area, 1999-

2007. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Conservation and recovery of burrowing owls in Santa Clara Valley. Santa Clara Valley Habitat Agency, Newark, California, 3 February 2017.

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife

Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13th Annual Conference, UC Santa Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association, Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

“No Surprises” -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomysidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asyloamar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion;

Mountain lion control; Political status of the mountain lion in California.

Other forms of Participation at Professional Meetings

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.
- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.
- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.
- Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection. Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.
- Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.
- Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Printed Mass Media

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

Radio/Television

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	Journal
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology

Journal	Journal
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Wildlife Society Bulletin	Peer J
Biological Control	The Condor

Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

Other Professional Activities or Products

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of \$553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines, Amherst Island, and Fairview Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

Memberships in Professional Societies

The Wildlife Society
Raptor Research Foundation

Honors and Awards

Fulbright Research Fellowship to Indonesia, 1987
J.G. Boswell Full Academic Scholarship, 1981 college of choice
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001
Northern California Athletic Association Most Valuable Cross Country Runner, 1984
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977
CIF Section Champion, Cross Country in 1978
CIF Section Champion, Track & Field 2 mile run in 1981
National Junior Record, 20 kilometer run, 1982
National Age Group Record, 1500 meter run, 1978

Community Activities

District 64 Little League Umpire, 2003-2007
Dixon Little League Umpire, 2006-07
Davis Little League Chief Umpire and Board member, 2004-2005
Davis Little League Safety Officer, 2004-2005
Davis Little League Certified Umpire, 2002-2004
Davis Little League Scorekeeper, 2002
Davis Visioning Group member
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002
Served on campaign committees for City Council candidates

Representative Clients/Funders

Law Offices of Stephan C. Volker	EDF Renewables
Blum Collins, LLP	National Renewable Energy Lab
Eric K. Gillespie Professional Corporation	Altamont Winds LLC
Law Offices of Berger & Montague	Salka Energy
Lozeau Drury LLP	Comstocks Business (magazine)
Law Offices of Roy Haber	BioResource Consultants
Law Offices of Edward MacDonald	Tierra Data
Law Office of John Gabrielli	Black and Veatch
Law Office of Bill Kopper	Terry Preston, Wildlife Ecology Research Center
Law Office of Donald B. Mooney	EcoStat, Inc.
Law Office of Veneruso & Moncharsh	US Navy
Law Office of Steven Thompson	US Department of Agriculture
Law Office of Brian Gaffney	US Forest Service
California Wildlife Federation	US Fish & Wildlife Service
Defenders of Wildlife	US Department of Justice
Sierra Club	California Energy Commission
National Endangered Species Network	California Office of the Attorney General
Spirit of the Sage Council	California Department of Fish & Wildlife
The Humane Society	California Department of Transportation
Hagens Berman LLP	California Department of Forestry
Environmental Protection Information Center	California Department of Food & Agriculture
Goldberg, Kamin & Garvin, Attorneys at Law	Ventura County Counsel
Californians for Renewable Energy (CARE)	County of Yolo
Seatuck Environmental Association	Tahoe Regional Planning Agency
Friends of the Columbia Gorge, Inc.	Sustainable Agriculture Research & Education Program
Save Our Scenic Area	Sacramento-Yolo Mosquito and Vector Control District
Alliance to Protect Nantucket Sound	East Bay Regional Park District
Friends of the Swainson's Hawk	County of Alameda
Alameda Creek Alliance	Don & LaNelle Silverstien
Center for Biological Diversity	Seventh Day Adventist Church
California Native Plant Society	Escuela de la Raza Unida
Endangered Wildlife Trust	Susan Pelican and Howard Beeman
and BirdLife South Africa	Residents Against Inconsistent Development, Inc.
AquAlliance	Bob Sarvey
Oregon Natural Desert Association	Mike Boyd
Save Our Sound	Hillcroft Neighborhood Fund
G3 Energy and Pattern Energy	Joint Labor Management Committee, Retail Food Industry
Emerald Farms	Lisa Rocca
Pacific Gas & Electric Co.	Kevin Jackson
Southern California Edison Co.	Dawn Stover and Jay Letto
Georgia-Pacific Timber Co.	Nancy Havassy
Northern Territories Inc.	Catherine Portman (for Brenda Cedarblade)
David Magney Environmental Consulting	Ventus Environmental Solutions, Inc.
Wildlife History Foundation	Panorama Environmental, Inc.
NextEra Energy Resources, LLC	Adams Broadwell Professional Corporation
Ogin, Inc.	

Representative special-status species experience

Common name	Species name	Description
Field experience		
California red-legged frog	<i>Rana aurora draytonii</i>	Protocol searches; Many detections
Foothill yellow-legged frog	<i>Rana boylei</i>	Presence surveys; Many detections
Western spadefoot	<i>Spea hammondi</i>	Presence surveys; Few detections
California tiger salamander	<i>Ambystoma californiense</i>	Protocol searches; Many detections
Coast range newt	<i>Taricha torosa torosa</i>	Searches and multiple detections
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	Detected in San Luis Obispo County
California horned lizard	<i>Phrynosoma coronatum frontale</i>	Searches; Many detections
Western pond turtle	<i>Clemmys marmorata</i>	Searches; Many detections
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Protocol searches; detections
Sumatran tiger	<i>Panthera tigris</i>	Track surveys in Sumatra
Mountain lion	<i>Puma concolor californicus</i>	Research and publications
Point Arena mountain beaver	<i>Aplodontia rufa nigra</i>	Remote camera operation
Giant kangaroo rat	<i>Dipodomys ingens</i>	Detected in Cholame Valley
San Joaquin kangaroo rat	<i>Dipodomys nitratoideus</i>	Monitoring & habitat restoration
Monterey dusky-footed woodrat	<i>Neotoma fuscipes luciana</i>	Non-target captures and mapping of dens
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	Habitat assessment, monitoring
Salinas harvest mouse	<i>Reithrodontomys megalotus distichlus</i>	Captures; habitat assessment
Bats		Thermal imaging surveys
California clapper rail	<i>Rallus longirostris</i>	Surveys and detections
Golden eagle	<i>Aquila chrysaetos</i>	Numerical & behavioral surveys
Swainson's hawk	<i>Buteo swainsoni</i>	Numerical & behavioral surveys
Northern harrier	<i>Circus cyaneus</i>	Numerical & behavioral surveys
White-tailed kite	<i>Elanus leucurus</i>	Numerical & behavioral surveys
Loggerhead shrike	<i>Lanius ludovicianus</i>	Large area surveys
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Detected in Monterey County
Willow flycatcher	<i>Empidonax traillii extimus</i>	Research at Sierra Nevada breeding sites
Burrowing owl	<i>Athene cunicularia hypugia</i>	Numerical & behavioral surveys
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Monitored success of relocation and habitat restoration
Analytical		
Arroyo southwestern toad	<i>Bufo microscaphus californicus</i>	Research and report.
Giant garter snake	<i>Thamnophis gigas</i>	Research and publication
Northern goshawk	<i>Accipiter gentilis</i>	Research and publication
Northern spotted owl	<i>Strix occidentalis</i>	Research and reports
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>	Expert testimony



September 17, 2021

To: Chris Rogers (crogers@srcity.org) - Mayor

Eddie Alvarez (ealvarez@srcity.org) - District 1

Alisa Rawson (arawson@srcity.org)

Re: California Native Plant Society's comments on the Roseland Creek Community Park Master Plan

The Milo Baker Chapter of the California Native Plant Society (CNPS) is pleased to provide the City of Santa Rosa with additional comments for the proposed Roseland Creek Community Park Master Plan. We had previously submitted comments on the Roseland Neighborhood Park Draft Master Plan on March 29, 2021. In that letter we shared with you our appreciation for specific park features, the opportunities of this property, and what our organization could do to support the community benefits of the natural features of this park. As you know, the Milo Baker Chapter is the Sonoma County representative of the California Native Plant Society and our mission is to "Conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants." Our members have been involved in the park planning process by attending the public meetings, providing written feedback, and visiting local schools to provide education about the plants, habitats, and overall ecology that is present on this proposed park property. This September letter provides a focus on the need for the restoration of Roseland Creek and identifies areas where the restoration will occur.

Restore Roseland Creek

The City has a Citywide Creek Masterplan (2013) that envisions restoration of this creek, as described in Chapter 4, Watershed Specific Recommendations. This portion of Roseland Creek is Reach 2, which runs from McMinn Avenue in the east to Burbank Avenue in the west and is part of the 2004 Roseland Creek Restoration Concept Plan (Appendix C). Within the Restoration Plan was a public comment to protect and encourage groundwater recharge areas. We at CNPS agree with this proposed concept and further encourage the City to create a flood zone and associated terrace in the eastern portion of the park in the area proposed for the outdoor classroom/urban garden in the 2021 Master Plan. As a result, the urban garden would not be viable in flooded conditions.

The 2004 Restoration Concept Plan identifies the creation of a variety of aquatic habitat types (pools, riffles, etc.) within the channel and to create a more natural riparian forest. The

current shape of Roseland Creek is relatively straight, but over time it wants to be sinuous and even meandering. Sinuosity in a creek allows for discharge of energy and sedimentation to be deposited, resulting in a decline of velocity and a cessation of erosion. However, the creek needs room to move to allow this to happen. Roseland Creek Park has this space and the restoration effort should provide for this movement in the creek. Creation of aquatic habitats will further allow the creek to create a natural sinuosity.

A natural sinuosity would stabilize the hydraulic capacity. The Sonoma County Water Agency (SCWA) conducts maintenance on Roseland Creek downstream of Roseland Creek Primary school wherein SCWA maintains the hydraulic capacity of the channel. A flood zone would reduce the need for SCWA to maintain the creek as frequently as it currently does. We at CNPS feel that the creek restoration plan should be created in detail before designing the recreational aspects of the park. With climate change causing more droughts and heat waves, there will be changes in precipitation, not only seasonally but in total amounts. As a result, there is a potential for more flooding to occur after periods of droughts. A restored Roseland Creek with a flood plain and associated terraces will allow the creek to move more freely and absorb the water from the urbanized areas to the east.

In summary, the Milo Baker Chapter of the Native Plant Society is supportive of the proposed park and urges the City to work on a detailed Roseland Creek Restoration Plan with appropriate aquatic habitats and associated creek flood plains and terraces. This type of plan will provide further education about the natural habitats that exist in their community.

Sincerely,

Wendy Smit, President

Milo Baker Chapter of the California Native Plant Society