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May 24, 2022

### **Via Email**

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### **Re: Agenda Item 9 (22-594): Comments on the Freedom Circle Focus Area and Greystar General Plan Amendment Project**

Honorable Mayor and City Council Members:

We write on behalf of Silicon Valley Residents for Responsible Development (“Silicon Valley Residents”) to provide comments on the Freedom Circle Focus Area and Greystar General Plan Amendment Project (“Project”), which appears as Item 9 (22-594) on the Agenda for the May 24, 2022 Santa Clara Joint Council and Authorities Concurrent and Stadium Authority Meeting. The City Council will consider whether to adopt resolutions (1) approving an Environmental Impact Report (“EIR”) and an associated Mitigation Monitoring and Reporting Program (“MMRP”); (2) adopting General Plan amendments; and (3) rezoning the Greystar site (collectively, “Approvals”).

The Freedom Circle Focus Area would allow, subject to a future planning study, 2,500 dwelling units beyond those anticipated in the Greystar General Plan Amendment, and an additional 2 million square feet of additional office space. The Focus Area is 108 gross acres bounded by San Tomas Aquino Creek to the east, Great America Parkway to the west, Great America Theme Park to the north and Highway 101 to the south.

The Greystar Project proposes development of three buildings with 1,075 residential units and 2,000 square feet of retail space, plus a 2.0-acre park. The  
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13.3-acre Greystar site lies within the Freedom Circle Focus Area and is bounded by San Tomas Aquino Creek to the East, Freedom Circle to the West, and Highway 101 in Santa Clara.

The Project requires the following approvals: (1) determination of the adequacy of the EIR prepared to analyze the potential environmental impacts for the project and an associated MMRP; (2) adoption of a General Plan text amendment to add language regarding the creation of additional Future Focus Areas, the re-designation of land outside of Focus Areas, creation of the new Very High-Intensity Office/Research & Development (“R&D”) designation, and adoption of a General Plan Amendment to create the Freedom Circle Future Focus Area; (3) adoption of the Greystar General Plan Amendment from High Intensity Office/R&D (maximum Floor Area Ratio of 2.0) to Very High Density Residential (51- 100 Dwelling Unit/Acre; and (4) adoption of the Planned Development Rezoning for the Greystar site, which would allow up to 1,100 units on a 13.3 gross acre site bounded by Freedom Circle to the west, Mission College Boulevard to the north, San Tomas Aquino Creek to the east and Highway 101 to the south.

On December 20, 2021, Silicon Valley Residents submitted comments on the Draft EIR (“DEIR”) prepared for the Project. On March 30, 2022, the City released the Final EIR (“FEIR”), which revises the DEIR and includes responses to our comments. Silicon Valley Residents submitted responsive comments in advance of the April 13, 2022 Planning Commission meeting explaining that the Project had unresolved environmental impacts and land use inconsistencies.

After the Planning Commission meeting, the City released technical documents revising elements of the Project in response to our comments.<sup>1</sup> These documents include (1) a health risk assessment,<sup>2</sup> (2) responses to our comments,<sup>3</sup> (3) revisions to the Project’s General Plan Amendments,<sup>4</sup> and (4) an updated biological

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<sup>1</sup> City of Santa Clara, Post-Planning Commission Technical Information, <https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/370/3649?page=2>.

<sup>2</sup> MIG, Freedom Circle Focus Area Plan and Greystar General Plan Amendment: Post-Planning Commission EIR Memo for Air Quality Comments, May 12, 2022, <https://www.santaclaraca.gov/home/showpublisheddocument/77391/637880536900270000>.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

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setting.<sup>5</sup> As will be discussed in more detail below, while these revisions address some of the Project's issues, there remain potentially significant impacts to biological resources and inconsistencies with the General Plan.

We prepared our response with the assistance of biological resources expert Shawn Smallwood, PhD.<sup>6</sup>

For these reasons, Silicon Valley Residents urges the City Council not to adopt the Project's Approvals at the City Council meeting set for May 24, 2022. Silicon Valley Residents urges the City Council to remand the Project back to Staff to allow for preparation of a legally adequate EIR pursuant to CEQA and to enable proper planning for the proposed Freedom Circle Focus Area as set forth in the existing 2010-2035 General Plan.

#### **I. The Project's General Plan Amendments Related to Future Focus Areas Conflict with General Plan Goals**

The Project includes designation of the Freedom Circle Focus Area, which would allow, subject to a future planning study, 2,500 dwelling units beyond those anticipated in the Greystar General Plan Amendment, and an additional 2 million square feet of additional office space. A Future Focus Area Plan provides a foundation for the future comprehensive, detailed planning study (or "comprehensive plan," such as a specific plan) necessary to be adopted prior to allowing development in the Plan Area. A focus area plan provides a preliminary analysis of land use, utilities, streets, services, parks, and other public facilities as part of a coordinated planning process established to determine new infrastructure and service needs adequate to support future development and to plan for timing of development appropriate to sustain environmental quality.

*The General Plan includes several policies and goals requiring comprehensive planning **before** rezoning or development could occur in a Future Focus Area. These policies include:*

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<sup>5</sup> MIG, Updated Biological Setting for the Greystar Parcels in the Freedom Circle Focus Area Plan, May 11, 2022,

<https://www.santaclaraca.gov/home/showpublisheddocument/77389/637880536006030000>.

<sup>6</sup> Dr. Smallwood's reply comments and curricula vitae are attached hereto as **Exhibit A**. 3826-008acp

Policy 5.4.7-P1: “Require the adoption of the comprehensive plan prior to any rezoning within that designated Future Focus Area.”

Policy 5.4.7-P4 states: “Until such time as a comprehensive plan is adopted for a Future Focus Area, allow development in accordance with the land use designations on the Phase II General Plan Land Use Diagram.”

Goal 5.4.7-G1 states: “All applicable prerequisites are met, and a comprehensive plan is adopted, prior to implementation of any Future Focus Area.”

Goal 5.1.1-G1 states: “Cohesive, integrated planning that restrains premature development prior to the necessary supportive infrastructure has been programmed for each phase of the Progressive General Plan.”

In apparent conflict with the above provisions, *the Project seeks rezoning and approval of the Greystar Project – which is located in the proposed Freedom Circle Focus Area – before comprehensive planning has been conducted.*

In order to allow the City to approve the Greystar project before comprehensive planning has taken place, the Project includes several General Plan Amendments:

Policy 5.4.7-P11: Allow for General Plan Amendments and rezonings outside of existing Future Focus Areas in combination with the designation of new Future Focus Areas.

5.4.7 Future Focus Areas Goals and Policies: In addition to the three Future Focus Areas, additional Future Focus Areas may be added to the General Plan Land Use diagram through the General Plan Amendment process. The creation of a Future Focus Area is a precursor to the comprehensive planning process required for all Focus Areas.

In our previous comments, we explained that the above General Plan Amendments would create internal contradictions within the General Plan – some policies would require comprehensive planning before rezoning and development could occur in a Future Focus Area, and others would not.

In response to our comments, just over a week ago, the City proposed a new amendment to the General Plan to allow “*Additional* Future Focus Areas,” outside of the General Plan’s comprehensive planning process:

“In addition to the three Future Focus Areas **identified in the General Plan as adopted on November 16, 2010**, Additional Future Focus Areas may be added to the General Plan Land Use diagram through the General Plan Amendment process. **Subject to the discretion provided pursuant to Policy 5.4.7-P11**, the creation of an **Additional** Future Focus Area is a precursor to the comprehensive planning process required for all Focus Areas.”

Policy 5.4.7-P11: Allow for General Plan Amendments and rezonings outside of existing Future Focus Areas in combination with the designation of new **Additional** Future Focus Areas.<sup>7</sup>

The City’s reasoning is that “[a]ll the requirements set forth in the General Plan relating to Future Focus Areas concerns [the] three existing Future Focus Areas,” and that “*Additional* Future Focus Areas” need not “be made subject to all the same requirements.”<sup>8</sup> This reasoning creates new inconsistencies within the General Plan, as it is now unclear which of the existing policies regarding Future Focus Areas still apply to Additional Future Focus Areas.

Moreover, even if the City resolves the textual inconsistencies the Amendments create within the General Plan, the City cannot resolve the conflict with the **goals** of the General Plan. As stated in the DEIR:

Comprehensive planning is a prerequisite for new development in Santa Clara, and Focus Areas have been identified throughout the city to support and foster a diverse economic and cultural base by encouraging improvements and new development tailored to each area’s character and the quality of these areas. Future Focus Areas are intended to continue to support community vitality, and all Future Focus Areas require a detailed, comprehensive plan prior to any development approval.<sup>9</sup>

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<sup>7</sup> MIG, Freedom Circle Focus Area Plan and Greystar General Plan Amendment: Post-Planning Commission EIR Memo for Air Quality Comments, pg. 17, 18.

<sup>8</sup> *Id.* at 17.

<sup>9</sup> DEIR, pg. 3-12.  
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By allowing rezoning and approving individual projects before comprehensive planning has occurred, the General Plan Amendments weaken the effectiveness of General Plan Goals and Future Focus Areas. The Amendments weaken the General Plan's "cohesive, integrated planning that restrains premature development prior to the necessary supportive infrastructure."<sup>10</sup> As a result, the current approval of the Greystar project, its rezoning, and adoption of the General Plan Amendments are inconsistent with the General Plan. We urge the City Council to deny approval of the General Plan Amendments, and conduct comprehensive planning before the Greystar Project is approved.

## **II. The EIR Fails To Adequately Analyze and Mitigate All Potentially Significant Impacts to Biological Resources**

In our previous comments, we explained that the EIR's description of the Greystar site's biological baseline is not supported by substantial evidence. These flaws have not been corrected in the City's Updated Biological Setting. As a result, the EIR's conclusions regarding significant impacts are unsupported.

First, we commented that the EIR fails to substantiate any details of its original site visit, so it is unknown who performed the survey, methods used, the time of day when the survey began, how long the survey lasted, which portion of the Project site was covered, and weather conditions during the survey. As a result, the EIR lacks substantial evidence that the baseline is as described. As explained by Dr. Smallwood, the City's Updated Biological Setting "repeats the deficiencies in the DEIR by not detailing who performed the site visit, which date the survey was performed, what were the weather conditions, what time of day the survey began, how long the survey lasted, and which methods were used."<sup>11</sup> Without any of these details about the survey, the Updated Biological Setting's characterization of the environmental setting is unsupported by substantial evidence.

Second, the EIR, in its significance findings, concludes that "[g]round-truthing of the biological resources on the Greystar property site on the December 12, 2020 site visit provided no evidence that further biological surveys would be required to be in compliance with this EIR's mitigation measures, as the site contained no vegetation, no aquatic resources, is regularly disked, and did not

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<sup>10</sup> Goal 5.1.1-G1.

<sup>11</sup> Smallwood Comments (May 24, 2022), pg. 2.  
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contain any small mammal burrows.”<sup>12</sup> But Dr. Smallwood conducted a site visit on December 18, 2021, and found at least several burrow systems of California ground squirrels on the project site.<sup>13</sup> This finding is important because it demonstrates that the site contains potential habitat for burrowing owls, and foraging grounds for carnivores.<sup>14</sup> Dr. Smallwood’s findings were confirmed by the City’s own April 2022 site visit.<sup>15</sup> But the City fails to revise its conclusion that no further biological surveys are required.<sup>16</sup> The EIR must be revised to include protocol surveys for special-status species with potential to occur on the Project site.

Third, the EIR assumes that because the Greystar site is disturbed, it has low habitat value. Dr. Smallwood’s initial comments explained that this reasoning lacks substantial evidence by providing analysis and photographic evidence showing that wildlife forages, nests, and moves through the site. The Updated Biological Setting nonetheless points to past disturbances of the project site – as long ago as 25 years – to support the EIR’s conclusion that wildlife use of the site is limited.<sup>17</sup> As explained in Dr. Smallwood’s comments, the City must evaluate the biological setting of the Project site based on its actual use by wildlife, not by broad characterizations of the quality of the open space. Here, site visits by the City and Dr. Smallwood detected 35 vertebrate species of wildlife at the project site. These site visits also detected prey mammals and burrows, which indicate potential presence of special-status wildlife species including burrowing owls.<sup>18</sup> As a result, the City lacks substantial evidence to conclude that protocol surveys for special-status species are not required for the Greystar site. The EIR and Mitigation Monitoring and Reporting Program must be revised to include protocol surveys for special status species with potential to occur on the Project site.<sup>19</sup>

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<sup>12</sup> *Id.* at 2-17. Emphasis added.

<sup>13</sup> Smallwood Comments (December 20, 2021), pg. 14.

<sup>14</sup> Smallwood Comments (December 20, 2021), pg. 36.

<sup>15</sup> Updated Biological Setting, pg. 5.

<sup>16</sup> MIG, Freedom Circle Focus Area Plan and Greystar General Plan Amendment: Post-Planning Commission EIR Memo for Air Quality Comments, pg. 18.

<sup>17</sup> Updated Biological Setting, pg. 2.

<sup>18</sup> Smallwood Comments (May 24, 2022), pg. 2.

<sup>19</sup> A full list of species of occurrence likelihoods of special-status species is presented in Dr. Smallwood’s comments (December 20, 2021), Table 2.

### III. Conclusion

The proposed General Plan amendments contradict the goals of the General Plan. In addition, the EIR's description of the Project site's existing biological resources is not supported by substantial evidence. As a result, the EIR's conclusions regarding significant impacts are unsupported. The City should not approve the Project until it revises the General Plan amendments to correct the internal inconsistencies in the General Plan and until after the City complies with CEQA by preparing a legally adequate EIR for the Project. Silicon Valley Residents urges the City Council to direct Staff to revise the General Plan Amendments and prepare a legally adequate EIR and recirculate the EIR to the public, as required by CEQA.

Sincerely,



Aidan P. Marshall

Attachment

APM:acp

# **EXHIBIT A**

Shawn Smallwood, PhD  
3108 Finch Street  
Davis, CA 95616

Aidan Marshall  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080

19 May 2022

RE: Freedom Circle Focus Area and Greystar General Plan Amendment Project

Dear Mr. Marshall,

I write to replies to a response to your comments, which summarize mine regarding potential project impacts to biological resources. I also write to comment on the Updated Biological Setting prepared by MIG (2022).

**Biology Response:** “The Smallwood letter repeats numerous arguments addressed in the Final EIR, and many of the arguments are based on Smallwood’s claim that the biological site visit is too old or otherwise inaccurate. While CEQA’s baseline is generally when the NOP was issued, an additional site visit was nevertheless completed in order to confirm whether conditions have substantially changed in a way that could impact the environmental conclusions in the EIR.”

**Reply:** I made no argument that the biological site visit was too old. I pointed out that no reporting of the reconnaissance-level site visit was provided with the DEIR, nor was there any description of the survey such as who performed it at what time of day and for what period of time. No summary of species detections was provided. The work done in support of CEQA’s requirement for an accurate characterization of the environmental setting was not reported, and the characterization of the environmental setting that appeared in the DEIR was inconsistent with what I observed of the site.

In no way did I suggest that conditions at the site had substantially changed in a way that could impact conclusions in the EIR. Again, I commented that the reporting of the methods used to characterize the environmental setting was inadequate, and I commented that contrary to the EIR’s conclusions, the project site provides considerable habitat value to wildlife.

**Biology Response:** “As explained in the updated biological setting memorandum, the site visit confirms the conclusions reached in the EIR.”

**Reply:** It is unclear how the site visit confirms conclusions reached in the EIR, but the implication is that the conclusions had something to do with whether conditions changed at the site since MIG’s 2020 survey or my 2021 survey. According to the Updated Biological Setting (MIG 2022:1), “the setting has not substantially changed from what was observed in 2020.” But this conclusion has no bearing on my comments on the EIR. I have no reason to believe the setting has changed substantially since

2020. I did not suggest or imply that conditions had changed or that they remained unchanged, nor do I see much significance in whether the Greystar site was mowed prior to M’G’s visits or mine. I commented that the characterization of the environmental setting was inaccurate. After what I have seen of the Updated Environmental Setting, I conclude that it remains inaccurate because of its speculated relationship between site disturbance and the site’s capacity to support wildlife.

The Updated Biological Setting (p. 2) proceeds to describe past environmental settings of the project site as long ago as 25 years. The abuses to the site supposedly support the EIR’s conclusion that wildlife use of the site is “limited,” whatever this is supposed to mean. However, the environmental setting that is relevant to CEQA analysis is the existing environmental setting, inclusive of the species of wildlife that currently make use of the site. What occurs at the site today is the issue, not what was done to the site 25 years ago nor any speculated limitations placed on wildlife by past abuses.

On pages 4 through 6 of the Updated Biological Setting, MIG (2022) speculates over reasons in support of MIG’s conclusions that various special-status species of wildlife are unlikely to occur at the site. MIG concludes without evidence that birds nest in human-made structures or in the adjacent creek, but not on the grassland or trees on site. MIG further speculates over which other species of wildlife might use the site during the non-breeding season. Speculation can be fine as an analytical tool when it is consistent with the precautionary principle in risk analysis, but its use in the Updated Biological Setting is inappropriate for its amenability to err on the side of incaution.

The Updated Biological Setting reports that the site was surveyed in April 2022, and the species observed during the April 2022 survey are listed within the report. Unfortunately, the Updated Biological Survey repeats the deficiencies in the DEIR by not detailing who performed the site visit, which date the survey was performed, what were the weather conditions, what time of day the survey began, how long the survey lasted, and which methods were used. Later in the report, a reference is made to a survey in May, but nowhere else is this survey described. Just as occurred in the DEIR, the reader is left wondering how to interpret the survey outcome reported by MIG.

Table 1 lists the species detected by MIG in comparison to what I saw during my 2.5-hour survey on 18 December 2021 (at least half of my survey time was committed to the Focal Area, and the balance of my time to Greystar). I had seen 31 species of vertebrate wildlife, including 21 at Greystar. MIG saw 15 species, including 13 specifically on the Greystar site. MIG detected half the number of species I did, which I suspect reflects more of a difference in survey effort than it does any change in the environmental setting between my survey and theirs. Based on our combined survey efforts, the list of vertebrate species of wildlife seen at the project site increases from 31 to 35, and at Greystar specifically from 21 to 26. In other words, MIG’s Updated Biological Setting added to the evidence in support of my conclusion that the site provides considerable habitat value to wildlife., much of it yet to be characterized.

In April 2022, MIG saw the ground squirrels that I saw in December 2021. MIG saw 11 of the same species I saw at the Greystar site, as well as 5 that I had not seen there.

Several of the species seen by MIG, but not by me, likely arrived since my survey, as would be expected of their seasonal patterns of migration and emergence from hibernacula. MIG's observations of these species of wildlife further support my comments that the site provides more habitat value to wildlife than can be detected by one or two reconnaissance-level surveys. As I commented, "There is no question that a larger survey effort would result in a longer list of species documented to use the project site, thereby changing our understanding of the current environmental setting." MIG realized part of that longer list, but the list is nowhere close to complete.

Thank you for your attention,



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Shawn Smallwood, Ph.D.

#### **LITERATURE CITED**

MIG. 2022. Updated Biological Setting for the Greystar Parcels in the Freedom Circle Focus Area Plan. 11 May 2022 letter to Mr. John Davidson, Principal Planner, City of Santa Clara.

**Table 1.** Species of vertebrate wildlife detected by myself and by MIG (2022) at the project site.

<b>Common name</b>	<b>Species name</b>	<b>Status<sup>1</sup></b>	<b>Observed by Smallwood, 18 December 2021</b>	<b>Observed by MIG, April &amp; May 2022</b>
Sierran treefrog	<i>Pseudacris sierra</i>		Greystar	
Western fence lizard	<i>Sceloporus occidentalis</i>			Greystar
Canada goose	<i>Branta canadensis</i>			San Tomas Aquino Creek
Mallard	<i>Anas platyrhynchos</i>		San Tomas Aquino Creek	San Tomas Aquino Creek
Snowy Egret	<i>Egretta thula</i>		San Tomas Aquino Creek	
Great egret	<i>Ardea alba</i>		San Tomas Aquino Creek	
California gull	<i>Larus californicus</i>	BCC, TWL	Greystar	
Herring gull	<i>Larus argentatus</i>		Greystar	
Turkey vulture	<i>Cathartes aura</i>	BOP	Greystar & Focus Area	
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP	Greystar	Greystar
Mourning dove	<i>Zenaida macroura</i>		Focus Area	Greystar
Rock pigeon	<i>Columba livia</i>	Non-native	Greystar	
Northern flicker	<i>Colaptes auratus</i>		Focus Area	
Anna's hummingbird	<i>Calypte anna</i>		Focus Area	Greystar
Black phoebe	<i>Sayornis nigricans</i>		Greystar	Greystar
Cedar waxwing	<i>Bombycilla cedrorum</i>		Focus Area	
European starling	<i>Sturnus vulgaris</i>	Non-native	Greystar	
Western bluebird	<i>Sialia mexicana</i>		Greystar & Focus Area	Greystar
Bushtit	<i>Psaltriparus minimus</i>		Focus Area	
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>			Greystar
American robin	<i>Turdus migratorius</i>		Greystar and Focus Area	
Northern mockingbird	<i>Mimus polyglottos</i>		Greystar	Greystar
Yellow-rumped warbler	<i>Dendroica coronata</i>		Greystar & Focus Area	
California scrub-jay	<i>Aphelocoma californica</i>		Greystar and Focus Area	Greystar
Common raven	<i>Corvus corax</i>		Greystar and Focus Area	
California towhee	<i>Melospiza crissalis</i>		Greystar	Greystar
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		Greystar & Focus Area	
American crow	<i>Corvus brachyrhynchos</i>		Greystar & Focus Area	
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		Greystar	

<b>Common name</b>	<b>Species name</b>	<b>Status<sup>1</sup></b>	<b>Observed by Smallwood, 18 December 2021</b>	<b>Observed by MIG, April &amp; May 2022</b>
Savannah sparrow	<i>Passerculus sandwichensis</i>		Greystar	
Brewer's blackbird	<i>Euphagus cyanocephalus</i>			Greystar
House finch	<i>Haemorphous mexicanus</i>		Greystar and Focus Area	Greystar
Lesser goldfinch	<i>Spinus psaltria</i>		Focus Area	
Eastern gray squirrel	<i>Sciurus carolinensis</i>	Non-native	Focus Area	
California ground squirrel	<i>Otospermophilus beecheyi</i>		Greystar & levee	Greystar & levee

<sup>1</sup> BOP = California Fish and Game Code 3503.5 (Birds of Prey), and TWL = Taxa to Watch List (Shuford and Gardali 2008).

# Kenneth Shawn Smallwood

## Curriculum Vitae

3108 Finch Street  
Davis, CA 95616  
Phone (530) 756-4598  
Cell (530) 601-6857  
[puma@dcn.org](mailto:puma@dcn.org)

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

- 480 professional publications, including:
  - 83 peer reviewed publications
  - 24 in non-reviewed proceedings
  - 371 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 interspersions of 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. 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

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- 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.
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- 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](http://www.bit.ly/2v3cR9Q)
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- 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.
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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.
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- 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. 2016. Bird and bat impacts and behaviors at old wind turbines at Forebay, Altamont Pass Wind Resource Area. Report CEC-500-2016-066, California Energy Commission Public Interest Energy Research program, Sacramento, California. <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2016-066>

Sinclair, K. and E. DeGeorge. 2016. Framework for Testing the Effectiveness of Bat and Eagle Impact-Reduction Strategies at Wind Energy Projects. S. Smallwood, M. Schirmacher, and M. Morrison, eds., Technical Report NREL/TP-5000-65624, National Renewable Energy Laboratory, Golden, Colorado.

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Smallwood, K. S., L. Neher, D. Bell, J. DiDonato, B. Karas, S. Snyder, and S. Lopez. 2009. Range Management Practices to Reduce Wind Turbine Impacts on Burrowing Owls and Other Raptors in the Altamont Pass Wind Resource Area, California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2008-080. Sacramento, California. 183 pp. <http://www.energy.ca.gov/2008publications/CEC-500-2008-080/CEC-500-2008-080.PDF>

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### **Non-Peer Reviewed Publications**

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Smallwood, K. S. 2009. Methods manual for assessing wind farm impacts to birds. Bird Conservation Series 26, Wild Bird Society of Japan, Tokyo. T. Ura, ed., in English with Japanese translation by T. Kurosawa. 90 pp.

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### **Comments on Environmental Documents**

I was retained or commissioned to comment on environmental planning and review documents, including:

- The Villages of Lakeview EIR (2017; 28 pp);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4 pp);
- San Geronio Crossings EIR (2017; 22 pp);
- Replies to responses on Jupiter Project IS and MND (2017; 12 pp);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12 pp);
- Central SoMa Plan DEIR (2017; 14 pp);
- Colony Commerce Center Specific Plan DEIR (2016; 16 pp);
- Fairway Trails Improvements MND (2016; 13 pp);
- Review of Avian-Solar Science Plan (2016; 28 pp);
- Replies to responses on Initial Study for Pyramid Asphalt (2016; 5 pp);
- Initial Study for Pyramid Asphalt (2016; 4 pp);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14 pp);
- Santa Anita Warehouse IS and MND (2016; 12 pp);
- CapRock Distribution Center III DEIR (2016: 12 pp);
- Orange Show Logistics Center Initial Study and MND (2016; 9 pp);
- City of Palmdale Oasis Medical Village Project IS and MND (2016; 7 pp);
- Comments on proposed rule for incidental eagle take (2016, 49 pp);
- Grapevine Specific and Community Plan FEIR (2016; 25 pp);
- Grapevine Specific and Community Plan DEIR (2016; 15 pp);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study (2016; 6 pp);
- Tri-City Industrial Complex Initial Study (2016; 5 pp);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02 (2016; 12 pp);
- Kimball Business Park DEIR (2016; 10 pp);
- Jupiter Project IS and MND (2016; 9 pp);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18 pp);
- Palo Verde Mesa Solar Project Draft Environmental Impact Report (2016; 27 pp);

- Reply Witness Statement on Fairview Wind Project, Ontario, Canada (2016; 14 pp);
- Fairview Wind Project, Ontario, Canada (2016; 41 pp);
- Supplementary Reply Witness Statement Amherst Island Wind Farm, Ontario (2015, 38 pp);
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- Second Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 6 pp);
- Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 10 pp);
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- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9 pp);
- Replies to comments 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015; 28 pp);
- Sierra Lakes Commerce Center Project DEIR (2015, 9 pp);
- Columbia Business Center MND (2015; 8 pp);
- West Valley Logistics Center Specific Plan DEIR (2015, 10 pp);
- World Logistic Center Specific Plan FEIR (2015, 12 pp);
- Bay Delta Conservation Plan EIR/EIS (2014, 21 pp);
- Addison Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Addison Wind Energy Project DEIR (2014, 15 pp);
- Addison and Rising Tree Wind Energy Project FEIR (2014, 12 pp);
- Alta East Wind Energy Project FEIS (2013, 23 pp);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16 pp);
- Clearwater and Yakima Solar Projects DEIR (2013, 9 pp);
- Cuyama Solar Project DEIR (2014, 19 pp);
- Draft Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49 pp);
- Kingbird Solar Photovoltaic Project EIR (2013, 19 pp);
- Lucerne Valley Solar Project Initial Study & Mitigated Negative Declaration (2013, 12 pp);
- Palen Solar Electric Generating System Final Staff Assessment of California Energy Commission, (2014, 20 pp);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9 pp);
- Rising Tree Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Rising Tree Wind Energy Project DEIR (2014, 15 pp);
- Soitec Solar Development Project Draft PEIR (2014, 18 pp);
- Comment on the Biological Opinion (08ESMF-00-2012-F-0387) of Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3 pp);
- West Antelope Solar Energy Project Initial Study and Negative Declaration (2013, 18 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28 pp);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10 pp);
- Declaration on Tule Wind project FEIR/FEIS (2013; 24 pp);
- Sunlight Partners LANDPRO Solar Project Mitigated Negative Declaration (2013; 11 pp);
- Declaration in opposition to BLM fracking (2013; 5 pp);
- Rosamond Solar Project Addendum EIR (2013; 13 pp);
- Pioneer Green Solar Project EIR (2013; 13 pp);
- Reply to Staff Responses to Comments on Soccer Center Solar Project Mitigated Negative

- Declaration (2013; 6 pp);
- Soccer Center Solar Project Mitigated Negative Declaration (2013; 10 pp);
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- Reply to the County Staff's Responses on comments to Imperial Valley Solar Company 2 Project (2013; 10 pp);
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- Reply to Staff Responses to Comments on Casa Diablo IV Geothermal Development Project (2013; 8 pp);
- FEIS prepared for Alta East Wind Project (2013; 23 pp);
- Metropolitan Air Park DEIR, City of San Diego (2013; );
- Davidon Homes Tentative Subdivision Map and Rezoning Project DEIR (2013; 9 pp);
- Analysis of Biological Assessment of Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10 pp);
- Declaration on Campo Verde Solar project FEIR (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8 pp);
- Declaration on North Steens Transmission Line FEIS (2012; 62 pp);
- City of Lancaster Revised Initial Study for Conditional Use Permits 12-08 and 12-09, Summer Solar and Springtime Solar Projects (2012; 8 pp);
- J&J Ranch, 24 Adobe Lane Environmental Review (2012; 14 pp);
- Reply to the County Staff's Responses on comments to Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 8 pp);
- Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 9 pp);
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- Solar Gen 2 Array Project DEIR (2012; 16 pp);
- Ocotillo Sol Project EIS (2012; 4 pp);
- Beacon Photovoltaic Project DEIR (2012; 5 pp);
- Declaration on Initial Study and Proposed Negative Declaration for the Butte Water District 2012 Water Transfer Program (2012; 11 pp);
- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16 pp);
- City of Elk Grove Sphere of Influence EIR (2011; 28 pp);
- Comment on Sutter Landing Park Solar Photovoltaic Project MND (2011; 9 pp);
- Statement of Shawn Smallwood, Ph.D. Regarding Proposed Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4 pp);
- Declaration of K. Shawn Smallwood on Biological Impacts of the Ivanpah Solar Electric Generating System (ISEGS) (2011; 9 pp);
- Comments on Draft Eagle Conservation Plan Guidance (2011; 13 pp);
- Comments on Draft EIR/EA for Niles Canyon Safety Improvement Project (2011; 16 pp);
- Declaration of K. Shawn Smallwood, Ph.D., on Biological Impacts of the Route 84 Safety Improvement Project (2011; 7 pp);
- Rebuttal Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of Intervenors Friends of The Columbia Gorge & Save Our Scenic Area (2010; 6 pp);
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- Evaluation of Klickitat County's Decisions on the Windy Flats West Wind Energy Project (2010; 17 pp);
  - St. John's Church Project Draft Environmental Impact Report (2010; 14 pp.);
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  - Rio del Oro Specific Plan Project Final Environmental Impact Report (2010;12 pp);
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  - County of Placer's Categorical Exemption of Hilton Manor Project (2009; 9 pp);
  - 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 pp);
  - Tehachapi Renewable Transmission Project EIR/EIS (2009; 142 pp);
  - Delta Shores Project EIR, south Sacramento (2009; 11 pp + addendum 2 pp);
  - Declaration of Shawn Smallwood in Support of Care's Petition to Modify D.07-09-040 (2008; 3 pp);
  - 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 pp);
  - 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 pp);
  - Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7 pp.);
  - SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Sep 2008; 16 pp);
  - California Energy Commission's Preliminary Staff Assessment of the Colusa Generating Station (2007; 24 pp);
  - Rio del Oro Specific Plan Project Recirculated Draft Environmental Impact Report (2008; 66 pp);
  - Replies to Response to Comments Re: Regional University Specific Plan Environmental Impact Report (2008; 20 pp);
  - Regional University Specific Plan Environmental Impact Report (2008; 33 pp.);
  - Clark Precast, LLC's "Sugarland" project, Negative Declaration (2008; 15 pp.);
  - Cape Wind Project Draft Environmental Impact Statement (2008; 157 pp.);
  - Yuba Highlands Specific Plan (or Area Plan) Environmental Impact Report (2006; 37 pp.);
  - Replies to responses to comments on Mitigated Negative Declaration of the proposed

- Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 5 pp);
- Mitigated Negative Declaration of the proposed Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 15 pp);
  - Windy Point Wind Farm Environmental Review and EIS (2006; 14 pp and 36 Powerpoint slides in reply to responses to comments);
  - Shiloh I Wind Power Project EIR (2005; 18 pp);
  - Buena Vista Wind Energy Project Notice of Preparation of EIR (2004; 15 pp);
  - Negative Declaration of the proposed Callahan Estates Subdivision (2004; 11 pp);
  - Negative Declaration of the proposed Winters Highlands Subdivision (2004; 9 pp);
  - Negative Declaration of the proposed Winters Highlands Subdivision (2004; 13 pp);
  - Negative Declaration of the proposed Creekside Highlands Project, Tract 7270 (2004; 21 pp);
  - On the petition California Fish and Game Commission to list the Burrowing Owl as threatened or endangered (2003; 10 pp);
  - Conditional Use Permit renewals from Alameda County for wind turbine operations in the Altamont Pass Wind Resource Area (2003; 41 pp);
  - UC Davis Long Range Development Plan of 2003, particularly with regard to the Neighborhood Master Plan (2003; 23 pp);
  - Anderson Marketplace Draft Environmental Impact Report (2003: 18 pp + 3 plates of photos);
  - Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003: 6 pp);
  - Antonio Mountain Ranch Specific Plan Public Draft EIR (2002: 23 pp);
  - Response to testimony of experts at the East Altamont Energy Center evidentiary hearing on biological resources (2002: 9 pp);
  - Revised Draft Environmental Impact Report, The Promenade (2002: 7 pp);
  - Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002: 3 pp);
  - UC Merced -- Declaration of Dr. Shawn Smallwood in support of petitioner's application for temporary restraining order and preliminary injunction (2002: 5 pp);
  - Replies to response to comments in Final Environmental Impact Report, Atwood Ranch Unit III Subdivision (2003: 22 pp);
  - Draft Environmental Impact Report, Atwood Ranch Unit III Subdivision (2002: 19 pp + 8 photos on 4 plates);
  - California Energy Commission Staff Report on GWF Tracy Peaker Project (2002: 17 pp + 3 photos; follow-up report of 3 pp);
  - Initial Study and Negative Declaration, Silver Bend Apartments, Placer County (2002: 13 pp);
  - UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001: 26 pp);
  - Initial Study, Colusa County Power Plant (2001: 6 pp);
  - Comments on Proposed Dog Park at Catlin Park, Folsom, California (2001: 5 pp + 4 photos);
  - Pacific Lumber Co. (Headwaters) Habitat Conservation Plan and Environmental Impact Report (1998: 28 pp);
  - Final Environmental Impact Report/Statement for Issuance of Take authorization for listed

- species within the MSCP planning area in San Diego County, California (Fed. Reg. 62 (60): 14938, San Diego Multi-Species Conservation Program) (1997: 10 pp);
- Permit (PRT-823773) Amendment for the Natomas Basin Habitat Conservation Plan, Sacramento, CA (Fed. Reg. 63 (101): 29020-29021) (1998);
  - Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). (Fed. Reg. 64(176): 49497-49498) (1999: 8 pp);
  - Review of the Draft Recovery Plan for the Arroyo Southwestern Toad (*Bufo microscaphus californicus*) (1998);
  - Ballona West Bluffs Project Environmental Impact Report (1999: oral presentation);
  - California Board of Forestry's proposed amended Forest Practices Rules (1999);
  - Negative Declaration for the Sunset Sky ranch Airport Use Permit (1999);
  - Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000: 10 pp);
  - California Energy Commission's Final Staff Assessment of the proposed Metcalf Energy Center (2000);
  - US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000: 4 pp);
  - California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11 pp);
  - Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7 pp);
  - 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 pp).

#### **Comments on other Environmental Review Documents:**

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12 pp);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015; 8 pp);
- Draft Program Level EIR for Covell Village (2005; 19 pp);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping document (2003: 7 pp.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7 pp);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8 pp.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35 pp.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2 pp.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7 pp.);
- 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 pp.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7 pp.);

- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10 pp);
- 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 pp + 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**

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) 13<sup>th</sup> 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, Asylomar, 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)

<b>Journal</b>	<b>Journal</b>
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
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

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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.	

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### Representative special-status species experience

Common name	Species name	Description
<b>Field experience</b>		
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 nitratoides</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
<b>Analytical</b>		
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