

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660
FAX: (650) 589-5062

eklebaner@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4715

TEL: (916) 444-6201
FAX: (916) 444-6209

DANIEL L. CARDOZO
THOMAS A. ENSLOW
TANYA A. GULESSERIAN
JASON W. HOLDER
MARC D. JOSEPH
ELIZABETH KLEBANER
RACHAEL E. KOSS
LOULENA A. MILES
ROBYN C. PURCHIA

OF COUNSEL
THOMAS R. ADAMS
ANN BROADWELL
GLORIA D. SMITH

June 16, 2010

DOCKET	
09-AFC-6	
DATE	<u>JUN 16 2010</u>
RECD.	<u>JUN 16 2010</u>

California Energy Commission
Attn: Docket No. 09AFC6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Re: 09-AFC-6 Blythe Solar Power Plant Project

Dear Docket Clerk:

Enclosed are an original and one copy of **PREHEARING CONFERENCE STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY**. Please process the document and provide us with a conformed copy in the envelope provided.

Thank you.

Sincerely,

/S/

Elizabeth Klebaner

EK:bh
Enclosures

**STATE OF CALIFORNIA
California Energy Commission**

In the Matter of:

The Application for Certification
for the Blythe Solar Power Project

Docket No. 09-AFC-6

**PREHEARING CONFERENCE STATEMENT
OF
CALIFORNIA UNIONS FOR RELIABLE ENERGY**

June 16, 2010

Tanya A. Gulesserian
Elizabeth Klebaner
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
eklebaner@adamsbroadwell.com
tgulesserian@adamsbroadwell.com

Attorneys for the CALIFORNIA
UNIONS FOR RELIABLE ENERGY

Pursuant to the April 30, 2010 Notice of Prehearing Conference and Evidentiary Hearing, California Unions for Reliable Energy (“CURE”) submits this prehearing conference statement. Each informational item requested by the Committee is discussed below.

1. Topic Areas That Are Complete and Ready to Proceed to Evidentiary Hearing

All resource areas with the exception of Biological Resources, Cultural Resources, Land Use, Traffic and Transportation, and Transmission System Engineering are complete and ready to proceed to evidentiary hearing.

2. Topic Areas That Require Further Analysis and Which Are Not Ready for Adjudication

The following resource areas are not ready for adjudication:

a. Biological Resources

The Commission is required under CEQA to analyze the whole of the Project which has the potential to result in a direct physical change in the environment.¹ In this case, “the whole of the Project” includes Palo Verde Solar I, LLC’s (“Applicant”) proposed 1000 MW power plant, a seven mile transmission line and other linear facilities, and an expansion of the Colorado River substation needed to deliver the Project’s power to the grid. On May 11, 2010, Staff submitted five specific data requests to the Applicant regarding potential impacts to the federally

¹ 14 Cal. Code Reg. § 15378; *see also Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376.

endangered Coachella Valley milkvetch.² The Applicant has not yet provided responses to Staff's data requests.

On May 14, CURE submitted data requests to the Applicant regarding biological resources, impacts to waters of the State, and worker safety issues. The Applicant has not yet provided responses to CURE's data requests, although the Applicant stated that it will provide responses in a "Biological Resources Technical Report" to be filed on May 28, 2010.³

Although on May 14, 2010, the Applicant provided *preliminary* survey information for portions of the proposed transmission line corridor, a temporary construction access road, utility corridor, road improvements to Black Rock Road, and additional Project components, the Applicant has not yet submitted *final* survey results and analysis, which are expected sometime this month.⁴

On June 4, 2010 Staff informed the parties that the California Public Utilities Commission staff asked the Energy Commission to also include a permitting-level analysis of the proposed Colorado River substation expansion that is under their permitting authority.⁵ According to Staff, consultants are currently preparing this report, which will be included as part of the Supplemental Staff Assessment.⁶ To date, this analysis has not yet been done.

² Email from Alan Solomon, California Energy Commission to Alice Harron, Solar Millennium, LLC, May 11, 2010, In the Matter of the Application for Certification of the Blythe Power Plant Project, Docket No. 09-AFC-6.

³ Palo Verde Solar I, LLC's Objections and Notice of Inability to Respond to CURE's Data Requests, May 25, 2010, In the Matter of the Application for Certification of the Blythe Power Plant Project, Docket No. 09-AFC-6.

⁴ Revised Staff Assessment, p. C.2-4.

⁵ Revised Staff Assessment, Executive Summary, p. 12.

⁶ *Id.*, Executive Summary at p. 13.

Although Staff purports to have fully considered data submitted by the Applicant, no party has reviewed and submitted testimony on the Applicant's new biological data, which was docketed on June 11, 2010 – *the same day opening testimony was due*, after the close of discovery, and after the publication of the Revised Staff Assessment. Similarly, no party will have reviewed and submitted testimony for evidentiary hearings on the Applicant's biological resource data that the Applicant anticipates docketing sometime this month.⁷

Staff readily recognizes that its biological resource analysis is incomplete. According to the RSA, "there may be late survey results that were received too late to be included in the RSA" and "these late survey results will be included as part of the Supplemental Staff Assessment."⁸ Because Staff has yet to incorporate analyses regarding the whole of the Project, facts regarding the Project's potentially significant impacts to biological resources have not yet been fully developed in the record of this proceeding.

It is imprudent and a waste of the Commission's and the parties' resources to proceed to evidentiary hearings on an incomplete record. As this Committee is well aware, CEQA requires that conclusions regarding Project impacts and the efficacy of proposed mitigation be based on substantial evidence. Substantial evidence is defined as "*enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though*

⁷ See *id.*, p. C.2-4.

⁸ Revised Staff Assessment, Executive Summary at p. 12.

other conclusions might also be reached.”⁹ Pursuant to sections 1723.5(a) and 1748(d) of the Commission’s regulations, the Applicant has the burden to submit information in support of the Applicant’s Project. Pursuant to sections 1723.5(d) and 1742, Staff must conduct environmental review of the Applicant’s Project and prepare a report prior to evidentiary hearings. At this time, the Applicant has not yet met its burden and Staff’s report is incomplete.

Clearly, the Applicant has not yet met its burden to provide the Commission with information supporting its application. The Applicant has not yet provided responses to Staff’s or CURE’s data requests, further data is forthcoming, and Staff’s report that is required prior to evidentiary hearings is incomplete. These facts aptly illustrate that the parties need more time to meet their evidentiary obligations regarding the Project’s impacts to biological resources and compliance with LORS, and that biological resources are not ready for evidentiary hearings.

CURE requests at least 30 days from the date of Staff’s Supplemental Staff Assessment (following receipt of the Applicant’s responses to data requests and final submission of biological data to the Commission) for review of the report and underlying data and preparation of supplemental testimony on the Project’s potentially significant impacts to biological resources and compliance with LORS, and any feasible mitigation measures that are necessary to reduce impacts to a level of insignificance. Additionally, CURE requests that the Commission provide an opportunity to conduct limited discovery on all biological data that has been, and will be presented by the Applicant after the close of discovery on May 17, 2010.

⁹ *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 596 (emphasis added).

b. Cultural Resources

The record of this proceeding is devoid of information that is necessary for the Commission to make findings regarding the Project's potentially significant impacts to cultural resources and the Project's consistency with LORS.

First, the Committee has not yet received Staff's analysis. In the Staff Assessment/Draft Environmental Impact Statement published in March 2010, Staff concluded that it was unable to determine whether any of the 234 identified cultural resources within the Project survey area are eligible or ineligible for listing in the National Register of Historical Places or the California Register of Historic Resources.¹⁰ Staff did not provide a cultural resources impact analysis in the Revised Staff Assessment.¹¹ Thus, as a matter compliance with its own regulations, the Commission cannot proceed to evidentiary hearings on cultural resources until Staff completes its analysis.

Second, Staff stipulated to accept a limited discovery response from the Applicant at the outset of this proceeding; the Applicant provided responses (or indicated that response would be provided at a later date) to only 25 of the 55 data requests submitted by Staff.¹² Now Staff and the Applicant dispute the amount of information that Staff will need to complete its analysis and the adequacy of the Applicant's proposed mitigation.¹³

¹⁰ Opening Testimony of Benjamin Vargas, et al., June 11, 2010, at p. 4.

¹¹ Revised Staff Assessment, p. C.3-1.

¹² See Applicant's Responses to CEC Data Requests Set 1, January 6, 2010, Cultural Resources, DR-CR-98-152.

¹³ See Opening Testimony of Benjamin Vargas, et al. June 11, 2010, at p. 4.

Third, the Applicant opposes the production of confidential cultural resources data to CURE as a general matter.¹⁴ However, without information regarding the “need for” or “feasibility” of any condition intended to mitigate for impacts to cultural resources – information that is at this time absent from the record of this proceeding – CURE would be significantly prejudiced as party to this proceeding if the Committee proceeds to evidentiary hearings on these issues.¹⁵

CURE requests that the Committee postpone the scheduling of evidentiary hearings on cultural resources until the Commission issues a decision in the Consolidated Hearing on Issues Concerning US Bureau of Land Management Cultural Resources Data¹⁶ and until CURE is provided with Staff’s analysis and the evidence underlying Staff’s analysis. The Commission’s decision in the consolidated proceeding on cultural resources is necessary to determine whether the Commission intends to comply with its own regulations and State law and whether CURE will be provided with its right to participate as a party in this proceeding. CURE requests at least 30 days from the date of issuance of the Supplemental Staff Assessment and the data underlying its assessment to review and prepare testimony regarding cultural resources.

¹⁴ Palo Verde Solar I, LLC and Palen Solar I, LLC Reply Brief, In the Matter of Application for Certification for the Calico Solar (SES Solar One) Project, Genesis Solar Energy Project, Imperial Valley (SES Solar Two) Project, Solar Millennium Blythe Project, Solar Millennium Palen Project, and Solar Millennium Ridgecrest Project, Consolidated Hearing on Issues Concerning US Bureau of Land Management Cultural Resources Data, Docket No. 10-CRD-1, June 4, 2010, pp. 2-4 (“Consolidated Proceeding”).

¹⁵ See 20 Cal. Code. Regs., § 1748(e).

¹⁶ See *generally*, Consolidated Proceeding, Docket No. 10-CRD-1.

c. Land Use and Traffic and Transportation

In preparing the Staff Assessment, Staff is required to determine compliance with LORS. The Riverside County Airport Land Use Commission (“RCALUC”) identified several areas of concern regarding the Project’s consistency with the Riverside County Airport Land Use Compatibility Plan (“2004 Airport Plan”). Staff is working with RCALUC to resolve these issues. Specifically, Staff identified a potential conflict with Policy 4.3.7 of the Countywide Policies of the 2004 Airport Plan, which prohibits land uses that generate glare or distracting lights, or cause sunlight to be reflected towards an aircraft engaged in an initial straight climb.¹⁷ Staff also identified potential hazards to flight as a result of the height velocity of a thermal plume emanating from the Project’s dry cooling unit, among other issues.¹⁸

In addition to inconsistencies already identified by Staff, recent changes to the Project, namely, 8 newly proposed evaporation ponds totaling 28 acres, pose a new conflict with the 2004 Airport Plan that has not yet been analyzed by Staff in a report to the Commission. These changes to the Project raise significant issues with respect to compatibility with the 2004 Airport Plan. According to the Revised Staff Assessment, prior studies have shown that evaporation ponds act as a bird attractant.¹⁹

Policy 4.3.7 of the 2004 Airport Plan prohibits new land uses that may cause increased bird strike hazards to aircraft in flight within any airport’s influence area.

¹⁷ Revised Staff Assessment, p. C.6-9.

¹⁸ Revised Staff Assessment, p. C.10-10.

¹⁹ *Id.* at p., C.2-81.

Policy 4.3.7 also makes specific reference to the FAA Advisory Circular 150-5200 – 33A, Hazardous Wildlife Attractants On or Near Airports (“FAA Circular”), which recommends a distance of five statute miles between the farthest edge of the airport’s air operation’s area and the hazardous wildlife attractant, if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace. The FAA Circular also provides that constructed natural areas, such as detention and retention ponds and roosting habitats on buildings, can serve as hazardous wildlife attractants.

The Applicant submitted an application for a major land use action review to the RCALUC; however, no consistency determination has been made to date. The matter is scheduled to be heard again by the RCALUC on July 6, 2010. Consistent with Title 20, the Commission cannot determine whether the project is consistent with these policies until Staff completes its analysis of these issues. Therefore, the adjudication of this matter at the California Energy Commission should be postponed until after RCALUC issues its advisory opinion to Staff, and after Staff makes its recommendation regarding the Project’s potential conflicts with surrounding uses in a report submitted to the Commission prior to evidentiary hearings. CURE requests at least 30 days from the issuance of the Supplemental Staff Assessment to review and to prepare testimony on this issue.

d. Transmission System Engineering

The interconnection of the Project and other generators may require upgrades to the Southern California Edison transmission system, including an

expansion of the not yet built Colorado River substation. The adjudication of the Project's reliability and its downstream transmission impacts cannot proceed until after the California Independent System Operator ("CalISO") issues the results of its Phase II Interconnection Study and the parties have had an opportunity to review its contents and to provide testimony to the Commission. The Phase II Interconnection Study will provide evidence of the reliability impacts of the proposed transmission upgrades to SCE's transmission system on which the Project will depend. CURE requests at least 30 days from the issuance of the Supplemental Staff Assessment to review and submit testimony on transmission system engineering, if needed.

3. Resource Areas That Are in Dispute

The following resources areas are in dispute: Biological Resources, Cultural Resources, Land Use, Soil and Water, Traffic and Transportation, Waste Management, Worker Safety, and Transmission System Engineering.

4. Witnesses, Topic Areas, Testimony

Each of CURE's proposed witnesses and a summary of their testimony is discussed below. A copy of their qualifications is attached as Exhibit A. CURE reserves the right to submit additional testimony at the evidentiary hearings.

a. Vernon C. Bleich, PhD. (Time estimate for direct testimony: 2 hours)

Vernon C. Bleich will testify on the topic area of Biological Resources. Dr. Bleich will testify to the Project's potentially significant impacts to the Nelson's bighorn sheep and mitigation measures for Project impacts to the species.

b. Scott Cashen M.S. (Time estimate for direct testimony: 2 hours)

Scott Cashen will testify on the topic area of Biological Resources. Mr. Cashen will testify regarding the Project's potentially significant impacts to federally endangered Coachella Valley milkvetch, State-threatened Gila woodpecker, and Couch's spadefoot toad, a California Species of Special Concern and Bureau of Land Management sensitive species; mitigation for impacts to Couch's spadefoot toad; mitigation for potentially significant impacts of construction noise on birds; mitigation measures designed to reduce wildlife hazard from evaporation ponds; and compensatory mitigation for impacts to biological resources.

c. T' Shaka Toure M.S. (Time estimate for direct testimony: 1 hour)

Mr. Toure will testify on the topic of Biological Resources. Mr. Toure will testify regarding the Project's potentially significant impacts to waters of the State, and mitigation measures and feasible alternatives to avoid and minimize the Project's significant impacts to waters of the State.

d. Matthew F. Hagemann, P.G. (Time estimate for direct testimony: 1 hour)

Matthew Hagemann will testify on the topic areas of Worker Safety and Waste Management. Mr. Hagemann will testify regarding potentially significant impacts to worker safety due to unexploded ordnance and munitions from former military activities within the Project right of way, the mitigation measures necessary to reduce those impacts, and the U.S. Army Corps of Engineers practices regarding investigation and removal of unexploded ordnance under the Defense Environmental Restoration Program Act.

5. Topic Areas for Cross-Examination

CURE requires time to cross-examine each of the Applicant’s and Staff’s witnesses presenting testimony in the following areas: Alternatives, Biological Resources, Cultural Resources, Land Use, Project Description, Waste Management, Water Resources, and Worker Safety.

CURE also reserves the right to cross-examine witnesses in any of the other topic areas at the evidentiary hearing.

6. CURE’s List of Exhibits and Request for Official Notice

The following is CURE’s tentative list of exhibits, in sequential order. CURE reserves the right to supplement this exhibit list with additional documents, analyses and other information at any time up to and including the close of the evidentiary hearings.

In addition to the exhibits enumerated below, CURE requests that the Committee take official notice pursuant to Title 20, section 1213 of the California Code of Regulations of the U.S. Bureau’s of Land Management California Desert Conservation Area Plan (“CDCA”), as amended in 2002.

Exhibit	Witness	Brief Description
		BIOLOGY
300	Bleich	Opening Testimony of Vernon C. Bleich
301	Bleich	Bleich C.V.
301-A	Bleich	Rebuttal Testimony of Vernon C. Bleich
302	Cashen	Opening Testimony of Scott Cashen
303	Cashen	Cashen C.V.
304	Cashen	Documented Occurrences of Gila Woodpeckers from California Natural Diversity Database. 2009. Rarefind [computer program]. Version 3.1.0. Mar. 2, 2010, Sacramento CLA): Wildlife Habitat Data Analysis Branch. California Department of Fish and Game

305	Cashen	Current (2009) Range of Gila Woodpecker in California from Cal PIF (California partners in Flight). 2009. Version 1.0. the Desert Bird Conservation Plan: A strategy for Protecting and Managing Desert Habitats and Associated Birds in California. California. Partners in Flight.
306	Cashen	Memo to Craig Hoffman from Heather Blair (2/5/10) Re Abengoa Mojave Solar Project – time sensitive issues and informational needs
306-A	Cashen	Rebuttal Testimony of Scott Cashen
307	Toure	Opening Testimony of T'Shaka Toure
308	Toure	Toure C.V.
308-A	Toure	Rebuttal Testimony of T'Shaka Toure
309		U.S. EPA, Reducing Stormwater Costs Through Low Impact Development (LID) Strategies and Practices
310		Correspondence among Lin Porter, A. Solomon and Solar Millenium (3/10/09, 5/21/09, 2/19/10, 2/22/10)
311		Comments on the Draft Desert Tortoise Relocation/Translocation Plan for the Palen and Blythe Solar Energy Projects (submitted by Carlsbad Fish and Wildlife 4/15/10)
312		Summary of Biological Resource Survey Studies and Methodologies Planned or Currently Being Implemented for 2010 (submitted by Solar Millennium LLC, 4/22/10)
313		Draft Summary: Preliminary Spring 2010 Survey Results for Desert Tortoise, Rare Plants, and Jurisdictional Waters (submitted by Solar Millennium LLC 5/10/10)
314		Solar Millennium, LLC response to questions generated at the April 28, 29, and May 7, 2010 CEC Workshops for the Blythe Solar Power Project (5/14/10)
315		Solar Millennium Blythe Power Plant Project California Energy Commission Docket 09-AFC-5, Docket Log (as of 5/27/10)
316		Notification of Revision Memorandum (submitted by Solar Millennium LLC, 5/28/10)
317		Palo Verde Solar I Biological Resources Spring Survey Protocols (6/11/10)
		CULTURAL
318	Laurain	Janet Laurain Declaration
319		BLM Response to FOIA Request (4/12/10)
320		John Kalish, US Dept of the Interior, letter to Apple and Doolittle, AECOM (8/5/09), authorizing cultural resources fieldwork under Cultural Resource Use Permit CA-09-22 and Fieldwork Authorization No. 66.24-09-18

321		United Nations Declaration on the Rights of Indigenous Peoples
		LAND USE
322		Riverside County Airport Land Use Compatibility Plan, Chapter 1, Introduction, and Chapter 2, Countywide Policies (10/14/04)
323		Federal Aviation Administration, US Department of Transportation, Advisory Circular No. 150/5200-33A, Hazardous Wildlife Attractants on or Near Airports (7/27/04)
		WATER
324		Steven C. Hvinden, U.S. Dept. of the Interior, memo to Holly Roberts, Bureau of Land Management re Federal Register Notice Dated November 23, 2009, Entitled Notice of Intent to Prepare Two Environmental Impact Statements/Staff Assessments for the Proposed Chevron Energy Solutions/Solar Millennium Palen and Blythe Solar Power Plants, Riverside County, CA and Possible Land Use Plan Amendments, (12/21/09).
325	Laurain	Janet Laurain Declaration
326		Colorado River Board of California response to CURE's PRA request (2/22/10)
327		Agenda, Solar Millennium, LLC/Chevron Energy Solutions Blythe and Palen Projects Meeting with the Colorado River Board of California (11/23/09)
328		Agenda, Solar Millennium LLC/Chevron Energy Solutions Blythe and Palen Solar Power Projects Teleconference Meeting with the Colorado River Board of California Agenda, (1/6/10)
329		Solar Millennium LLC Blythe & Palen Solar Power Projects presentation to Colorado River Board of California (1/6/10)
330		U.S. Geological Survey, Water. Resources Investigations Report, 94-4005 River, river aquifer and accounting surfaces, Blythe – Plate 15
331		Colorado River Accounting Surface Map "Explanation" (map)
332		Gerald R. Zimmerman, Colorado River Board letter to Alan H. Solomon, CEC, (3/22/10) requiring a Section 5 BCPA contractual entitlement
		WASTE MANAGEMENT/WORKER SAFETY
333	Hagemann	Opening Testimony of Matt Hagemann
334	Hagemann	Hagemann C.V.
335	Laurain	Janet Laurain Declaration
336		Email to Janet M. Laurain from Anna Ayala (U.S. Army

		Corps of Engineers) re FOIA request (5/20/10)
337		Defense Environmental Restoration Program Formerly Used Defense Sites Findings and Determination of Eligibility Site No. J09CA024500 (18 pages)
338	Hagemann	Boundary Sketch Blythe Army Airfield
339	Hagemann	Installation Map Blythe Army Airfield FUDS Project No. J09CA024502
340	Hagemann	Poor Man, Blythe Army Airfield, CA FUDS Project No. J09CA024502 CTT (map)
341	Hagemann	Jeep Range Blythe Army Airfield, CA FUDS Project No. J09CA024502 CTT (map)
342	Hagemann	Defense Environmental Restoration Program for the Formerly Used Defense Sites Findings Ordnance and Explosives Archives Search Report for the former Nellis Small Arms Range, Las Vegas, NV, Project Number J09NV051001
343	Laurain	Janet Laurain Declaration
344		Department of Fish and Game letter to Janet Laurain responding to CURE's Public Records Act request (4/8/10)
345		Email from Shelly Dayman to Tannika Engelhard re Solar Millennium – Desert Tortoise Surveys, Blythe Site (5/26/09)
346	Hagemann	Project Location Map, FUDS and Ranges
347	Hagemann	Reduced Acreage Alternative Map, FUDS and Ranges
348	Hagemann	Reconfigured Alternative Map, FUDS and Ranges
349		Military Munitions and Explosives of Concern: A Handbook for Federal Land Managers, with Emphasis on Unexploded Ordnance (BLM Handbook 2/06)

7. Scheduling Matters

CURE proposes the following schedule for discovery, supplemental testimony, and evidentiary hearings.

PROPOSED SCHEDULE

Event	Date
Evidentiary Hearings on Water Resources, Air Quality, Hazardous Materials Management, and Visual Resources and non-disputed issues	July 15-16, 2010

Deadline to submit discovery limited to biological resources data submitted by the Applicant on or after May 17, 2010	15 days from the Applicant's final submission
Staff publishes Supplemental Staff Assessment	TBD
Applicant and Intervenors submit supplemental testimony on Biological Resources, Cultural Resources, Land Use, Traffic and Transportation, and Transmission System Engineering	30 days after publication of the SSA
All parties submit supplemental rebuttal testimony	40 days after publication of the SSA
Parties file revised prehearing conference statements	42 days after publications of the SSA
Evidentiary Hearings on Biological Resources, Cultural Resources, Land Use, Traffic and Transportation, and Transmission System Engineering	50 days after publication of the SSA

Dated: June 16, 2010

Respectfully submitted,

/S/

Elizabeth Klebaner
Tanya A. Gulesserian
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
eklebaner@adamsbroadwell.com

EXHIBIT A

Curriculum Vitae

VERNON C. BLEICH

Eastern Sierra Center for Applied
Population Ecology (ESCAPE)

11537 36X St. SW
Dickinson, ND 58601
760/937-5020
701/225-7834
vbleich@ndsupernet.com



Personal Interests:

Hockey (I am a former goaltender), family life, banjo, gardening, hunting, and fishing.

Professional Goals:

To help ensure the persistence of populations of large mammals and their habitats through the study of their ecology and behavior, to apply that knowledge in meaningful conservation efforts, and to impart that knowledge through professional activities including publications, teaching, and other public contacts.

Education:

Ph.D. University of Alaska Fairbanks (Wildlife Biology, 1993). Thesis: "Sexual Segregation in Desert-Dwelling Mountain Sheep."

M.A. California State University, Long Beach (Biology, 1973). Thesis: "Ecology of Rodents at the Seal Beach Naval Weapons Station, Fallbrook Annex, San Diego County, California."

B.S. California State University, Long Beach (Zoology, 1970).

Professional Background:

Senior Conservation Scientist, Eastern Sierra Center for Applied Population Ecology (2007 - present). I provide expertise on natural resource conservation issues, particularly as they relate to large mammals in desert, mountain, and plains environments.

Senior Environmental Scientist, California Department of Fish and Game (2001 - 2008; now retired). I served as the project leader for the Sierra Nevada Bighorn Sheep Recovery Program, a project to conserve mountain sheep in that range and restore them to formerly occupied habitats; I continued to function as the Regional Large Mammal and Desert specialist, with an emphasis on mountain sheep and mule deer in southeastern California.

I served as chair of the Sierra Nevada Bighorn Sheep Recovery Team (also referred to as the Sierra Nevada Bighorn Sheep Science Advisory Group), and continued to serve as a member of the Peninsular Bighorn Sheep Recovery Team.

Senior Wildlife Biologist, California Department of Fish and Game (1999 - 2001). I served as the Regional Large Mammal and Desert Specialist, with an emphasis on mountain sheep and mule deer in southeastern California. At the request of the US Fish and wildlife Service I was appointed by the Department of Fish and Game to serve on the Peninsular Bighorn Sheep Recovery Team.

Senior Wildlife Biologist, California Department of Fish and Game (1993 - 1999). I served as the Regional Large Mammal Specialist and supervised the activities of 5 journeyman wildlife biologists in eastern California. Emphasis species included mountain sheep, mule deer, pronghorn, tule elk, and sage grouse in eastern California.

Associate Wildlife Biologist, California Department of Fish and Game (1986 - 1993). I served as the Regional mountain sheep specialist, and supervised the activities of 5 journeyman wildlife biologists in eastern California. Emphasis species included mountain sheep, mule deer, pronghorn, tule elk, and sage grouse in eastern California.

Project Leader, California Department of Fish and Game, Federal Aid in Wildlife Restoration Project W-26-D (1978 - 1986). I supervised 2 technicians, and planned and implemented habitat management projects designed to benefit waterfowl, sage grouse, mule deer, and mountain sheep in eastern California.

Assistant Wildlife Biologist, California Department of Fish and Game (1975 - 1978). I was an Area Biologist responsible for management of mule deer, mountain sheep, and the Endangered Stephens' kangaroo rat, as well as for environmental review activities in Riverside and San Bernardino counties, California.

Junior Aquatic Biologist, California Department of Fish and Game (1974 - 1975). I was responsible for fisheries management activities, with an emphasis on wild trout and the Endangered unarmored three-spined stickleback in Los Angeles and San Bernardino counties, California.

Park Ranger, Department of Recreation, City of Long Beach, California (1970 - 1973). I was responsible for public education activities, routine patrol, and coordination with other law enforcement agencies in El Dorado Regional Park, Long Beach, California.

Academic Appointments:

Research Professor, Department of Natural Resources and Environmental Science, University of Nevada, Reno (2007 - Present).

Affiliate Faculty, Department of Biological Sciences, Idaho State University, Pocatello, Idaho (2005 - Present).

Senior Research Associate, Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska (1998 - Present).

Affiliate Assistant Professor of Wildlife Ecology, Department of Biology and Wildlife, University of Alaska Fairbanks, Fairbanks, Alaska (1993 - 1998).

Research Associate, Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska (1993 - present).

Adjunct Assistant Professor of Natural Resource Science, Department of Natural Resource Science, University of Rhode Island, Kingston (1992 - 1994).

Instructor, Mt. San Jacinto College, San Jacinto, California. I instructed an introductory course entitled, "Wildlife Management" (1976 - 1986).

Assistant Professor, Department of Biology, Rio Hondo College, Whittier, California. I instructed lecture and laboratory sections of General Zoology (biology major emphasis), General Biology (general education emphasis), and Marine Biology (1973 - 1974).

Teaching Assistant, California State University, Long Beach. I instructed laboratory sections of General Biology (for non-majors) and General Zoology (for majors) (1972 - 1973).

Graduate Research Assistant, California State University, Long Beach. I prepared specimens and curated the collection of mammals (> 10,000 specimens) in the Bird and Mammal Museum, and instructed laboratory sections of General Ecology (for majors), General Mammalogy (for majors), and Advanced Mammalogy (1970-1972).

Graduate Student Supervision:

Chair of Graduate Committee:

Kevin L. Monteith (Ph.D.), Reproductive ecology of migratory and resident mule deer in the eastern Sierra Nevada, California. Idaho State University, Pocatello. Graduation expected December, 2010. Co-chair with Dr. R. T. Bowyer.

Michael W. Oehler (M.S.), Ecology of mountain sheep: effects of mining and precipitation. University of Alaska Fairbanks. *Graduated December 1999*. Current position: Wildlife Biologist, National Park Service, Theodore Roosevelt National Park, Medora, North Dakota. Co-chair with Dr. R. T. Bowyer.

Becky M. Pierce (Ph.D.), Predator-prey dynamics between mountain lions and mule deer: effects on distribution, population regulation, habitat selection and prey selection. University of Alaska Fairbanks. *Graduated May 1999*. Current position: Associate Wildlife Biologist, California Department of Fish and Game. Co-chair with Dr. R. T. Bowyer.

Graduate Committee Membership:

Cody J. McKee (M.S.), Ecology of mule deer in the eastern Mojave Desert, California. University of Nevada, Reno (Graduation expected June 2011).

Jeffrey T. Villepique (Ph.D.), Interactions between mountain lions and mountain sheep: an assessment of forage benefits and predation risk. Idaho State University, Pocatello (Graduation expected December 2010).

Sabrina Morano (Ph.D.), Reproductive biology of mule deer in the White Mountains, Inyo and Mono counties, California. University of Nevada, Reno (Graduation expected June 2011).

Jericho C. Whiting (Ph.D.), Behavior and ecology of reintroduced Rocky Mountain bighorn sheep. Idaho State University, Pocatello. *Graduated December 2008*. Current position: Wildlife Biologist, Idaho National Laboratory, Twin Falls.

Cody A. Schroeder (M.S.), Habitat selection by mountain sheep: forage benefits or risk of predation? Idaho State University, Pocatello. *Graduated September 2007*. Current position: Doctoral Student, University of Nevada, Reno.

Jason P. Marshal (Ph.D.), Foraging ecology and water relationships of mule deer in a Sonoran Desert environment. University of Arizona, Tucson. *Graduated May 2005*. Current position: Lecturer, University of the Witwatersrand, South Africa.

Heather E. Johnson (M.S.), Antler breakage in tule elk in Owens Valley, California: nutritional causes and behavioral consequences. University of Arizona, Tucson. *Graduated January 2004*. Current position: Doctoral Student and Research Associate, University of Montana, Missoula.

Jennifer L. Rechel (Ph.D. [Geography]), Influence of neighborhood effects and friction surfaces on the spatial distribution and movement strategies of desert-dwelling mountain sheep (*Ovis canadensis*). University of California, Riverside. *Graduated August 2003*. Current position: Wildlife Biologist, U.S. Forest Service, Pacific Southwest Forest and Range Experiment Station, Riverside, California.

Holly B. Ernest (Ph.D.), Ecological genetics of mountain lions (*Puma concolor*) in California. University of California, Davis. *Graduated December 2001*. Current position: Research Geneticist, School of Veterinary Medicine, University of California, Davis.

Esther S. Rubin (Ph.D.), The ecology of bighorn sheep (*Ovis canadensis*) in the peninsular ranges of California. University of California, Davis. *Graduated December 2000*. Current position: Conservation Biologist, The Conservation Biology Institute, Borrego Springs, California.

Nancy G. Andrew (M.S.), Demography and habitat use of desert-dwelling mountain sheep in the East Chocolate Mountains, Imperial County, California. University of Rhode Island, Kingston. *Graduated May 1994*. Current position: Staff Environmental Scientist, California Department of Fish and Game.

Awards and Honors:

Honorary Lifetime Membership, 2010 (in recognition to long and continuing service to the Society for the Conservation of Bighorn Sheep)

Wild Sheep Biologist Wall of Fame Award, 2009 (in recognition of significant contributions to the conservation of wild sheep in North America) (Wild Sheep Foundation)

Lifetime Achievement Award, 2008 (In recognition of contributions toward the conservation of mountain sheep in California) (California Chapter of the Foundation for North American Wild Sheep)

Honor Plaque 2007 (Group Award, in recognition of outstanding contributions toward the recovery of mountain sheep in the Sierra Nevada) (Desert Bighorn Council)

State Statesman Award, 2006 (In recognition of outstanding contributions to the wild sheep of California) (Foundation for North American Wild Sheep)

Trail Blazer Award, 2004 (In recognition of efforts on behalf of mountain sheep conservation in California) (California Chapter of the Foundation for North American Wild Sheep)

Director's Achievement Award, 2004 (In recognition of editorial services for California Fish and Game (California Department of Fish and Game)

Annual Achievement Award, 2004 (In recognition of conservation of mule deer and their habitats) (Southern California Chapter, California Deer Association)

Alumni Achievement Award for Professional Excellence, 2002 (University of Alaska Alumni Association)

Outstanding Alumnus Award, 2002 (College of Science, Engineering, and Mathematics, University of Alaska Fairbanks)

Sustained Superior Accomplishment Award, 2002 (California Department of Fish and Game)

The Desert Ram Award, 2001 (Desert Bighorn Council)

Outstanding Publication Award for a Monograph, 1998 (The Wildlife Society)

Award of Appreciation, 1998 (San Fernando Valley Chapter of Safari Club International, CA)

Professional Membership, Boone and Crockett Club, 1998 (Boone and Crockett Club)
Certificate of Appreciation, 1997 (Society for the Conservation of Bighorn Sheep)
"Ol' Irongut" Award, 1996 (California Department of Fish and Game, Division of Air Services)
Resources Agency/University of California Fellowship, 1996 (Sponsored jointly by the
California Resources Agency and the University of California, Davis)
Director's Achievement Award, 1992 (California Department of Fish and Game)
Outstanding Biology Department Alumnus, 1988 (California State University, Long Beach)
Professional of the Year, 1985 (Western Section of The Wildlife Society)
California Wildlife Officer of the Year, 1984 (Shikar-Safari Foundation)
Award of Honor, 1984 (Society for the Conservation of Bighorn Sheep)
Honorary Lifetime Member, 1984 (Banning [California] Sportsman's Club)

Professional and Fraternal Memberships:

American Society of Mammalogists (Life Member)
The Boone and Crockett Club (Professional Member)
The Wildlife Society
Society for Conservation Biology
Southwestern Association of Naturalists
Wild Sheep Foundation
National Rifle Association
California Chapter, Foundation for North American Wild Sheep
Society for the Conservation of Bighorn Sheep
Minnesota-Wisconsin Chapter, Foundation for North American
Wild Sheep

Licenses and Certifications:

California Community College Credential (#45476, Lifetime)
State of California Certified Blaster's License (#2087)
Certified Wildlife Biologist (1981 - The Wildlife Society)
California Hunter Safety Instructor (#1984)

Other Professional Activities:

Editorial Activities:

Editor-in-Chief, *California Fish and Game* (2009 - present)

Associate Editor, *California Fish and Game* (1995 - 2009).

Editor, *Transactions of the Western Section of The Wildlife Society* (1988).

Associate Editor, *Transactions of the Western Section of The Wildlife Society* (1986-87).

Reviewer for Journals:

Conservation Biology, Journal of Wildlife Management, Wildlife Society Bulletin, Journal of Mammalogy, The Condor, California Fish and Game, Transactions of the Western Section of the Wildlife Society, Western North American Naturalist, Desert Bighorn Council Transactions, Southwestern Naturalist, Proceedings of the Northern Wild Sheep and Goat Council, Journal of Wildlife Diseases, Great Basin Naturalist, Bulletin of the Southern California Academy of Sciences, Journal of Zoology (London), Vida Silvestre Neotropical, Wildlife Biology, Wildlife Monographs, European Journal of Wildlife Research, Biological Conservation, Journal of Arid Environments (An average of about 12 reviews per year).

Other Activities:

2008 – Present: Member, Big Game Records Committee, Boone and Crockett Club

2007 – Present: Advisory Board Member, Texas Bighorn Society

2007 – Present: Science Advisor, Society for the Conservation of Bighorn Sheep

2006 - Present: Member, Ad Hoc Committee on Professional Membership, Boone and Crockett Club.

1998 - 2002: Coach and member of Board of Trustees, Sierra Roller Hockey League.

1995-96: Vice Chairman, The Desert Bighorn Council.

1994-98: Member, Board of Directors, The Wildlife Forensic DNA Foundation.

1993 - Present: Member, Wildlife Management Professional Advisory Committee, Foundation for North American Wild Sheep.

1991: Member, Committee on Support of Symposia and Conferences, The Wildlife Society.

1989-1993: Member, Board of Trustees, Friends of the Eastern California Museum; Vice-chairman, 1991-1992; Chairman, 1993.

1987-1988: Chairman, The Desert Bighorn Council.

1988: Co-chairman, Wildlife Water Development Symposium, Western Section of The Wildlife Society.

Refereed Publications:

Bleich, V. C. *In review.* Perceived threats to mountain sheep: levels of concordance among western states, provinces, and territories. Desert Bighorn Council Transactions.

Marshal, J. P., and **V. C. Bleich.** *In review.* Geographic variation in relationships between El Nino Southern Oscillation and mule deer harvest in California, USA. Southwestern Naturalist.

Jaeger, J. R., J. D. Wehausen, and **V. C. Bleich.** *In review.* Incentives for migration by female mountain sheep: water requirements, nutritional gains, or decreased predation risk? Journal of Mammalogy.

Holl, S. A., and **V. C. Bleich.** *In review.* Responses of large mammals to fire and rain in the San Gabriel Mountains, California. Southwestern Naturalist.

Marshal, J. P., **V. C. Bleich,** P. R. Krausman, A. Neibergs, M. L. Reed, and N. G. Andrew. *In review.* Habitat use and diets of mule deer and feral ass in the Sonoran Desert. Journal of Arid Environments.

Whiting, J. C., R. T. Bowyer, J. T. Flinders, **V. C. Bleich,** and J. G. Kie. *In press.* Sexual segregation and use of water by bighorn sheep: implications for conservation. Animal Conservation.

Villepique, J. T., B. M. Pierce, **V. C. Bleich,** and R. T. Bowyer. *In press.* Diets of mountain lions following a decline in mule deer numbers. Southwestern Naturalist.

Bleich, V. C. *In press.* Considerations for re provisioning wildlife water developments: mountain sheep in desert ecosystems. California Fish and Game.

Gibson, R. M., **V. C. Bleich,** C. W. McCarthy, and T. L. Russi. *In press.* Recreational hunting can lower population size in Greater Sage-grouse. Studies in Avian Biology.

Schroeder, C. A., R. T. Bowyer, **V. C. Bleich,** and T. R. Stephenson. *In press.* Ramifications of sexual segregation for an endangered alpine ungulate: Sierra Nevada bighorn sheep, *Ovis canadensis sierrae*. Arctic, Antarctic, and Alpine Research.

Bleich, V. C., J. P. Marshal, and N. G. Andrew. 2010. Habitat use by a desert ungulate: predicting effects of water availability on mountain sheep. Journal of Arid Environments

74:638-645.

- Krausman, P. R., D. E. Naugle, M. R. Frisina, R. Northrup, V. C. Bleich, W. M. Block, M. C. Wallace, and J. D. Wright. 2009. Livestock grazing, wildlife habitat, and rangeland values. *Rangelands* 31(5):15-19.
- Holl, S. A., and V. C. Bleich. 2009. Reconstructing the San Gabriel Mountains bighorn sheep population. *California Fish and Game* 95:77-87.
- Clifford, D. L., B. A. Schumaker, T. R. Stephenson, V. C. Bleich, M. Leonard-Cahn, B. J. Gonzales, W. M. Boyce, and J. A. K. Mazet. 2009. Assessing disease risk at the wildlife-livestock interface: a study of Sierra Nevada bighorn sheep. *Biological Conservation* 142:2559-2568.
- Bleich, V. C., J. H. Davis, J. P. Marshal, S. G. Torres, and B. J. Gonzales. 2009. Mining activity and habitat use by mountain sheep. *European Journal of Wildlife Research* 55:183-191.
- Pease, K. M., A. H. Freedman, J. P. Pollinger, J. E. McCormack, W. Buermann, J. Rodzen, J. Banks, E. Meredith, V. C. Bleich, R. J. Schaefer, K. Jones, and R. K. Wayne. 2009. Landscape genetics of California mule deer (*Odocoileus hemionus*): the roles of ecological and historical factors in generating differentiation. *Molecular Ecology* 18:1848-1862.
- Duffy, L. K., M. W. Oehler, R. T. Bowyer, and V. C. Bleich. 2009. Mountain sheep: an environmental epidemiological survey of variation in metal exposure and physiological biomarkers following mine development. *American Journal of Environmental Sciences* 5:296-303.
- Marshal, J. P., J. W. Cain III, V. C. Bleich, and S. S. Rosenstock. 2009. Intrinsic and extrinsic sources of variation in the population dynamics of an arid-environment large herbivore. *Canadian Journal of Zoology* 87:103-111.
- Villepique, J. T., V. C. Bleich, R. A. Botta, B. M. Pierce, T. R. Stephenson, and R. T. Bowyer. 2008. Evaluating GPS collar error: a critical evaluation of Televilt POSREC-Science™ Collars and a method for screening location data. *California Fish and Game* 94:155-168.
- Bleich, V. C., H. E. Johnson, S. A. Holl, L. Konde, S. G. Torres, and P. R. Krausman. 2008. Fire history in a chaparral ecosystem: implications for conservation of a native ungulate. *Rangeland Ecology and Management* 61:571-579.
- Marshal, J. P., P. R. Krausman, and V. C. Bleich. 2008. Body condition of desert mule deer is related to rainfall. *Southwestern Naturalist* 53:311-318.
- Marshal, J. P., V. C. Bleich, and N. G. Andrew. 2008. Evidence for interspecific competition between feral ass and mountain sheep in a desert environment. *Wildlife Biology* 14:228-236.

- Bleich, V. C., and R. A. Weaver.** 2007. Status of mountain sheep in California: comparisons between 1957 and 2007. *Desert Bighorn Council Transactions* 49:55-67.
- Wehausen, J. D., and V. C. Bleich.** 2007. Influence of aerial search time on survey results. *Desert Bighorn Council Transactions* 49:23-29.
- Bowyer, R. T., V. C. Bleich, X. Manteca, J. C. Whiting, and K. M. Stewart.** 2007. Sociality, mate choice, and timing of mating in American bison (*Bison bison*): effects of large males. *Ethology* 113:1048-1060.
- Epps, C. W., J. D. Wehausen, V. C. Bleich, S. G. Torres, and J. S. Brashares.** 2007. Optimizing dispersal and corridor models using landscape genetics. *Journal of Applied Ecology* 44:714-724.
- Bleich, V. C., T. R. Stephenson, B. M. Pierce, and M. J. Warner.** 2007. Body condition of mule deer while injured and following recovery. *Southwestern Naturalist* 52:164-167.
- Johnson, H. E., V. C. Bleich, and P. R. Krausman.** 2007. Mineral deficiencies in tule elk, Owens Valley, California. *Journal of Wildlife Diseases* 43:61-74.
- Johnson, H. E., V. C. Bleich, P. R. Krausman, and J. L. Koprowski.** 2007. Effects of antler breakage on mating behavior in male tule elk (*Cervus elaphus nannodes*). *European Journal of Wildlife Research* 53:9-15.
- Bleich, V. C.** 2006. Mountain sheep in California: perspectives on the past, and prospects for the future. *Biennial Symposium of the Northern Wild Sheep and Goat Council* 15:1-13.
- Marshal, J. P., V. C. Bleich, P. R. Krausman, M. L. Reed, and N. G. Andrew.** 2006. [Invited paper] Factors affecting habitat use and distribution of mule deer in an arid environment. *Wildlife Society Bulletin* 34:609-619.
- Bleich, V. C., N. G. Andrew, M. J. Martin, G. P. Mulcahy, A. M. Pauli, and S. S. Rosenstock.** 2006. [Invited paper] Quality of water available to wildlife: comparisons among artificial and natural sources. *Wildlife Society Bulletin* 34:627-632.
- Bleich, V. C., S. Nelson, P. J. Wood, H. R. Wood, and R. A. Noles.** 2006. [Invited paper] Retrofitting gallinaceous guzzlers: enhancing water availability and safety for wildlife. *Wildlife Society Bulletin* 34:633-636.
- Marshal, J. P., P. R. Krausman, V. C. Bleich, S. S. Rosenstock, and W. B. Ballard.** 2006. [Invited paper] Gradients of forage biomass and ungulate use near wildlife water developments. *Wildlife Society Bulletin* 34:620-626.
- Rominger, E. M., V. C. Bleich, and E. J. Goldstein.** 2006. [Letter] Bighorn sheep, mountain lions, and the ethics of conservation. *Conservation Biology* 20:1041.

- Marshal, J. P., L. M. Lesicka, V. C. Bleich, P. R. Krausman, G. P. Mulcahy, and N. G. Andrew. 2006. Demography of desert mule deer in southeastern California. *California Fish and Game* 92:55-66.
- Bleich, V. C., B. M. Pierce, J. Jones, and R. T. Bowyer. 2006. Variance in survival rates among young mule deer in the Sierra Nevada, California. *California Fish and Game* 92:24-38.
- Johnson, H. E., V. C. Bleich, and P. R. Krausman. 2005. Antler breakage in tule elk, Owens Valley, California. *Journal of Wildlife Management* 69:1747-1752.
- Rosenstock, S. S., V. C. Bleich, M. J. Rabe, and C. Reggiardo. 2005. Water quality at wildlife water sources in the Sonoran Desert, United States. *Rangeland Ecology and Management* 58:623-627.
- Marshal, J. P., P. R. Krausman, and V. C. Bleich. 2005. Rainfall, temperature, and forage dynamics affect nutritional quality of desert mule deer forage. *Rangeland Ecology and Management* 58:360-365.
- Bleich, V. C., J. T. Villepique, T. R. Stephenson, B. M. Pierce, and G. M. Kutliyev. 2005. Efficacy of aerial telemetry as an aid to capture specific individuals: a comparison of two techniques. *Wildlife Society Bulletin* 33:332-336.
- Bleich, V. C. 2005. [Invited paper] In my opinion: politics, promises, and illogical legislation confound wildlife conservation. *Wildlife Society Bulletin* 33:66-73.
- Wehausen, J. D., V. C. Bleich, and R. R. Ramey II. 2005. Correct nomenclature for Sierra Nevada bighorn sheep. *California Fish and Game* 91:216-218.
- Oehler, M. W., V. C. Bleich, R. T. Bowyer, and M. C. Nicholson. 2005. Mountain sheep and mining: implications for conservation and management. *California Fish and Game* 91:149-178.
- Marshal, J. P., P. R. Krausman, and V. C. Bleich. 2005. Dynamics of mule deer forage in the Sonoran Desert. *Journal of Arid Environments* 60:593-609.
- Bleich, V. C., and S. G. Torres. 2004. [Guest Editorial] International involvement in wildlife conservation. *Wildlife Society Bulletin* 32:1013-1014.
- Krausman, P. R., V. C. Bleich, J. W. Cain III, T. R. Stephenson, D. W. DeYoung, P. W. McGrath, P. K. Swift, B. M. Pierce, and B. D. Jansen. 2004. Neck lesions in ungulates from collars incorporating satellite technology. *Wildlife Society Bulletin* 32:987-991.
- Marshal, J. P., V. C. Bleich, N. G. Andrew, and P. R. Krausman. 2004. Seasonal forage use by desert mule deer in southeastern California. *Southwestern Naturalist* 49:501-505.
- Holl, S. A., V. C. Bleich, and S. G. Torres. 2004. Population dynamics of bighorn sheep in the San Gabriel Mountains, California, 1967-2002. *Wildlife Society Bulletin* 32:412-426.

- Pierce, B. M., R. T. Bowyer, and V. C. Bleich. 2004. Habitat selection by mule deer: forage benefits or risk of predation? *Journal of Wildlife Management* 68:533-541.
- Bleich, V. C., E. F. Cassirer, L. E. Oldenburg, V. L. Coggins, and D. L. Hunter. 2004. Predation by a golden eagle, *Aquila chrysaetos*, on a juvenile mountain sheep, *Ovis canadensis*. *California Fish and Game* 90:91-93.
- Epps, C. W., D. R. McCullough, J. D. Wehausen, V. C. Bleich, and J. L. Rechel. 2004. Effects of climate change on population persistence of desert-dwelling mountain sheep in California. *Conservation Biology* 18:102-113.
- Long, E. S., D. M. Fecske, R. A. Sweitzer, J. A. Jenks, B. M. Pierce, and V. C. Bleich. 2003. Efficacy of photographic scent stations to detect mountain lions. *Western North American Naturalist* 63:529-532.
- Bleich, V. C. 2003. The potential for botulism in desert-dwelling mountain sheep. *Desert Bighorn Council Transactions* 47:2-8.
- Epps, C. W., V. C. Bleich, J. D. Wehausen, and S. G. Torres. 2003. Status of bighorn sheep in California. *Desert Bighorn Council Transactions* 47:20-35.
- Oehler, M. W., Sr., R. T. Bowyer, and V. C. Bleich. 2003. Home ranges of mountain sheep: effects of precipitation in a desert ecosystem. *Mammalia* 67:385-402.
- Weckerly, F. W., V. C. Bleich, C.-L. B. Chetkiewicz, and Mark A. Ricca. 2003. Body weight and rumen-reticulum capacity in tule elk and mule deer. *Journal of Mammalogy* 84:659-664.
- Ernest, H. B., W. M. Boyce, V. C. Bleich, B. M. May, S. J. Stiver, and S. G. Torres. 2003. Genetic structure of mountain lion (*Puma concolor*) populations in California. *Conservation Genetics* 4:353-366.
- Bleich, V. C., T. R. Stephenson, N. J. Holste, I. C. Snyder, J. P. Marshal, P. W. McGrath, and B. M. Pierce. 2003. Effects of tooth extraction on selected biological parameters of female mule deer. *Wildlife Society Bulletin* 31:233-236.
- Marshal, J., P. R. Krausman, V. C. Bleich, W. B. Ballard, and J. S. McKeever. 2002. Rainfall, el Nino, and dynamics of mule deer in the Sonoran Desert, California. *Journal of Wildlife Management* 66:1283-1289.
- Stephenson, T. R., V. C. Bleich, B. M. Pierce, and G. P. Mulcahy. 2002. Validation of mule deer body composition using *in vivo* and post-mortem indices of nutritional condition. *Wildlife Society Bulletin* 30:557-564.
- Swift, P. K., V. C. Bleich, T. R. Stephenson, A. E. Adams, B. J. Gonzales, B. M. Pierce, and J. P. Marshal. 2002. Tooth extraction from mule deer in the absence of chemical

- immobilization. *Wildlife Society Bulletin* 30:253-255.
- Bleich, V. C., C. S. Y. Chun, R. W. Anthes, T. E. Evans, and J. K. Fischer.** 2001. [Invited Paper] Visibility bias and development of a sightability model for tule elk. *Alces* 37:315-327.
- Drew, M. L., V. C. Bleich, S. G. Torres, and R. G. Sasser.** 2001. Early pregnancy detection in mountain sheep using a pregnancy-specific protein B assay. *Wildlife Society Bulletin* 29:1182-1185.
- Rosenstock, S. S., J. J. Hervert, V. C. Bleich, and P. R. Krausman.** 2001. Muddying the water with poor science: a reply to Broyles and Cutler. *Wildlife Society Bulletin* 29:734-738 [peer edited].
- Bleich, V. C.** 2001. On wildlife management in national monuments. *The Wildlifer* 306:59 [letter].
- Andrew, N. G., V. C. Bleich, A. D. Morrison, L. M. Lesicka, and P. Cooley.** 2001. Wildlife mortalities associated with artificial water sources in the Sonoran Desert. *Wildlife Society Bulletin* 29:275-280.
- Thompson, J. R., V. C. Bleich, S. G. Torres, and G. P. Mulcahy.** 2001. Translocation techniques for mountain sheep: does the method matter? *Southwestern Naturalist* 46:87-93.
- Bleich, V. C., and B. M. Pierce.** 2001. Accidental mass mortality of migrating mule deer. *Western North American Naturalist* 61:124-125.
- Chao-chin, C., B. B. Chomel, R. W. Kasten, R. Heller, K. M. Kocan, H. Ueno, K. Yamamoto, V. C. Bleich, B. M. Pierce, B. J. Gonzales, P. K. Swift, W. M. Boyce, S. S. Jang, H.-J. Boulouis, and Y. Piemont.** 2000. *Bartonella* spp. isolated from domestic and wild ruminants in North America. *Emerging Infectious Diseases* 6:306-311.
- Singer, F. J., V. C. Bleich, and M. A. Gudorf.** 2000. [Invited Paper] Restoration of bighorn sheep metapopulations in and near western national parks. *Restoration Ecology* 8(4S):14-24.
- Bleich, V. C., and M. W. Oehler.** 2000. [Invited paper] Wildlife education in the United States: thoughts from agency biologists. *Wildlife Society Bulletin* 28:542-545.
- Rubin, E. S., W. M. Boyce, and V. C. Bleich.** 2000. Reproductive strategies of desert bighorn sheep. *Journal of Mammalogy* 81:769-786.
- Schaefer, R. J., S. G. Torres, and V. C. Bleich.** 2000. Survivorship and cause-specific mortality in sympatric populations of mountain sheep and mule deer. *California Fish and Game* 86:127-135.

- Pierce, B. M., V. C. Bleich, and R. T. Bowyer. 2000. Prey selection by mountain lions and coyotes: effects of hunting style, body size, and reproductive status. *Journal of Mammalogy* 81:462-472.
- Swift, P. K., J. D. Wehausen, H. B. Ernest, R. S. Singer, A. M. Pauli, H. Kinde, T. E. Rocke, and V. C. Bleich. 2000. Desert bighorn sheep mortality due to presumptive type C botulism in California. *Journal of Wildlife Diseases* 36:184-189.
- Pierce, B. M., V. C. Bleich, and R. T. Bowyer. 2000. Social organization of mountain lions: does a land-tenure system regulate population size? *Ecology* 81:1533-1543.
- Bleich, V. C. 1999. Wildlife conservation and wilderness management: uncommon objectives and conflicting philosophies. *North American Wild Sheep Conference Proceedings* 2:195-205.
- Bleich, V. C., and A. M. Pauli. 1999. Distribution and intensity of hunting and trapping activity in the East Mojave National Scenic Area, California. *California Fish and Game* 85:148-160.
- Pierce, B. M., V. C. Bleich, J. D. Wehausen, and R. T. Bowyer. 1999. Migratory patterns of mountain lions: implications for social regulation and conservation. *Journal of Mammalogy* 80:986-992.
- Bleich, V. C. 1999. Mountain sheep and coyotes: patterns of predator evasion in a mountain ungulate. *Journal of Mammalogy* 80:283-289.
- Bleich, V. C., and B. M. Pierce. 1999. Expandable and economical radio collars for juvenile mule deer. *California Fish and Game* 85:56-62.
- Hill, S. D., and V. C. Bleich. 1999. Monitoring wildlife water sources using low Earth orbiting satellites (LEOS). *Wildlife Society Bulletin* 27:25-27.
- Andrew, N. G., V. C. Bleich, and P. V. August. 1999. Habitat selection by mountain sheep in the Sonoran Desert: implications for conservation in the United States and Mexico. *California Wildlife Conservation Bulletin* 12:1-30.
- Grigione, M. M., P. Burman, V. C. Bleich, and B. M. Pierce. 1999. Identifying individual mountain lions (*Felis concolor*) by their tracks: refinement of an innovative technique. *Biological Conservation* 88:25-32.
- Bleich, V. C. 1998. Importance of observer experience in determining age and sex of mountain sheep. *Wildlife Society Bulletin* 26:877-880.
- de Ropp, J. S., J. H. Theis, J. I. Mead, and V. C. Bleich. 1998. Limitations of nuclear magnetic resonance (NMR) analysis of fecal bile for taxonomic identification of contemporary and extinct mammals. *California Fish and Game* 84:112-118.

- Bleich, V. C., and T. J. Taylor.** 1998. Survivorship and cause-specific mortality in five populations of mule deer. *Great Basin Naturalist* 58:265-272.
- Pierce, B. M., V. C. Bleich, C. L.-B. Chetkiewicz, and J. D. Wehausen.** 1998. Timing of feeding bouts of mountain lions. *Journal of Mammalogy* 79:222-226.
- Bleich, V. C., R. T. Bowyer, and J. D. Wehausen.** 1997. Sexual segregation in mountain sheep: resources or predation? *Wildlife Monographs* 134:1-50.
- Andrew, N. G., V. C. Bleich, P. V. August, and S. G. Torres.** 1997. Demography of mountain sheep in the East Chocolate Mountains, California. *California Fish and Game* 83:68-77.
- Andrew, N. G., L. M. Lesicka, and V. C. Bleich.** 1997. An improved fence design to protect water sources for native ungulates. *Wildlife Society Bulletin* 25:823-825.
- Bleich, V. C., S. G. Torres, J. D. Wehausen, and T. A. Swank.** 1996. [Invited paper] History of transplanting mountain sheep - California. *Proceedings of the Biennial Symposium of the Northern Wild Sheep and Goat Council* 10:164-166.
- Torres, S. G., V. C. Bleich, and J. D. Wehausen.** 1996. Status of bighorn sheep in California, 1995. *Desert Bighorn Council Transactions* 40:27-34.
- Oehler, M. W., V. C. Bleich, and R. T. Bowyer.** 1996. Error associated with LORAN-C: effects of aircraft altitude and geographic location. *Desert Bighorn Council Transactions* 40:19-21.
- Bleich, V. C.** 1996. Interactions between coyotes (*Canis latrans*) and mountain sheep (*Ovis canadensis*). *Southwestern Naturalist* 41:81-82.
- Davis, J. L., C. L.-B. Chetkiewicz, V. C. Bleich, G. Raygorodetsky, B. M. Pierce, J. W. Ostergard, and J. D. Wehausen.** 1996. A device to safely remove immobilized mountain lions from trees and cliffs. *Wildlife Society Bulletin* 24:537-539.
- Bleich, V. C., B. M. Pierce, J. L. Davis, and V. L. Davis.** 1996. Thermal characteristics of mountain lion dens. *Great Basin Naturalist* 56:276-278.
- Main, M. B., F. W. Weckerly, and V. C. Bleich.** 1996. [Invited Paper] Sexual segregation in ungulates: new directions for research. *Journal of Mammalogy* 77:449-461.
- Cronin, M. A., and V. C. Bleich.** 1995. Mitochondrial DNA variation among populations and subspecies of mule deer in California. *California Fish and Game* 81:45-54.
- Bleich, V. C., and M. V. Price.** 1995. Aggressive behavior of *Dipodomys stephensi*, an endangered species, and *Dipodomys agilis*, a sympatric congener. *Journal of Mammalogy* 76:646-651.
- Torres, S. G., V. C. Bleich, and J. D. Wehausen.** 1994. Status of bighorn sheep in California,

1993. Desert Bighorn Council Transactions 38:17-28.
- Bleich, V. C., and S. G. Torres.** 1994. [Invited Paper] California's mountain sheep management program. Proceedings of the Biennial Symposium of the Northern Wild Sheep and Goat Council 9:186-195.
- Bleich, V. C., R. T. Bowyer, A. M. Pauli, M. C. Nicholson, and R. W. Anthes.** 1994. [Lead Article] Responses of mountain sheep *Ovis canadensis* to helicopter surveys: ramifications for the conservation of large mammals. Biological Conservation 45:1-7.
- Jaeger, J. R., J. D. Wehausen, V. C. Bleich, and C. L. Douglas.** 1993. Limits in the resolution of LORAN-C for aerial telemetry studies. Desert Bighorn Council Transactions 37:20-23.
- Torres, S. G., V. C. Bleich, and A. M. Pauli.** 1993. Status of bighorn sheep in California, 1992. Desert Bighorn Council Transactions 37:47-52.
- Torres, S. G., V. C. Bleich, and A. M. Pauli.** 1993. An analysis of hunter harvest of mountain sheep in California, 1987-1992. Desert Bighorn Council Transactions 37:37-40.
- Jessup, D. A., W. L. Goff, D. Stiller, M. N. Oliver, V. C. Bleich, and W. M. Boyce.** 1993. A retrospective serologic survey for *Anaplasma* spp. infection in three bighorn sheep (*Ovis canadensis*) populations in California. Journal of Wildlife Diseases 29:547-554.
- Thompson, J. R., and V. C. Bleich.** 1993. A comparison of mule deer survey techniques in the Sonoran Desert of California. California Fish and Game 79:70-75.
- Bleich, V. C.** 1993. Comments on research, publications, and California's longest continuously published journal. California Fish and Game 79:42-43.
- Bleich, V. C., M. C. Nicholson, A. T. Lombard, and P. V. August.** 1992. Preliminary tests of mountain sheep habitat models using a geographic information system. Proceedings of the Biennial Symposium of the Northern Wild Sheep and Goat Council 8:256-263.
- Bleich, V. C., R. T. Bowyer, D. J. Clark, and T. O. Clark.** 1992. Quality of forages eaten by mountain sheep in the eastern Mojave Desert, California. Desert Bighorn Council Transactions 36:41-47.
- Bleich, V. C., S. G. Torres, D. A. Jessup, and G. P. Mulcahy.** 1992. Status of mountain sheep in California, 1991. Desert Bighorn Council Transactions 36:76-77.
- Krausman, P. R., V. C. Bleich, J. A. Bailey, D. Armentrout, and R. R. Ramey II.** 1992. What is a minimum viable population? Desert Bighorn Council Transactions 36:68-75.
- Jaeger, J. R., J. D. Wehausen, and V. C. Bleich.** 1991. Evaluation of time-lapse photography to estimate population parameters. Desert Bighorn Council Transactions 35:5-8.
- Bleich, V. C., and D. A. Jessup.** 1991. Status of bighorn sheep in California, 1990. Desert

Bighorn Council Transactions 35:11-12.

- Bleich, V. C., and D. Racine.** 1991. Mountain beaver (*Aplodontia rufa*) from Inyo County, California. *California Fish and Game* 77:153-155.
- Bleich, V. C., J. G. Stahmann, R. T. Bowyer, and J. E. Blake.** 1990. Osteoporosis, osteomalacia, and cranial asymmetry in a mountain sheep (*Ovis canadensis*). *Journal of Wildlife Diseases* 26:372-376.
- Bleich, V. C.** 1990. On Calcium deficiency and brittle antlers. *Journal of Wildlife Diseases* 26:588.
- Bleich, V. C., J. D. Wehausen, and S. A. Holl.** 1990. Desert-dwelling mountain sheep: conservation implications of a naturally fragmented distribution. *Conservation Biology* 4:383-390.
- Bleich, V. C., R. T. Bowyer, A. M. Pauli, R. L. Vernoy, and R. W. Anthes.** 1990. Responses of mountain sheep to aerial sampling using helicopters. *California Fish and Game* 76:197-204.
- Bleich, V. C., J. D. Wehausen, J. A. Keay, J. G. Stahmann, and M. W. Berbach.** 1990. Radiotelemetry collars and mountain sheep: a cautionary note. *Desert Bighorn Council Transactions* 34:6-8.
- Bleich, V. C., J. D. Wehausen, K. R. Jones, and R. A. Weaver.** 1990. Status of bighorn sheep in California, 1989 and translocations from 1971 through 1989. *Desert Bighorn Council Transactions* 34:24-26.
- Pauli, A. M., and V. C. Bleich.** 1988. Additional records of the spotted bat (*Euderma maculatum*) from California. *Great Basin Naturalist* 48:563.
- Wehausen, J. D., V. C. Bleich, B. Blong, and T. L. Russi.** 1987. Recruitment dynamics in a southern California mountain sheep population. *Journal of Wildlife Management* 51:86-98.
- Holl, S. A., and V. C. Bleich.** 1987. Mineral lick use by mountain sheep in the San Gabriel Mountains, California. *Journal of Wildlife Management* 51:381-383.
- Wehausen, J. D., V. C. Bleich, and R. A. Weaver.** 1987. Mountain sheep in California: a historical perspective on 108 years of full protection. *Western Section of The Wildlife Society Transactions* 23:65-74.
- Schwartz, O. A., V. C. Bleich, and S. A. Holl.** 1986. Genetics and the conservation of mountain sheep *Ovis canadensis nelsoni*. *Biological Conservation* 37:179-190.
- Bleich, V. C.** 1986. Early breeding in free-ranging mountain sheep. *Southwestern Naturalist* 31:530-531.

- Schwartz, O. A., and V. C. Bleich. 1985. Optimal foraging in Barn Owls? Rodent frequencies in diet and fauna. *Bulletin of the Southern California Academy of Science* 84:41-45.
- Bowyer, R. T., and V. C. Bleich. 1984. Distribution and taxonomic affinities of mule deer, *Odocoileus hemionus*, from Anza-Borrego Desert State Park, California. *California Fish and Game* 70:53-57.
- Bowyer, R. T., and V. C. Bleich. 1984. Effects of cattle grazing on selected habitats of southern mule deer. *California Fish and Game* 70:240-247.
- Bleich, V. C., and R. A. Weaver. 1983. "Improved" sand dams for wildlife habitat management. *Journal of Range Management* 36:130.
- Bleich, V. C. 1983. Comments on helicopter use by wildlife agencies. *Wildlife Society Bulletin* 11:304-306.
- Bleich, V. C. 1982. Additional notes on species richness of mammals at Bodie, California. *Southwestern Naturalist* 27:121-122.
- Bleich, V. C., L. J. Coombes, and J. H. Davis. 1982. Horizontal wells as a wildlife habitat improvement technique. *Wildlife Society Bulletin* 10:324-329.
- Bleich, V. C. 1982. An illustrated guide to aging the lambs of mountain sheep. *Desert Bighorn Council Transactions* 26:59-62.
- Bleich, V. C., L. J. Coombes, and G. W. Sudmeier. 1982. Volunteers and wildlife habitat management: twelve years together. *CAL-NEVA Wildlife Transactions* 1982:64-68.
- Bleich, V. C. 1982. Horizontal wells for mountain sheep: desert bighorn "Get the shaft". *Desert Bighorn Council Transactions* 26:63-64.
- Bleich, V. C., L. J. Coombes, and G. W. Sudmeier. 1982. Volunteer participation in California wildlife habitat management projects. *Desert Bighorn Council Transactions* 26:56-58.
- Paysen, T. E., J. A. Derby, H. Black, V. C. Bleich, and J. W. Mincks. 1980. A vegetation classification system applied to southern California. *USDA Forest Service General Technical Report PSW-45:1-33*.
- Bleich, V. C. 1979. *Microtus californicus scirpensis* not extinct. *Journal of Mammalogy* 60:851-852.
- Bleich, V. C., and B. Blong. 1978. A magnificent frigatebird in San Bernardino County, California. *Western Birds* 9:129.
- Bleich, V. C. 1978. Breeding bird census: annual grassland. *American Birds* 32:121.

- Bleich, V. C.** 1977. *Dipodomys stephensi*. *Mammalian Species* 73:1-3.
- Schwartz, O. A., and V. C. Bleich.** 1976. The development of thermoregulation in two species of woodrats, *Neotoma lepida* and *Neotoma albigula*. *Comparative Biochemistry and Physiology* 54A:211-213.
- Bleich, V. C.** 1975. Roadrunner predation on ground squirrels in California. *Auk* 92:147-149.
- Bleich, V. C., and O. A. Schwartz.** 1975. Water balance and fluid consumption in the southern grasshopper mouse, *Onychomys torridus*. *Great Basin Naturalist* 35:62-64.
- Bleich, V. C., and O. A. Schwartz.** 1975. Observations on the home range of the desert woodrat, *Neotoma lepida intermedia*. *Journal of Mammalogy* 56:518-519.
- Bleich, V. C.** 1975. Diving times and distances in the Pied-billed Grebe. *Wilson Bulletin* 87:278-280.
- Bleich, V. C., and O. A. Schwartz.** 1975. Parturition in the white-throated woodrat. *Southwestern Naturalist* 20:271-272.
- Schwartz, O. A., and V. C. Bleich.** 1975. Comparative growth in two species of woodrats, *Neotoma lepida intermedia* and *Neotoma albigula venusta*. *Journal of Mammalogy* 56:653-656.
- Bleich, V. C.** 1974. Muskrats (*Ondatra zibethicus*) in Amargosa Canyon, Inyo and San Bernardino counties, California. *Murrelet* 55:7-8.
- Bleich, V. C.** 1974. Abnormal dentition in a grizzly bear. *Murrelet* 55:11.
- Bleich, V. C., and O. A. Schwartz.** 1974. Interspecific and intergeneric maternal care in woodrats (*Neotoma*). *Mammalia* 38:381-387.
- Bleich, V. C., and O. A. Schwartz.** 1974. Western range extension of Stephens' Kangaroo rat (*Dipodomys stephensi*), a threatened species. *California Fish and Game* 60:208-210.
- Book Chapters and Proceedings of Symposia:**
- Bleich, V. C., and B. M. Pierce.** 2005. [Invited contribution] Management of mountain lions in California. Pages 63-69 in E. L. Buckner and J. Reneau, editors. *Records of North American big game*. 12th edition. Boone and Crockett Club, Missoula, Montana, USA.
- Rubin, E. S., and V. C. Bleich.** 2005. [Invited contribution] Sexual segregation: a necessary consideration in wildlife conservation. Pages 379-391 in K. E. Ruckstuhl and P. Neuhaus, editors. *Sexual segregation in vertebrates: ecology of the two sexes*. Cambridge University Press, Cambridge, United Kingdom.
- Bleich, V. C., J. G. Kie, E. R. Loft, T. R. Stephenson, M. W. Oehler, Sr., and A. L. Medina.**

2005. [Invited contribution] Managing rangelands for wildlife. Pages 873-897 in C. E. Braun, editor. Techniques for wildlife investigations and management. Sixth edition. The Wildlife Society, Bethesda, Maryland, USA.
- Pierce, B. M., and V. C. Bleich. 2003. [Invited Contribution] Mountain lion. Pages 744-757 in G. A. Feldhamer, B. C. Thompson, and J. A. Chapman, editors. Wild Mammals of North America. Second Edition. The Johns Hopkins University Press, Baltimore, Maryland.
- Torres, S. G., and V. C. Bleich. 1999. [Invited Contribution] Desert bighorn sheep: California. Pages 170-173 in D. E. Toweill and V. Geist, editors. Return of royalty: a celebration of success. Boone and Crockett Club, Missoula, Montana.
- Bleich, V. C., and S. G. Torres. 1999. [Invited Contribution] California bighorn sheep: California. Pages 130-133 in D. E. Toweill and V. Geist, editors. Return of royalty: a celebration of success. Boone and Crockett Club, Missoula, Montana.
- Bleich, V. C. 1998. [Invited Contribution] *Microtus californicus* (Peale 1848). Pages 90-92 in D. J. Haffner, E. Yensen, and G. L. Kirkland, Jr., editors. North American rodents: status survey and conservation action plan. International Union for the Conservation of Nature, Gland, Switzerland.
- Kie, J. G., V. C. Bleich, A. L. Medina, J. D. Yoakum, and J. W. Thomas. 1996. [Invited Contribution] Managing rangelands for wildlife. Pages 663-688 in T. A. Bookhout, editor. Research and management techniques for wildlife and habitats. Fifth edition. The Wildlife Society, Bethesda, Maryland.
- Bleich, V. C., J. D. Wehausen, R. R. Ramey II, and J. L. Rechel. 1996. [Invited Contribution] Metapopulation theory and mountain sheep: implications for conservation. Pages 353-373 in D. R. McCullough, editor. Metapopulations and wildlife conservation. Island Press, Covelo, California.
- Bleich, V. C., J. D. Wehausen, and S. A. Holl. 1995. Desert-dwelling mountain sheep: conservation implications of a naturally fragmented distribution. Pages 102-109 in D. Ehrenfeld, editor. Readings from Conservation Biology: wildlife and forests. The Sheridan Press, Hanover, Pennsylvania. [Reprinted from Conservation Biology 4:383-390].
- Bleich, V. C., J. D. Wehausen, and S. A. Holl. 1995. Desert-dwelling mountain sheep: conservation implications of a naturally fragmented distribution. Pages 71-78 in D. Ehrenfeld, editor. Readings from Conservation Biology: the landscape perspective. The Sheridan Press, Hanover, Pennsylvania. [Reprinted from Conservation Biology 4:383-390].
- Bleich, V. C. 1992. History of wildlife water developments, Inyo County, California. Pp. 100-106 in C. A. Hall, V. Doyle-Jones, and B. Widawski, editors. The history of water: eastern Sierra Nevada, Owens Valley, White-Inyo Mountains. University of California White Mountain Research Station, Bishop.

- Bleich, V. C., and D. B. Koch.** 1992. [Abstract] Tule elk on private lands: species preservation, habitat protection, or wildlife commercialization? Page 78 *in* R. D. Brown, editor. *The biology of deer*. Springer-Verlag, New York, New York.
- Bleich, V. C., C. D. Hargis, J. A. Keay, and J. D. Wehausen.** 1991. Interagency coordination and the restoration of wildlife populations. Pages 277-284 *in* J. Edelbrock and S. Carpenter, editors. *Natural areas and Yosemite: prospects for the future*. U.S. National Park Service, Denver Service Center, Denver, Colorado.
- Bleich, V. C.** 1990. [Invited Paper] Horizontal wells for wildlife water development. Pages 51-58 *in* G. K. Tsukamoto and S. J. Stiver, editors. *Wildlife water development*. Nevada Department of Wildlife, Reno.
- Bleich, V. C., and A. M. Pauli.** 1990. Mechanical evaluation of artificial watering devices built for mountain sheep in California. Pages 65-72 *in* G. K. Tsukamoto and S. J. Stiver, editors. *Wildlife water development*. Nevada Department of Wildlife, Reno.
- Bleich, V. C.** 1990. Affiliations of volunteers participating in California wildlife water development projects. Pages 187-192 *in* G. K. Tsukamoto and S. J. Stiver, editors. *Wildlife water development*. Nevada Department of Wildlife, Reno.
- Bleich, V. C.** 1990. Costs of translocating mountain sheep. Pages 67-75 *in* P. R. Krausman and N. S. Smith, editors. *Managing wildlife in the southwest*. Arizona Chapter of The Wildlife Society, Phoenix.
- Bleich, V. C., and S. A. Holl.** 1982. [Invited Paper] Management of chaparral habitat for mule deer and mountain sheep in southern California. Pages 247-254 *in* C. E. Conrad and W. C. Oechel, Technical Coordinators. *Proceedings of the symposium on the dynamics and management of Mediterranean-type ecosystems*. USDA Forest Service, General Technical Report PSW-58.
- Bleich, V. C.** 1982. [Invited Paper] Review comments. Pages 567-568 *in* C. E. Conrad and W. C. Oechel, Technical Coordinators. *Proceedings of the symposium on the dynamics and management of Mediterranean-type ecosystems*. USDA Forest Service, General Technical Report PSW-58.
- Bowyer, R. T., and V. C. Bleich.** 1980. Ecological relationships between southern mule deer and California black oak. Pages 292-296 *in* T. R. Plumb, Technical Coordinator. *Proceedings of the Symposium on the ecology, management, and utilization of California oaks*. USDA Forest Service, General Technical Report PSW-44.
- Agency Reports:**
- Sierra Nevada Bighorn Sheep Recovery Program [V. C. Bleich, H. E. Johnson, B. M. Pierce, C. R. Schroeder, T. R. Stephenson, and J. T. Villepique]. 2006. Sierra Nevada bighorn sheep in 2006. *Outdoor California* 67(2):10-17.

Bleich, V. C. 2005. Sierra Nevada bighorn sheep. Pages 226-227 in California Department of Fish and Game (compiler). The status of rare, threatened, and endangered plants and animals of California 2002-2004. California Department of Fish and Game, Sacramento, California, USA.

Bleich, V. C. 2005. Peninsular bighorn sheep. Pages 228-230 in California Department of Fish and Game (compiler). The status of rare, threatened, and endangered plants and animals of California 2002-2004. California Department of Fish and Game, Sacramento, California, USA.

Sierra Nevada Bighorn Sheep Recovery Program [V. C. **Bleich**, B. M. Pierce, T. R. Stephenson, J. T. Villepique, and J. D. Wehausen]. 2004. Sierra Nevada Bighorn Sheep Progress Report 2003. Outdoor California 65(1):4-17.

U.S. Fish and Wildlife Service [C. Benz, V. **Bleich**, W. Boyce, D. Craig, D. Graber, H. Quigley, P. Stine, S. Torres, and J. Wehausen]. 2003. Draft recovery plan for the Sierra Nevada bighorn sheep. U.S. Fish and Wildlife Service, Portland, Oregon.

U.S. Fish and Wildlife Service [D. Armentrout, V. **Bleich**, W. Boyce, T. Davis, J. DeForge, D. Freeman, M. Jorgensen, S. Ostermann, E. Rubin, O. Ryder, P. Sorensen, S. Torres, and J. Wehausen]. 2000. Recovery plan for bighorn sheep in the peninsular ranges, California. U.S. Fish and Wildlife Service, Portland, Oregon.

Singer, F., W. Adrian, F. Allendorf, J. Bailey, J. Berger, V. **Bleich**, M. Bogan, P. Brussard, S. Buskirk, N. T. Hobbs, T. Smith, D. Stevens, C. Van Riper III, E. Vyse, and G. White. 1996. Bighorn sheep in the Rocky Mountain region. National Biological Service, Ft. Collins, Colorado. 55 pp.

Gudorf, M., P. Y. Sweanor, F. J. Singer, A. Blankenship, V. **Bleich**, T. Easterly, J. Emmerich, C. Eustace, L. Irby, D. Jaynes, B. Jellison, R. Kissell, J. Lindsay, J. Parks, T. Peters, K. Reid, S. Stewart, and T. Voss. 1996. Bighorn sheep habitat assessment of the greater Bighorn Canyon National Recreation Area. National Park Service and National Biological Service Cooperative Report, Bighorn Canyon National Recreation Area, Lovell, Wyoming. 43 pp.

Gudorf, M., P. Sweanor, F. Singer, V. **Bleich**, J. Cordova, C. Hake, L. Lee, T. Lytle, P. Perrotti, S. Petersburg, and B. Sloan. 1995. Bighorn sheep habitat assessment of the greater Colorado National Monument area. National Park Service and National Biological Service Cooperative Report, Colorado National Monument, Fruita, Colorado. 52 pp.

Holl, S. A., and V. C. **Bleich**. 1983. San Gabriel mountain sheep: biological and management considerations. USDA Forest Service, San Bernardino National Forest, San Bernardino, California. 136 pp.

Bleich, V. C. 1980. Amargosa vole study. California Department of Fish and Game, Nongame Wildlife Investigations Job Final Report W-54-R-10. 8 pp.

Gould, G. I., Jr., and V. C. Bleich. 1977. Amargosa vole study: progress report. Nongame Wildlife Investigations Job Progress Report W-54-R-10 California Department of Fish and Game, Sacramento. 4pp.

Bleich, V. C. 1975. Wildlife section including habitat and vegetation types in the Lake Mathews study area. Pages 84-130 *in* A study of the fish and wildlife resources of the Metropolitan Water District property at Lake Mathews with habitat improvement recommendations. California Department of Fish and Game, Long Beach.

Bleich, V. C. 1972. An annotated checklist of the mammals occurring in the Tecopa-Dumont Sand Dunes Study Area. Pages 75-77, appendix *in* M. A. Romero, editor. Amargosa Canyon-Dumont Dunes Proposed Natural Area. House of Impressions, Sun Valley, California.

Bleich, V. C. 1972. Checklist of the terrestrial vertebrates of the Seal Beach Naval Weapons Station, Fallbrook Annex, San Diego County, California. U.S. Navy, WPNSTAFBAINST 11015.2:7-13.

Book Reviews and Obituaries:

Weaver, R. A., and V. C. Bleich. 2009. Bonnar Blong. Desert Bighorn Council Transactions.

Bleich, V. C. 1994. Marvin Wood, 1909-1994. Wild Sheep 17(4):8.

Bleich, V. C. 1992. [Review of] Midnight wilderness: journeys in Alaska's Arctic National Wildlife Refuge, by D. S. Miller. California Fish and Game 78:85-86.

Bleich, V. C. 1992. [Review of] Natural history of the White-Inyo Range, eastern California, edited by C. A. Hall, Jr. California Fish and Game 78:84-85.

Bleich, V. C. 1987. James C. Bicket, 1947-1986. Wildlife Society Bulletin 15:477-478.

Bleich, V. C. 1987. J. D. "Don" Landells, 1926-1986. Western Section of The Wildlife Society Transactions 22:iv.

Bleich, V. C. 1987. James C. Bicket, 1947-1986. Western Section of The Wildlife Society Transactions 22:v.

Bleich, V. C. 1979. [Review of] Wild geese, by M. A. Ogilvie. California Fish and Game 66:282-283.

Bleich, V. C. 1977. [Review of] Mammals of the world, by E. P. Walker. California Fish and Game 63:73.

Bleich, V. C. 1975. [Review of] The carnivores, by R. F. Ewer. California Fish and Game

61:255-256.

Popular Articles:

- Bleich, V. C. 2009.** A brief history of the CDFG bighorn sheep habitat enhancement program. *California Wild Sheep*, Winter 2009:8-10.
- Bleich, V. C. 2009.** Some thoughts on “Water dispensaries keep mountain bighorn sheep alive. *California Wild Sheep*, Fall 2009:28-30.
- Bleich, V. C. 2009.** Parting shots [letter]. *Bighorn (The Official Magazine of the Texas Bighorn Society)*, Spring 2009:30.
- Bleich, V. C. 2009.** Implications of fire history for conserving bighorn sheep. *Boone and Crockett Club Trophy Points 3 (July 2009)*. Available at:
http://www.boone-crockett.org/news/featured_story.asp?area=news&ID=52
- Darby, N., J. Dungan, K. Stewart, V. Bleich, and D. Hughson. 2009.** Responses of mule deer to experimental manipulation of water sources: preliminary results from the first year. *Mojave National Preserve Science Newsletter* 1:1-3.
- Bleich, V. C., H. E. Johnson, S. A. Holl, L. Konde, S. G. Torres, and P. R. Krausman. 2009.** Implications of fire history for conserving bighorn sheep. *California Wild Sheep*, Summer 2009:29.
- Bleich, V. C. 2009.** Some thoughts on water development in wilderness. *California Wild Sheep*, Spring 2009:8-9.
- Bleich, V. C. 2008.** Mountain sheep in California: some perspectives on the past, and prospects for the future (Part IV). *California Wild Sheep*, Fall 2008:14-15.
- Bleich, V. C. 2008.** Mountain sheep in California: some perspectives on the past, and prospects for the future (Part III). *California Wild Sheep*, Summer 2008:10-11.
- Bleich, V. C. 2008.** Mountain sheep in California: some perspectives on the past, and prospects for the future (Part II). *California Wild Sheep*, Spring 2008:12-13.
- Bleich, V. C. 2007.** Mountain sheep in California: some perspectives on the past and some prospects for the future (Part I). *California Wild Sheep*, Winter 2007:12-13.
- Bleich, V. C. 2007.** The Sierra Nevada bighorn sheep recovery program. *Conservation Connection* 16:11.
- Bleich, V. C. 2007.** The Sierra Nevada bighorn sheep recovery program. *California Wild Sheep*, Fall 2007:16-17.

- Bleich, V. C., and B. M. Pierce. 2007. Management of mountain lions in California: history, basic biology, and citizen initiatives [part II]. Conservation Connection 15:12. Reprinted with permission from Records of North American Big Game, 12th Edition)**
- Monteith, K. L., and V. C. Bleich. 2007. Mule deer fawn survival in central Sierra Nevada. Outdoor California 6(3):26-29.**
- Bleich, V. C., and B. M. Pierce. 2007. Management of mountain lions in California: history, basic biology, and citizen initiatives [part II]. California Wild Sheep, Summer 2007:8-9. Reprinted with permission from Records of North American Big Game, 12th Edition)**
- Bleich, V. C., and B. M. Pierce. 2007. Management of mountain lions in California: history, basic biology, and citizen initiatives [part I]. Conservation Connection 14:18-19. Reprinted with permission from Records of North American Big Game, 12th Edition)**
- Bleich, V. C., and B. M. Pierce. 2007. Management of mountain lions in California: history, basic biology, and citizen initiatives [part I]. California Wild Sheep, Spring 2007:18-19. Reprinted with permission from Records of North American Big Game, 12th Edition)**
- Monteith, K. L., and V. C. Bleich. Mule deer fawn survival in the central Sierra Nevada. California Deer, Winter 2007:6-8.**
- Bleich, V. C. 2006. The potential for death at the waterhole. Conservation Connection 12:13. [Reprinted from California Wild Sheep, Fall 2006:8-9].**
- Monteith, K. L., and V. C. Bleich. 2006. Fawn survival: central Sierra Nevada. Mule Deer Foundation Magazine 9:16-18.**
- Bleich, V. C., and N. G. Andrew. 2006. Bighorn sheep in California: how many are there, and how are they doing? Foundation for North American Wild Sheep Conservation Connection 11:5-6. [Reprinted from California Wild Sheep, Summer 2006:4-5].**
- Bleich, V. C. 2006. The potential for death at the waterhole. California Wild Sheep, Fall 2006:8-9.**
- Bleich, V. C., and N. G. Andrew. 2006. Bighorn sheep in California: how many are there, and how are they doing? California Wild Sheep, Summer 2006:4-5.**
- Bleich, V. C. 2002. Restoring bighorn sheep to the Sierra Nevada: a project of interest to the Boone and Crockett Club. Fair Chase 17(1):22-26.**
- Bleich, V. C. 2001. Restoring bighorn sheep to the Sierra Nevada: a new challenge for wildlife biologists. Wild Sheep 24(4):47-50,52.**
- Bleich, V. C. 2001. Summer ranges, winter ranges, and migratory mule deer: putting the parts of a puzzle in place. Outdoor California 62(4):20-23.**

- Anderson, L. A., and V. C. Bleich. 2000. Desert bighorns in California: a success story for wildlife biologists and sheep hunters. *Fair Chase* 15(4):13-15.
- Bleich, V. C., B. M. Pierce, S. G. Torres, and T. Lupo. 2000. Using space age technology to study mountain lion ecology. *Outdoor California* 61(3):24-25.
- Torres, S. G., and V. C. Bleich. 2000. Mountain lions — California's elusive predator. *Outdoor California* 61(3):4-6.
- Bleich, V. C., and N. G. Andrew. 2000. Mountain sheep, mule deer, and burros in the brush: flourishing wild burros impact habitats and native big game. *Tracks* 17:10-12.
- Pauli, A. M., and V. C. Bleich. 1999. Gambel's quail hunting opportunities abundant within Mojave National Preserve. Pages 8-9,14 in A. J. Kenward, editor. *Upland Game California*. California Department of Fish and Game, Sacramento.
- Bleich, V. C. 1999. Desert deer investigation launched. *Outdoor California* 60(5):13-15.
- Bleich, V. C. 1999. [Letter] America's wilderness. *National Geographic Magazine* 195(3):xv.
- Bleich, V. C. 1997. Securing large carnivores. *Wildlife Control Technology* 4(2):39.
- Bleich, V. C. 1996. Assisting researchers can augment your income. *Wildlife Control Technology* 3(6):4.
- Pierce, B. M., and V. C. Bleich. 1996. Round Valley deer study. *Mule Deer* 2(4):10-13.
- Bleich, V. C. 1995. California's newest sheep hunting opportunity: the East Chocolate Mountains. *Wild Sheep* 18(4):19-22.
- Pierce, B. M., and V. C. Bleich. 1995. California deer management: the Round Valley investigation. *California Hunter Magazine* 4(4):32-33.
- Bleich, V. C., and S. G. Torres. 1995. The "book" rams are still out there. *Tracks* 12:9.
- Bleich, V. C., and S. G. Torres. 1993. History and current status of mountain sheep in California. *Wild Sheep* 16(4):15-19.
- Bleich, V. C. 1993. Sexual segregation in desert-dwelling mountain sheep. *Wild Sheep* 16(4):13-14.
- Bleich, V. C. 1993. Mountain sheep habitat: using a geographic information system. *Boone and Crockett Club News Journal* 8(4):39-40.
- Bleich, V. C. 1992. Round Valley deer facing long comeback trail. *Tracks* 9:9,15.
- Bleich, V. C. 1990. Status of bighorn sheep in California: a brief synopsis. *Wild Sheep*

13(2):55.

Bleich, V. C. 1988. Distribution and early history of mountain sheep in California. Pages 1-3 *in* B. W. Wilson, editor. California desert bighorn sheep: a guidebook for the hunter. Society for the Conservation of Bighorn sheep, Los Angeles, California.

Bleich, V. C. 1988. Modern management of mountain sheep in California. Pages 4-6 *in* B. W. Wilson, editor. California desert bighorn sheep: a guidebook for the hunter. Society for the Conservation of Bighorn sheep, Los Angeles, California.

Bleich, V. C. 1983. Big game guzzlers and mountain sheep. *Outdoor California* 44(6):10.

Davis, J. H., and V. C. Bleich. 1980. Time-lapse photography: a new focus on wildlife. *Outdoor California* 41(4):7-9.

Coombes, L. J., and V. C. Bleich. 1979. Horizontal wells: the DFG's new slant on water for wildlife. *Outdoor California* 40(3):10-12.

Presentations at Professional Meetings

From 1972 to the present, I have been an author or coauthor of more than 100 presentations at professional meetings. I was selected to present the keynote address, "Ecology of mountain sheep: Ramifications for disease transmission and population persistence" at the April 2007 Workshop on Respiratory Disease in Mountain Sheep: Knowledge Gaps and Future Research held at the University of California, Davis. Details pertaining to these presentations are available upon request.

Grants and Fellowships

During 1973 - 2007, I competed successfully for and received project-specific funding in the amount of \$1,636,247 from internal and external sources. Details of grants and other funding received are available upon request.

Scott Cashen, M.S.

Senior Biologist / Forest Ecologist

3264 Hudson Avenue, Walnut Creek, CA 94597. (925) 256-9185. scottcashen@gmail.com

In his 17 years in the profession, Scott Cashen has consulted on projects pertaining to wildlife and fisheries ecology, avian biology, wetland restoration, and forest management. Because of his varied experience, Mr. Cashen is knowledgeable of the link between the various disciplines of natural resource management, and he is a versatile scientist.

Mr. Cashen's employment experience includes work as an expert witness, wildlife biologist, consulting forester, and instructor of Wildlife Management. He has worked throughout California, and he is knowledgeable of the different terrestrial and aquatic species and habitats present in the state.

Mr. Cashen is an accomplished birder and is able to identify bird species by sight and sound. His knowledge has enabled him to survey birds throughout the United States and instruct others on avian identification. Mr. Cashen's research on avian use of restored wetlands is currently being used by the United States Fish and Wildlife Service to design wetlands for specific "target" species, and as a model for other restored wildlife habitat monitoring projects in Pennsylvania. In addition to his bird experience, Mr. Cashen has surveyed for carnivores, bighorn sheep, and other mammals; special-status amphibian species; and various fish species.

PROFESSIONAL EXPERIENCE

Litigation Support / Expert Witness

Mr. Cashen serves as the biological resources expert for the San Francisco law firm of Adams Broadwell Joseph & Cardozo. He is responsible for reviewing CEQA/NEPA documents, assessing biological resource issues, preparing written comments, providing public testimony, and interfacing with public resource agencies.

REPRESENTATIVE EXPERIENCE

- **Victorville 2 Solar-Gas Hybrid Power Project**: Victorville, CA (338-acre natural gas and solar energy facility) – Review of CEQA equivalent documents and preparation of written documents.
- **Avenal Energy Power Plant**: Avenal, CA (148-acre natural gas facility) – Review of CEQA equivalent documents and preparation of written documents.
- **Ivanpah Solar Electric Generating System**: Ivanpah, CA (3700-acre solar facility) – Review of CEQA equivalent documents and preparation of written documents.
- **Carrizo Energy Solar Farm**: San Luis Obispo County, CA (640-acre solar energy facility) – Review of CEQA equivalent documents. Preparation of data requests, comments on Preliminary Staff Assessment, comments on wildlife corridor model

(CEQA equivalent documents).

- **Live Oak Master Plan**: Hanford, CA (390-acre housing development) – Review of CEQA documents and preparation of comment letter.
- **Rollingwood**: Vallejo, CA (214-unit housing development) – Review of CEQA documents and preparation of comment letter.
- **Columbus Salame**: Fairfield, CA (430,000 ft² food processing plant) – Review of CEQA documents and preparation of comment letter.
- **Concord Naval Weapons Station**: Concord, CA (5028-acre redevelopment) – Review of CEQA documents, preparation of comment letters, and provision of public testimony at County hearings.
- **Chula Vista Bayfront Master Plan**: Chula Vista, CA (556-acre development) – Review of CEQA documents and preparation of comment letter.
- **Beacon Solar Energy Project**: California City, CA (2012-acre solar facility) – Review of CEQA equivalent and NEPA documents. Preparation of data requests, comments on Preliminary Staff Assessment, comments on Incidental Take Permit Application. Expert witness providing testimony at California Energy Commission hearings.
- **Solar One Power Project**: San Bernardino County, CA (8230-acre solar facility) – Review of CEQA equivalent and NEPA documents and preparation of data requests. Expert witness providing testimony at California Energy Commission hearings.
- **Solar Two Power Project**: Imperial County, CA (6500-acre solar facility) – Review of CEQA equivalent and NEPA documents. Preparation of data requests and other documents for case record. Expert witness providing testimony at California Energy Commission hearings.
- **Alves Ranch**: Pittsburgh, CA (320-acre housing development) – Review of CEQA documents.
- **Roddy Ranch**: Antioch, CA (640-acre housing and hotel development) – Review of CEQA documents and preparation of comment letter.
- **Aviano**: Antioch, CA (320-acre housing development) – Review of CEQA documents.
- **Western GeoPower Power Plant and Steamfield**: Geyserville, CA (887-acre geothermal facility) – Review of CEQA documents and preparation of comment letter.
- **Sprint-Nextel Tower**: Walnut Creek, CA (communications tower in open space preserve) - Review of project documents and preparation of comment letter.

Project Management

Mr. Cashen has managed several large-scale and high profile natural resources investigations. High profile projects involving multiple resources often require consideration of differing viewpoints on how resources should be managed, and they are usually subject to intense scrutiny. Mr. Cashen is accustomed to these challenges, and he

is experienced in facilitating the collaborative process to meet project objectives. In addition, the perception of high profile projects can be easily undermined if inexcusable mistakes are made. To prevent this, Mr. Cashen bases his work on solid scientific principles and proven sampling designs. He also solicits input from all project stakeholders, and provides project stakeholders with regular feedback on project progress. Mr. Cashen's educational and project background in several different natural resource disciplines enable him to consult on multiple natural resources simultaneously and address the many facets of contemporary land management in a cost-effective manner.

REPRESENTATIVE EXPERIENCE

- Forest health improvement projects – Biological Resources (*CDF: San Diego and Riverside Counties*)
- San Diego Bark Beetle Tree Removal Project – Biological Resources, Forestry, and Cultural Resources (*San Diego Gas & Electric: San Diego Co.*)
- San Diego Bark Beetle Tree Removal Project - Forestry (*San Diego County/NRCS*)
- Mather Lake Resource Management Study and Plan – Biological Resources, Hydrology, Soils, Recreation, Public Access, CEQA compliance, Historic Use (*Sacramento County: Sacramento*)
- "KV" Spotted Owl and Northern Goshawk Inventory (*USFS: Plumas NF*)
- Amphibian Inventory Project (*USFS: Plumas NF*)
- San Mateo Creek Steelhead Restoration Project – TES species, Habitat Mapping, Hydrology, Invasive Species Eradication, Statistical Analysis (*Trout Unlimited and CA Coastal Conservancy: Orange County*)
- Hillslope Monitoring Project – Forest Practice Research (*CDF: throughout California*)
- Placer County Vernal Pool Study – Plant and Animal Inventory, Statistical Analysis (*Placer County: throughout Placer County*)
- Weidemann Ranch Mitigation Project – Mitigation Monitoring and Environmental Compliance (*Toll Brothers, Inc.: San Ramon*)
- Delta Meadows State Park Special-status Species Inventory – Plant and Animal Species Inventory, Special-status Species (*CA State Parks: Locke*)
- Ion Communities Biological Resource Assessments – Biological Resource Assessments (*Ion Communities: Riverside and San Bernardino Counties*)
- Del Rio Hills Biological Resource Assessment – Biological Resource Assessments (*The Wyro Company: Rio Vista*)

Biological Resources

Mr. Cashen has a diverse background in biology. His experience includes studies of a variety of fish and wildlife species, and work in many of California's ecosystems. Mr. Cashen's specialties include conducting comprehensive biological resource assessments, habitat restoration, species inventories, and scientific investigations. Mr. Cashen has led investigations on several special-status species, including ones focusing on the foothill yellow-legged frog, mountain yellow-legged frog, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, and forest carnivores. Mr. Cashen was responsible for the special-status species inventory of Delta Meadows State Park, and for conducting a research study for Placer County's Natural Community Conservation Plan.

REPRESENTATIVE EXPERIENCE

Avian

- **Study design and Lead Investigator** - Delta Meadows State Park Special-status Species Inventory (*CA State Parks: Locke*)
- **Study design and lead bird surveyor** - Placer County Vernal Pool Study (*Placer County: throughout Placer County*)
- **Surveyor** - Willow flycatcher habitat mapping (*USFS: Plumas NF*)
- **Independent surveyor** - Tolay Creek, Cullinan Ranch, and Guadacanal Village restoration projects (*Ducks Unlimited/USGS: San Pablo Bay*)
- **Study design and Lead Investigator** - Bird use of restored wetlands research (*Pennsylvania Game Commission: throughout Pennsylvania*)
- **Study design and surveyor** - Baseline inventory of bird species at a 400-acre site in Napa County (*HCV Associates: Napa*)
- **Surveyor** - Baseline inventory of bird abundance following diesel spill (*LFR Levine-Fricke: Suisun Bay*)
- **Study design and lead bird surveyor** - Green Valley Creek Riparian Restoration Site (*City of Fairfield: Fairfield, CA*)
- **Surveyor** - Burrowing owl relocation and monitoring of artificial habitat (*US Navy: Dixon, CA*)
- **Surveyor** - Pre-construction raptor and burrowing owl surveys (*various clients and locations*)
- **Surveyor** - Backcountry bird inventory (*National Park Service: Eagle, Alaska*)
- **Lead surveyor** - Tidal salt marsh bird surveys (*Point Reyes Bird Observatory: throughout Bay Area*)

Amphibian

- **Crew Leader** - Red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog surveys (*USFS: Plumas NF*)
- **Surveyor** - Foothill yellow-legged frog surveys (*PG&E: North Fork Feather River*)
- **Surveyor** - Mountain yellow-legged frog surveys (*El Dorado Irrigation District: Desolation Wilderness*)
- **Crew Leader** - Bullfrog eradication (*Trout Unlimited: Cleveland NF*)

Fish and Aquatic Resources

- **Surveyor** - Hardhead minnow and other fish surveys (*USFS: Plumas NF*)
- **Surveyor** - Weber Creek aquatic habitat mapping (*El Dorado Irrigation District: Placerville, CA*)
- **Surveyor** - Green Valley Creek aquatic habitat mapping (*City of Fairfield: Fairfield, CA*)
- **GPS Specialist** - Salmonid spawning habitat mapping (*CDFG: Sacramento River*)
- **Surveyor** - Fish composition and abundance study (*PG&E: Upper North Fork Feather River and Lake Almanor*)
- **Crew Leader** - Surveys of steelhead abundance and habitat use (*CA Coastal Conservancy: Gualala River estuary*)
- **Crew Leader** - Exotic species identification and eradication (*Trout Unlimited: Cleveland NF*)

Mammals

- **Principal Investigator** – Peninsular bighorn sheep resource use and behavior study (*California State Parks: Freeman Properties*)
- **Scientific Advisor** – Red Panda survey and monitoring methods (*The Red Panda Network: CA and Nepal*)
- **Surveyor** - Forest carnivore surveys (*University of CA: Tahoe NF*)
- **Surveyor** - Relocation and monitoring of salt marsh harvest mice and other small mammals (*US Navy: Skagg's Island, CA*)

Natural Resource Investigations / Multiple Species Studies

- **Scientific Review Team Member** – Member of the science review team assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.

- **Lead Consultant** - Baseline biological resource assessments and habitat mapping for CDF management units (*CDF: San Diego, San Bernardino, and Riverside Counties*)
- **Biological Resources Expert** – Peer review of CEQA/NEPA documents (*Adams Broadwell Joseph & Cardoza: California*)
- **Lead Consultant** - Pre- and post harvest biological resource assessments of tree removal sites (*SDG&E: San Diego County*)
- **Crew Leader** - T&E species habitat evaluation for BA in support of a steelhead restoration plan (*Trout Unlimited: Cleveland NF*)
- **Lead Investigator** - Resource Management Study and Plan for Mather Lake Regional Park (*County of Sacramento: Sacramento, CA*)
- **Lead Investigator** - Wrote Biological Resources Assessment for 1,070-acre Alfaro Ranch property (*Yuba County, CA*)
- **Lead Investigator** - Wildlife Strike Hazard Management Plan (*HCV Associates: Napa*)
- **Lead Investigator** - Del Rio Hills Biological Resource Assessment (*The Wyro Company: Rio Vista, CA*)
- **Lead Investigator** – Ion Communities project sites (*Ion Communities: Riverside and San Bernardino Counties*)
- **Surveyor** – Tahoe Pilot Project: CWHR validation (*University of California: Tahoe NF*)

Forestry

Mr. Cashen has five years of experience working as a consulting forester on projects throughout California. During that time, Mr. Cashen has consulted with landowners and timber harvesters on best forest management practices; and he has worked on a variety of forestry tasks including selective tree marking, forest inventory, harvest layout, erosion control, and supervision of logging operations. Mr. Cashen's experience with many different natural resources enable him to provide a holistic approach to forest management, rather than just management of timber resources.

REPRESENTATIVE EXPERIENCE

- **Lead Consultant** - CDF fuels treatment projects (*CDF: San Diego, Riverside, and San Bernardino Counties*)
- **Lead Consultant and supervisor of harvest activities** – San Diego Gas and Electric Bark Beetle Tree Removal Project (*SDG&E: San Diego*)
- **Crew Leader** - Hillslope Monitoring Program (*CDF: throughout California*)
- **Consulting Forester** – Inventory and selective harvest projects (*various clients throughout California*)

EDUCATION / SPECIAL TRAINING

M.S. Wildlife and Fisheries Science, The Pennsylvania State University (1998)

B.S. Resource Management, The University of California-Berkeley (1992)
Forestry Field Program, Meadow Valley, California, Summer (1991)

PERMITS

U.S. Fish and Wildlife Service Section 10(a)(1)(A) Recovery Permit for the Peninsular bighorn sheep

CA Department of Fish and Game Scientific Collecting Permit

PROFESSIONAL ORGANIZATIONS / ASSOCIATIONS

The Wildlife Society

Society of American Foresters

Mt. Diablo Audubon Society

OTHER AFFILIATIONS

Scientific Advisor and Grant Writer – *The Red Panda Network*

Scientific Advisor – *Mt. Diablo Audubon Society*

Grant Writer – *American Conservation Experience*

Land Committee Member – *Save Mt. Diablo*

TEACHING EXPERIENCE

Instructor: Wildlife Management, The Pennsylvania State University, 1998

Teaching Assistant: Ornithology, The Pennsylvania State University, 1996-1997



Specializing in biological & regulatory services

T'SHAKA TOURE
tshaka@toureassociates.com

I've worked in the field of science and have 19 years of diverse experience in research biology with an emphasis in wetland and restoration ecology, open space planning, wildlife monitoring and surveys, and regulatory permitting. I've conducted wildlife studies on ants, aquatic insects, bats, birds, bees, small mammals, amphibians and reptiles. In addition, I've designed, conducted and supervised studies on vernal pools, created ponds and wetlands, environmental assessments, and impacts of urbanization to wildlife populations for open space and urban planning. Prior to my entry into environmental consulting in 2004, I served as a research ecologist for the U.S. Geological Survey (Western Ecological Research Center, San Diego Field Station, Carlsbad Office), where my primary focus was on restoration ecology and developing protocols for monitoring aquatic and terrestrial wildlife populations in fragmented regions of southern California. I've also worked as a museum specialist and principal investigator for the Division of Vertebrate Zoology while at the Smithsonian Institution (Washington, D.C.).

During the last ten years of my career, I have had extensive working experience in the areas of wildlife biology, wetland and vernal pool creation, conservation and restoration ecology, hydrology, hydrogeology, open space planning, jurisdictional delineations, and regulatory permitting. I have a diverse background on working with environmental conservation groups, developers, and urban planners. I've also conducted seminars to instruct and train scientists/biologists employed by state and federal agencies. As a biologist and regulatory specialist, I have a strong background and working knowledge of regulatory issues such as Sections 404 and 401 of the Clean Water Act, Section 1602 Streambed Alteration Agreements, Endangered Species Act, and CEQA/NEPA compliances. My regulatory specialist experience includes training and certification in *Wetland Delineation with Emphasis on Hydric Soils* and *Arid West Supplement Wetland Delineation; Hydrogeological Site Characterization and Monitoring Well Construction; and Stormwater Pollution Prevention for Construction Sites*. In addition, I have working knowledge of the recently implemented EPA and Corps *Clean Water Act Jurisdiction Following Rapanos v. United States* and the northern, central and southern California counties Natural Community Conservation Plan (NCCP) & Habitat Conservation Plan (HCP), western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and several other scientific, biological, and regulatory issues pertaining open space planning and the acquisition of regulatory permits.

My career experience expands working on CEQA/NEPA, Corps, USFWS, CDFG, USGS, city, county, and private sector projects. Your company and/or agency would gain an experienced consulting staff knowledgeable in addressing and resolving a variety of complex to standard environmental issues. I have a positive track record of professional and responsive coordination with city, county, state, and federal agencies to include the private sector in providing technical studies, field research, scientific analysis and recommendations, regulatory permitting, and multi-tasking of projects.

Professional Experience

- Coordination and preparation of regulatory permit applications ranging from Sections 404/401 of the CWA, Section 1602 of CDFG, and CEQA compliant biological assessments. Conducted jurisdictional delineations and *Rapanos v United States* evaluations for preparation and submission to clients, responsible agencies, city municipalities, state and federal regulatory agencies.
- Conducted general and focused biological surveys and provided biological reports such as Biological Technical Reports, Resource Habitat Assessment, Determination of Biologically Equivalent or Superior Preservation (DBESP), and Conceptual Mitigation and Monitoring Plans (CMMP). Conducted field studies and project manager for the implementation of restoration conservation and creation of wetlands, vernal pools, and riparian habitats. Conducted and reviewed studies for aquatic resources to include pond and vernal pool design for amphibians, reptiles, and other wildlife species. Responsibilities included restoration ecology and development of resource management plans for public recreation and hiking, native wildlife species assemblage, eradication and control of nuisance and exotic plant and wildlife species to include, peer-reviewed scientific publications, technical reports, and field guide contributions.
- Coordinated numerous wetland and habitat enhancement-planning protocols with federal, state, and local agencies such as the United States Geological Service (USGS), United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), Maryland Game and Fish Department (MGFD), and non-government environmental groups.
- Supervised and managed restoration and habitat enhancement projects. The geographic areas of responsibility included California, Arizona, Nevada, Utah, Virginia, Washington DC, and Maryland.
- Supervised and trained federal, state, and other agencies natural resource staff of biologists, ecologists, and fisheries in fieldwork sampling and data collection.
- Preparation of environmental documents in the areas of biology, hydrology, and geology (EIR/EIS, scientific publications, popular magazines, technical reports, seminars, and presentations) to include project proposals and budgets.
- Research biologist/museum specialist and principal investigator at the Smithsonian Institution (National Museum of Natural History) Department of Vertebrate Zoology, Division of Mammalogy and Herpetology.
- Participated in numerous consultations and preparation of Biological Opinion pursuant to the Endangered Species Act and Section 7 Consultation.
- Adjunct Professor of Biology at the Rancho Santiago Community College District lecturing in molecular biology, cellular biology, human anatomy/physiology, and general biology.

T'SHAKA TOURÉ [cont.]

Professional History

01/2009 – present	Touré Associates, Fresno, CA. Project Director
12/2007 – 01/2009:	Michael Brandman Associates, Fresno, CA. Project Manager/Regulatory Specialist.
07/2004 – 12/2007:	Glenn Lukos Associates, Inc. Lake Forest, CA. Biologist/Regulatory Specialist
01/2006 – Present:	Rancho Santiago Community College. Orange, CA. Adjunct Professor of Biology
08/2000 – 07/2004:	U.S. Geological Survey, Western Ecological Research Center, San Diego Field Station, Carlsbad Office, Research Ecologist
06/1993 – 08/2000:	Smithsonian Institution, National Museum of Natural History, Washington, D.C., Museum Specialist/Principal Investigator

Education

Master of Science (MS): Biology (Emphasis in Ecology). Howard University, Washington, D.C.

Bachelor of Science (BS): Zoology/Chemistry. Howard University, Washington D.C.

N/A. Zoology/Chemistry Long Beach State University (transfer to Howard Univ.)

Additional Training

- Stormwater Pollution Prevention for Construction Sites. Fresno Metropolitan Flood Control District, 2009.
- Applied Hydrogeological Site Characterization & Monitoring Well Construction. Northwest Environmental Training Center, 2009.
- Arid West Supplement Wetland Delineation. Wetland Training Institute, 2007.
- Wetland Delineation with Emphasis in Hydric Soils. Wetland Training Institute, 2005.
- Boat Navigation and Safety Training. U.S. Geological Survey, 2002.
- Helicopter and Aviation Safety Training. U.S. Geological Survey, 2001.
- Geographical Information Systems (GIS) and PC Arc/Info. Smithsonian Institution, 1994.

Professional Publications

- Touré, T. *et al* 2005. Common Reptiles, pp. 82-87, *In* Schoenherr, A., D. Clarke, and E. Brown. 2005. Docent Guide to Orange County Wilderness, 142 pp.
- Touré, T.A., 2004, Checklist of amphibians and reptiles of Arroyo Seco and Los Angeles River Basin: U.S. Geological Survey Fact Sheet prepared for Los Angeles River–Arroyo Seco Confluence Park Project.
- Touré, T.A., Backlin, A.R., and Fisher, R.N., 2004, Eradication and control of the African clawed frog (*Xenopus laevis*) on Irvine Ranch Land Reserve, Orange County, California, 2003: U.S. Geological Survey Final Report prepared for Irvine Ranch Land Reserve, Irvine, Calif., 31 p.
- Touré, T.A., and Fisher, R.N., 2003, Quarterly Report – African clawed frog, pond turtle and spadefoot toad project: U.S. Geological Survey Technical Report prepared for The Nature Conservancy.
- Touré, T. A. and G. A. Middendorf. 2002. Colonization of herpetofauna to a created wetland. *Bulletin of the Maryland Herpetological Society* 38(4): 99-117.
- Touré, T. A. 2001. A report on the population status and conservation of Rosy boa (*Charina trivirgata*): A two-year study in Anza Borrego State Park and Joshua Tree National Monument, 19 pp.
- Touré, T.A., and Fisher, R.N., 2001, Monitoring program for amphibians and reptiles in the Nature Reserve of Orange County, Summary Report 2001: U.S. Geological Survey Technical Report prepared for Nature Reserve of Orange County, Calif.
- Touré, T. A. 1999. Herpetofauna of a constructed wetland and adjacent forest. Howard University, Washington DC. 20 tbs., 7 figs., 63 pp. [Also catalogued at the Smithsonian, U.S Natural History Museum, Washington, D.C.]
- McDiarmid, R. W., J. C. Campbell, and T. A. Touré. 1999. Snake Species of the World Catalogue. A Geographical and Taxonomic Reference. Volume 1. The Herpetologist' League. Washington, DC. 511 pp.
- McDiarmid, R. W., J. S. Savage, and T. A. Touré. 1997. The proper name of the tropical tree boa (*Hortulanus corallus*). *J. Herpetology* 30(3): 320-326.
- Touré, T. A. 1995. Snakes: Suborder Serpentes, pp. 204-261, *In* Frank, N. and E. Ramus. 1995. A complete guide to scientific and common names of reptiles and amphibians of the world, 377 pp.

T'SHAKA TOURÉ [cont.]

Professional Presentations

- 2007. Wetland and aquatic habitats of Orange County. [Education Series: Donna O'Neill Land Conservancy]
- 2006. Aquatic and riparian restoration ecology. [Seminar: Orange County Natural History Museum/Acorn Naturalist Center]
- 2004. Floral and faunal species conservation and management [Seminar: Santa Ana Park Naturalist Program, Department of Parks and Recreation]
- 2004. Spadefoot toad habitat enhancement training [Education Series: Laguna Coast Wilderness Park]
- 2003. Amphibian management: Concerns and opportunities. [Seminar: Nature Reserve of Orange County]
- 2003. Vernal pool ecology and spadefoot toads (*Spae hammondi*) of Orange County. [Seminar: Orange County Natural History Museum/Acorn Naturalist Center]
- 2003. Long-term monitoring of fragmented habitats in coastal southern California. [George Wright Society and ASIH, annual meeting]
- 2003. Exotic amphibians, current status and possible impacts. [Western Division of the American Fisheries Society, annual meeting]
- 2002. What's a herp? [Education Lecture Series: The Nature Conservancy of Orange County]
- 2001. Vertebrate abundance and diversity in fragmented habitats of coastal southern California. [Society for Conservation Biology, annual meeting]
- 2000. Constructed wetland and its ability to sustain amphibian and reptile populations. [Society of Wetland Scientists, annual meeting]
- 2000. Herpetofauna of a constructed wetland and adjacent forest. [ASIH, annual meeting]
- 2000. Reptiles and amphibians of the Sands Road Wetland Sanctuary. [ASIH, annual meeting]
- 1996. Snake species of the world: A taxonomic view. [ASIH, annual meeting]

Professional Affiliations

Association of Environmental Professionals
American Society of Ichthyologists and Herpetologists
Herpetologist League
Partners in Amphibian and Reptile Conservation
Declining Amphibian Task Force
Society of Conservation Biology
Society of Wetland Scientist
Southern California Wetland Recovery Project

Awards

- 2000. U.S. Geological Survey, Scientific Achievement Award, Patuxent Wildlife Research Center, Maryland
- 1999. Smithsonian Institution Libraries, Distinguished Subject Award
- 1998. Graduate Symposium Award, Howard University
- 1990. Smithsonian Tropical Research Institution, Research Internship Award, Republic of Panama

Professional Job References

Robert Francisco, Michael Brandman Associates, Vice-President (619) 764-9934
Tony Bomkamp, Glenn Lukos Associates, Senior Regulatory Specialist (949) 837-0404
Trish Smith, The Nature Conservancy, Senior Project Ecologist (714) 955-2810
Dr. Robert Fisher, USGS San Diego Field Station, Research Zoologist (619) 225-6436
Dr. Roy McDiarmid, Smithsonian Institution Museum of Natural History (202) 357-2778



Technical Consultation, Data Analysis and
Litigation Support for the Environment

2503 Eastbluff Dr.
Suite 206
Newport Beach, California 92660
Tel: (949) 887-9013
Fax: (949) 717-0069
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G.

**Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Regulatory Compliance
CEQA Review
Expert Witness**

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certification:

California Professional Geologist, License Number 8571.

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 – 2003);
- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);

- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Lead analyst in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Lead analyst in the review of environmental issues in applications before the California Energy Commission.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of

wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.

- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and Hagemann, M., 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and Hagemann, M.F. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukunaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

DECLARATION OF SERVICE
Blythe Solar Power Plant Project

Docket No. 09-AFC-6

I, Bonnie Heeley, declare that on June 16, 2010, I served and filed copies of the attached **PREHEARING CONFERENCE STATEMENT BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY FOR THE BLYTHE SOLAR POWER PROJECT** dated June 16, 2010. The original document, filed with the Docket Office, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
http://www.energy.ca.gov/sitingcases/solar_millennium_blythe/index.html.

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Office via email and U.S. mail as addressed below:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.
Executed at South San Francisco, California on June 16, 2010.

/s/

Bonnie Heeley

CALIFORNIA ENERGY COMMISSION Attn: Docket No. 09AFC6 1516 Ninth Street, MS4 Sacramento, CA 95814-5512 docket@energy.state.ca.us	Alice Harron Senior Director-Project Dvlpmnt 1625 Shattuck Ave., #270 Berkeley, CA 94709-1161 harron@solarmillennium.com	Elizabeth Ingram, Associate Dvlpr Solar Millennium, LLC 1625 Shattuck Avenue Berkeley, CA 94709 ingram@solarmillennium.com
Carl Lindner AECOM Project Manager 1220 Avenida Acaso Camarillo, CA 93012 Carl.lindner@aecom.com	Scott Galati, Esq. Galati/Blek, LLP 455 Capitol Mall, #350 Sacramento, CA 95814 sgalati@gb-llp.com	Peter Weiner/Matthew Sanders Paul Hastings Janofsky & Walker LLP 55 2 nd Street, #2400-3441 San Francisco, CA 94105 peterweiner@paulhastings.com matthewsanders@paulhastings.com

<p>California ISO e-recipient@caiso.com VIA EMAIL ONLY</p>	<p>Holly L. Roberts, Project Mngr Bureau of Land Management Palm Springs-So. Coast Field Off. 1201 Bird Center Drive Palm Springs, CA 92262 CAPSSolarBlythe@blm.gov</p>	<p>California Unions for Reliable Energy E. Klebaner / T.Gulesserain / MDJoseph Adams Broadwell Joseph & Cardozo 601 Gateway Blvd., #1000 South San Francisco, CA 94080 tgulesserian@adamsbroadwell.com eklebaner@adamsbroadwell.com</p>
<p>Karen Douglas Chairman/Presiding Member California Energy Commission 1516 Ninth Street Sacramento, CA 95814 kldougl@energy.state.ca.us</p>	<p>Robert Weisenmiller Commissioner-Assoc. Member California Energy Commission 1516 Ninth Street Sacramento, CA 95814 rweisenm@energy.state.ca.us</p>	<p>Raoul Renaud Hearing Officer California Energy Commission 1516 Ninth Street Sacramento, CA 95814 rrenaud@energy.state.ca.us</p>
<p>Alan Solomon Siting Project Manager California Energy Commission 1516 Ninth Street Sacramento, CA 95814 asolomon@energy.state.ca.us</p>	<p>Lisa DeCarlo, Staff Counsel California Energy Commission 1516 Ninth Street Sacramento, CA 95814 ldecarlo@energy.state.ca.us</p>	<p>Jennifer Jennings Public Adviser's Office California Energy Commission 1516 Ninth Street Sacramento, CA 95814 publicadviser@energy.state.ca.us</p>
<p>Ram Ambatipudi Chevron Energy Solutions 150 E. Colorado Blvd., Ste. 360 Pasadena, CA 91105 rambatipudi@chevron.com</p>		