

ELECTRONICALLY FILEDSuperior Court of California,
County of Alameda**09/30/2024 at 10:11:44 AM**By: Darnekia Oliver,
Deputy Clerk

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Attorney for Plaintiff
 Timothy James Dummer

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF ALAMEDA

Timothy James Dummer,
 Petitioner/Plaintiff,

v.

CITY AND COUNTY OF SAN FRANCISCO;
 DENNIS HERRERA, in his official capacity as
 General Manager of SAN FRANCISCO
 PUBLIC UTILITIES COMMISSION;
 STEVEN RITCHIE, in his official capacity as
 Director and Manager of HETCH HETCHY
 ENTERPRISE; and DOES 1 through 10
 inclusive,

Respondents/Defendants.

Case Number: 23CV036826

**Declaration of Professor Karrigan S.
 Bork, JD, Ph.D in Support of Plaintiff's
 Petition for Writ of Mandamus and
 Complaint for Relief**

Trial Date: November 12, 2024
 Hearing Time: 10am
 Department: 23
 Judge: Hon. Tara Desautels

Action Filed: June 22, 2023

Reservation Number: A-36826-001

I, Karrigan S. Bork, JD, Ph.D, hereby declare:

1. I have personal knowledge of the matters stated herein, and if called as a witness
 could and would testify competently regarding these matters.

My Professional Qualifications To Serve As An Expert

2. I was asked by the Plaintiff to investigate and provide an expert opinion, as a fishing
 access expert, relating to access issues on the Calaveras Reservoir, under the control of the San

Dummer v. CCSF, et al.

Expert Declaration by Karrigan S. Bork, JD, Ph.D

1 Francisco Public Utilities Commission (SFPUC). I conclude that the proposed plan, which would
 2 open roughly ~0.3% of the lake's shoreline for fishing access, is far outside the mainstream of the
 3 drinking water reservoir fishing access plans I have reviewed.

4 3. Attached as Exhibit 1 is a true and correct copy of my CV. In 2002, I earned a B.S.
 5 in Biodiversity, Ecology, and Evolutionary Biology (with Distinction and Departmental Honors)
 6 and a B.A. in Environmental Policy (Distinction, College Honors) from the University of Kansas.
 7 After working on environmental issues at the Office of the Secretary in the U.S. Department of
 8 Transportation, I earned a law degree with distinction at Stanford Law School in 2009 and a Ph.D.
 9 in Ecology at UC Davis in 2011. I received the Shapiro Family Award as the outstanding UC Davis
 10 Ph.D. graduate in Ecology.

11 4. After my graduate studies, I served as a law clerk to three judges over four years.
 12 While clerking, I taught undergraduate environmental law at the University of Kansas (Summer/Fall
 13 2014). I then taught as a visiting professor at the University of the Pacific (2015-19), splitting my
 14 time between the Department of Geological and Environmental Sciences and the McGeorge School
 15 of Law. I also taught water law in the UC Davis Department of Land, Air, and Water Resources
 16 (Winter 2018/2019).

17 5. Since 2019, I have been a professor at the UC Davis School of Law, and I am
 18 currently serving as Interim Director at the UC Davis Center for Watershed Sciences and Co-
 19 director of the UC Davis Center for Environmental Law and Policy. I am an author or coauthor of
 20 roughly 25 law review articles and many science articles, including the leading article on fishing
 21 access in California, *California's Constitutional Right to Fish*, 51 ENVTL. L. 1085 (2022) (published
 22 with Francis Coats). My work on California's constitutional fishing right involved reviewing
 23 California fishing access cases and their outcomes, and through that work and preparing for this
 24 declaration, I have familiarized myself with a variety of recreational access programs at California
 25 lakes, making me well qualified to offer this declaration.

26 //

27 //

28
Dummer v. CCSF, et al.
 Expert Declaration by Karrigan S. Bork, JD, Ph.D

Documents Relied upon for Expert Testimony

6. The Plaintiff's lawyer provided me these documents that I reviewed and relied upon for my opinion in this matter:

- **Document 1** – (August 2020) CEQA Negative Declaration by California Fish and Game Commission allowing fishing at Calaveras Reservoir. (Exhibit 1 to Mr. Ritchie's deposition).
- **Document 2** - (January 21, 2022) Plaintiff wins Court order to start opening reservoir for fishing. (Exhibit 3 to Mr. Ramirez's deposition)
- **Document 3** - (July 12, 2022) City responds in Commission to Document 2 by proposing plan to stall and block or limit fishing. (Exhibit 4 to Mr. Ramirez's deposition)
- **Document 4** - (August 8, 2022) City responds in Court to Document 2.
- **Document 5** - (September 16, 2022) Court closes first case in response to Document 3 and suggests new litigation will be necessary.
- **Document 6** - (June 22, 2023) Mr. Dummer's Verified Petition, New litigation filed as suggested by the Court in Document 5.
- **Document 7** - (July 25, 2023) Memorandum from SFPUC Manager to limit public access for fishing. (Exhibit 14 to Mr. Ramirez's deposition)
- **Document 8** - (November 14, 2023) City discovery responses Set One on reservoir referring to Document 3.
- **Document 9** – (2024-25) California Freshwater Sport Fishing Regulations allowing fishing at Calaveras Reservoir. (Exhibit 11 to Mr. Ramirez's deposition)
- **Deposition videos** – Defendants' witnesses Steven Ritchie, Timothy Ramirez, Richard Duffey, and Julie Moore.

I. SCOPE OF OPINION

7. This declaration focuses on determining whether the proposed fishing access plan for Calaveras reservoir adequately accommodates Californian's right to fish, based on a comparison with fishing access at several other California drinking water reservoirs.

II. INTRODUCTION TO DRINKING WATER RESERVOIR ACCESS

8. California recognizes “a duty to provide access to the public for fishing under article I, section 25 of the California Constitution and under section 5943 of the Fish and Game Code.”¹

9. The California Code, Health and Safety Code (HSC) also declares it “the policy of this state that multiple use should be made of all public water within the state, to the extent that multiple use is consistent with public health and public safety;” those multiple uses include fishing and other recreational use.² Finally, HSC § 117040 provides that “A city, city and county, district or other public agency, owning or operating a reservoir used for domestic or drinking water purposes, may open to public fishing all or any part of the reservoir and its surrounding land.” The California Supreme Court has ruled that these obligations create a duty to provide a fishing program that includes adequate protection for drinking water quality at state drinking water reservoirs.³

10. HSC § 117045 provides that “Before the reservoir and its surrounding land are opened to public fishing, the public agency owning or operating the reservoir shall determine that the public fishing will not affect the purity and safety for drinking and domestic purposes of the water collected in the reservoir, and shall obtain from the department a valid water supply permit setting forth the terms and conditions upon which public fishing may be conducted in the reservoir and on its surrounding land.” The process of obtaining the required permit is governed by Cal. Code

¹ *State of California v. San Luis Obispo Sportsman's Assn.*, 22 Cal. 3d 440, 452–53, 584 P.2d 1088, 1095 (1978), citing Cal. Const. art. I, § 25 (“The people shall have the right to fish upon and from the public lands of the State and in the waters thereof, excepting upon lands set aside for fish hatcheries...”); and Cal. Fish & Game Code § 5943(a) (“The owner of a dam shall accord to the public for the purpose of fishing, the right of access to the waters impounded by the dam during the open season for the taking of fish in the stream or river, subject to the regulations of the commission.”). *Golden Feather Cmty. Assn. v. Thermalito Irrigation Dist.*, 209 Cal. App. 3d 1276, 1287, 257 Cal. Rptr. 836, 844 (1989) (“Fish and Game Code section 5943 gives the public the right of access to impounded water for fishing...”).

² HSC § 115825. See also Cal. Code Regs. tit. 23, § 781 (“In compliance with Fish and Game Code Section 5943, all permits for storage of water on a stream naturally frequented by fish shall require the permittee to accord to the public, for the purpose of fishing, reasonable right of access to the waters impounded by the dam under the permit during the open season for the taking of fish, subject to the regulations of the Fish and Game Commission and, for domestic water supply reservoirs, subject to applicable public health requirements contained in Title 17 of the California Administrative Code.”); 1970 Cal. AG LEXIS 22.

³ *State of California v. San Luis Obispo Sportsman's Assn.*, 22 Cal. 3d 440, 452–53, 584 P.2d 1088, 1095 (1978).

1 Regs. tit. 17, § 7626. California regulations also provide that “When the State Board finds that the
 2 intended recreational use will not render the water supply as delivered to the consumers impure,
 3 unwholesome or unpotable, permit for such use will be issued.”⁴ Taken together, these
 4 constitutional rights, statutes, and regulations create a requirement that drinking water reservoirs be
 5 open to the public for fishing and provide a mechanism for those managing such reservoirs to safely
 6 comply with this requirement.

7 11. Many drinking water reservoirs have approved Reservoir Recreational Programs and
 8 Domestic Water Supply Permits that allow recreational use, including fishing and boating, under
 9 these regulations. Unfortunately, there does not appear to be a comprehensive, publicly available
 10 list of drinking water reservoirs in California, or of the recreational uses allowed on those
 11 reservoirs. I have requested that information from State Water Resources Control Board (SWRCB)
 12 staff, but the information is not well organized, especially for older recreational plans, and the state
 13 has not been able to produce much of that information, with the notable exception of a 2018 update
 14 to the City of San Diego’s reservoir recreational access programs. Absent such a comprehensive
 15 list, I have reviewed the fishing access plan at Calaveras Reservoir and compared it to the fishing
 16 access at a variety of other drinking water reservoirs across the state. I also note that there is a draft
 17 “Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply
 18 Reservoirs,” written by the SWRCB Division of Drinking Water (Division) in 2000 but never
 19 finalized, and the Division appears to currently be using those draft guidelines to evaluate new or
 20 amended Reservoir Recreational Programs and any necessary changes to Domestic Water Supply
 21 Permits to accommodate those programs.⁵

22
 23 ⁴ Cal. Code Regs. tit. 17, § 7629 (“Subject to the State Board findings the following types of
 24 domestic water supply reservoirs may be used for recreational purposes: (1) Reservoirs from which
 25 water is continuously and reliably treated by filtration and chlorination; provided that for smaller
 26 water systems, under special circumstances satisfactory to the State Board, approved dual
 27 chlorination may be acceptable.”).

28 ⁵ See https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/reservoirguidelines-draft-11-15-00.pdf and August 27, 2018 approval of PERMIT AMENDMENT: UPDATES TO RESERVOIR RECREATIONAL PROGRAM, letter sent from Sean Sterchi,

III. COMPARISON TO OTHER DRINKING WATER RESERVOIR ACCESS PLANS

A. Calaveras Reservoir

12. The proposed plan for fishing access at Calaveras Reservoir is laid out in some detail in the July 12, 2022 SFPUC Agenda Item titled “Determination for Limited Public Fishing Access at Calaveras Reservoir and Authorization to proceed with a Calaveras Reservoir Public Fishing Access Project,” with an accompanying map. The proposed plan would allow limited public access under a reservation system, occurring on 3-5 days during the week (including weekends). No boating would be allowed, and the shoreline access would be limited to roughly 450 linear feet of shoreline near an existing boat ramp used by the SFPUC staff. The lake itself is large, with an area of about 1,450 surface acres, depending on water level. The total storage capacity is 96,850 acre-feet (AF). The shoreline length also varies with water level, but when the lake is full, the shoreline measures about 25.8 miles, equivalent to 136,224 linear feet.⁶ The proposed fishing plan would open about 0.3% of the shoreline for fishing access.⁷ The plan would require reservations, available to an as-yet-undetermined number of anglers. The publicly available documents do not provide information on how SFPUC staff determined how much of the reservoir could be safely opened.

13. The water stored at Calaveras Reservoir appears to undergo extensive treatment before delivery to end users. The Sunol Valley Water Treatment Plant, which treats the Calaveras Reservoir water, uses coagulation and flocculation, sedimentation, filtration, disinfection using chlorine/chloramine and either has recently added ozone treatment as a primary disinfection step or is still in the design phase for adding ozone treatment.⁸ Although I am not an expert on water treatment, this appears to be a fairly standard method of water treatment, used on waters from a wide variety of sources throughout California.⁹

⁶ District Engineer for the Division, to Vic Bienes, Interim Public Utilities Director, City of San Diego (hereinafter “San Diego Approval Letter”).

⁷ San Francisco Public Utilities Commission, Calaveras Dam replacement project: draft environmental impact report 4.4-107 (2009).

⁸ 450 feet/136224 feet = 0.3%

⁹ https://sfpuc.org/sites/default/files/documents/WaterTreatmentProcess_FactSheet_2023.pdf

<https://www.watereducation.org/aquapedia/surface-water-treatment>

B. Hetch Hetchy Reservoir

14. Like Calaveras Reservoir, Hetch Hetchy Reservoir is a drinking water reservoir managed by the San Francisco Public Utilities Commission as a source of drinking water for the San Francisco Bay Area. Because of the pristine nature of the watershed, water from Hetch Hetchy requires less treatment; it is not filtered,¹⁰ but it is “disinfected using a modern ultraviolet light system and sodium hypochlorite (chlorine) at the Tesla Treatment Facility (TTF).¹¹

15. Hetch Hetchy has a surface area of roughly 1,900 acres.¹² Access to the lake is limited, because “the road to Hetch Hetchy is open only during daylight hours, from sunrise to sunset,”¹³ but hiking and camping is allowed in areas near the lake within the watershed,¹⁴ making the reservoir accessible most of the time. Fishing is allowed year-round,¹⁵ from any point on the shoreline,¹⁶ swimming and boating are prohibited.¹⁷

16. Hetch Hetchy reservoir is visible online through Google Maps, and shows that fishing access to the reservoir includes narrow roads, makeshift trails, steep hills, mixed terrain, limited parking, and almost exclusively unimproved fishing access in its natural condition.

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¹⁰ *Id.*

¹¹ https://sfpuc.org/sites/default/files/documents/WaterTreatmentProcess_FactSheet_2023.pdf

¹² Hastings Law Journal, Hetch Hetchy: To Drain or Not to Drain, 57 Hastings L.J. 1261, 1277 (2006), available at: https://repository.uchastings.edu/hastings_law_journal/vol57/iss6/7.

¹³ <https://www.nps.gov/yose/planyourvisit/hh.htm>

¹⁴ Steven Ritchie, Assistant General Manager for Water, Hetch Hetchy Regional Water System, SFPUC Comment Letter, Statewide Mercury Policy and Control Program, March 30, 2012

¹⁵ <https://www.nps.gov/places/000/hetch-hetchy-reservoir-oshaugnessy-dam.htm>

¹⁶ Steven Ritchie, Assistant General Manager for Water, Hetch Hetchy Regional Water System, SFPUC Comment Letter, Statewide Mercury Policy and Control Program, March 30, 2012

¹⁷ *Id.*



C. Whale Rock Reservoir

17. Whale Rock Reservoir was the subject of *State of California v. San Luis Obispo Sportsman's Assn.*, 22 Cal. 3d 440 (1978), where a California Supreme Court ultimately required that a fishing access program be established on the drinking water reservoir. The water from the reservoir is treated using pre-ozonation followed by coagulation, ballasted flocculation, filtration, post-chlorination and stabilization.¹⁸ The lake supplies water for San Luis Obispo, among other users.

18. The Whale Rock Reservoir Commission allows fishing year round at the reservoir, although access “will be closed during significant rain events due to muddy trail conditions.”¹⁹ The Commission does not allow watercraft on the lake, and the lake is open daily from 6 AM till 7PM.²⁰ The San Luis Obispo city website, which provides most of the publicly available information about the lake, notes that “Whale Rock Reservoir has limited access to the south shore for hiking and fishing from the shore,”²¹ including roughly 1.5 miles of easy access to the

¹⁸ <https://www.slocity.org/government/department-directory/utilities-department/water/water-treatment/water-treatment-process>

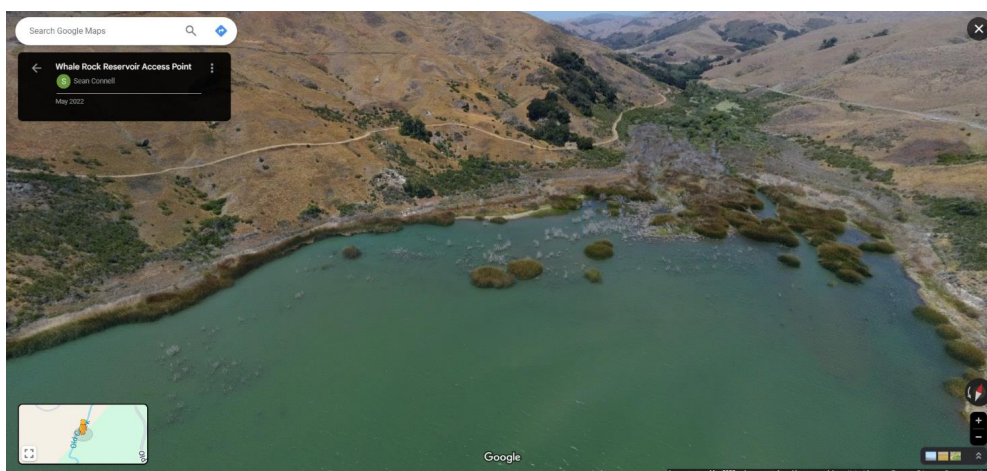
¹⁹ <https://www.slocity.org/government/department-directory/utilities-department/water/water-sources/whale-rock-reservoir>

²⁰ <https://www.slocity.org/government/department-directory/utilities-department/water/water-sources/whale-rock-reservoir>

²¹ <https://www.slocity.org/government/department-directory/utilities-department/water/water-sources/whale-rock-reservoir>

lake.²² This is approximately 23% of the shoreline.²³ The area within 1,000 feet of the dam is closed, both on water and on the shore. The lake does not appear to allow swimming. Facilities include 13 vault-type toilets.

19. Whale Rock reservoir is also visible online through Google Maps, and also reveals that the fishing access is almost exclusively unimproved access in its natural condition with thick brush, narrow paths, and steep terrain.



D. Salinas Reservoir (Santa Margarita Lake)

20. San Luis Obispo also obtains water from Salinas Reservoir, another domestic water supply reservoir.²⁴ As with the Whale Rock Reservoir, the water is treated using pre-ozonation followed by coagulation, ballasted flocculation, filtration, post-chlorination and stabilization.²⁵

21. The reservoir allows non-contact water sports (boating and fishing), and hiking and picnicking is encouraged in the watershed.²⁶ The reservoir area supports 60 campsites and offers 4

²² Email from Noah Evans, Whale Rock Supervisor, City of San Luis Obispo, June 6, 2024.

²³ https://www.gpsnauticalcharts.com/main/us_aa_ca_whale_rock_reservoir_ca-whale-rock-reservoir-nautical-chart.html

²⁴ <https://www.slocity.org/government/department-directory/utilities-department/water/water-sources/salinas-reservoir>

²⁵ <https://www.slocity.org/government/department-directory/utilities-department/water/water-treatment/water-treatment-process>

²⁶ <https://slocountyparks.com/camp/santa-margarita-lake/>

vault, 11 chemical, and 8 flush toilets.²⁷ I found no restrictions on shoreline or other access for fishing, although there may be restrictions on access near the dam that are not well publicized.

22. Salinas Reservoir is also visible online through Google Maps and again provides almost exclusively unimproved fishing access in its natural condition.



E. Lake Hennessey

23. Lake Hennessey supplies most of the local water for the City of Napa.²⁸ At a distance of 13 miles from the city of Napa, Lake Hennessey is located close to major urban centers. The lake has a surface area of 850 acres.²⁹ Water from the lake is treated via “flash mixing, coagulation, flocculation, sedimentation, filtration, and disinfection.”³⁰

24. Lake Hennessey supports a robust recreational program. The lake allows both fishing and boating, although swimming and other bodily contact with the water are not allowed.³¹ Use of the lake is limited to daylight hours, and fishing is restricted near the water intake. There do not appear to be other shoreline access limitations, and there do not appear to be limits on the number of daily or yearly users of the lake. Napa allows the use of canoes, kayaks,

²⁷ <https://slocountyparks.com/camp/santa-margarita-lake/>

²⁸ <https://www.cityofnapa.org/888/Lake-Hennessey>

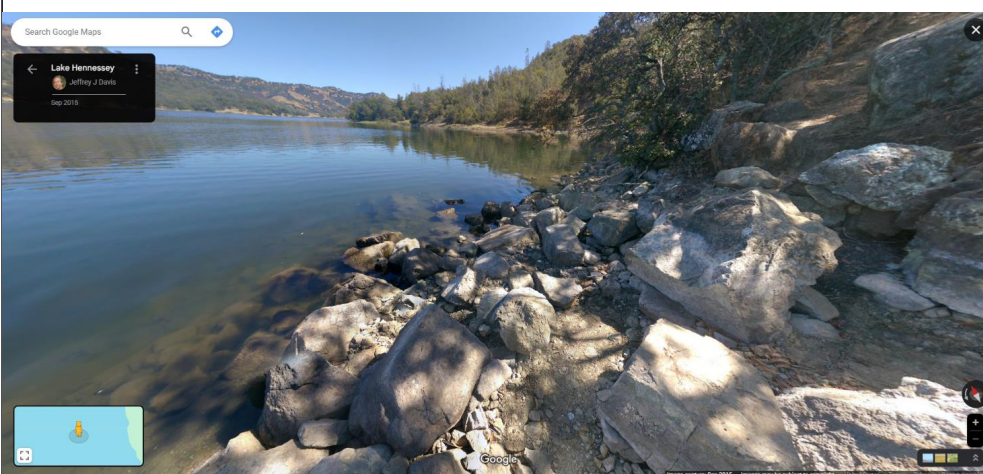
²⁹ <https://wildlife.ca.gov/Fishing-in-the-City/SF/Gofish/Northeast>

³⁰ <https://www.cityofnapa.org/888/Lake-Hennessey>

³¹ <https://www.cityofnapa.org/580/Lake-Hennessey-Boating-Fishing>

and boats with motors up to 10 horsepower on the lake. Camping is not permitted. The city charges daily or annual fees for both fishing (*\$1 per day or \$5 per year*) and boating (*\$4 per day or \$25 per year*).³² More detailed regulations are available on the Napa city website.³³

25. Lake Hennessey is also visible online through Google Maps, and like the other reservoirs, it also has steep terrain, narrow paths, thick brush, and almost exclusively unimproved fishing access in its natural condition.



F. City of San Diego Reservoirs

26. I reviewed a permit approval from the SWRCB Division of Drinking Water (Division), issued to the City of San Diego on August 27, 2018.³⁴ Although the application was to revise the city's Reservoir Recreational Program to add stand up paddle boarding and sailboarding, the review provides some information on the broader recreational access and provides an example of the Division's review of Reservoir Recreational Program. The Division is currently using standards laid in 2000 in a draft document titled "Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply Reservoirs," although that document has not been finalized. The Division also approved some deviations down from the Guidelines in the San

³² <https://www.cityofnapa.org/580/Lake-Hennessey-Boating-Fishing>

³³ <https://www.cityofnapa.org/DocumentCenter/View/1224/Fishing-Regulations-PDF?bidId=>

³⁴ San Diego Approval Letter at 1.

Diego Approval Letter.³⁵ The water in the reservoirs is treated through disinfection with either ozone or chlorine dioxide for primary disinfection, then coagulation, flocculation, sedimentation and sand/multimedia filtration.³⁶

27. The City of San Diego supports a robust recreational program across at least nine reservoirs (see Fig. 1). The reservoirs range in size from just under 5,000 AF to well over 240,000 AF, and are located near major urban areas in and around San Diego. The reservoirs support partial body contact recreation (in some cases), boating, fishing, hunting, and other uses. The reservoirs have a wide range of access policies, from Barrett Reservoir's reservation requirement³⁷ to the several reservoirs that are generally open for use (including fishing) at any time. One reservoir, Lower Otay, hosts the United States Olympic Training Center for rowing sports.³⁸ Beyond the large number of users allowed under the limits in Figure 1, several of the reservoirs host community events throughout the year, further increasing their visitations.³⁹ In spite of the heavy usage, the Division found that "Overall the City's recreation program is well managed and operated and does not appear to be having an adverse effect on water quality in any of its reservoirs."⁴⁰

Reservoir	Storage Capacity (AF)	Limited Body Contact Visitors (annual)	Boats (daily)	Vehicles (daily)	Total Visitors (daily)
Barrett	34,805	NA	25	75	200
El Capitan	112,806	48,867	130	185	625
Hodges	30,251	14,138	185	245	850
Lower Otay	47,066	NA	120	175	590
Miramar	6,682	NA	40	210	500
Morena	50,694	NA	31	325	945
Murray	4,684	NA	35	280	625
San Vicente	242,000	109,411	250	280	1050
Sutherland	29,508	NA	60	110	240

³⁵ San Diego Approval Letter at 1.

³⁶ https://www.sandiego.gov/sites/default/files/water_treatment_plants_fact_sheet.pdf

³⁷ <https://www.sandiego.gov/reservoirs-lakes/barrett-reservoir>

³⁸ <https://www.sandiego.gov/reservoirs-lakes/lower-otay-reservoir>

³⁹ San Diego Approval Letter at 1.

⁴⁰ San Diego Approval Letter at 1.

Figure 1. San Diego City Lake - Sizes and Approved Uses

G. Modesto Reservoir

28. Unlike the other reservoirs in this list, Modesto Reservoir is not solely a drinking water reservoir; it is a multi-use reservoir operated by the Modesto Irrigation District, and the water is used for irrigation, drinking water, industrial uses, and other purposes. Water from the reservoir is treated at the Modesto Regional Water Treatment Plant, using pre-ozonation followed by coagulation, optional prechlorination, flocculation, sedimentation, gravity filtration, post-chlorination, and stabilization.⁴¹ I included Modesto Reservoir to show a point of comparison outside of the drinking water reservoir context, because the reservoir's water is still used for drinking water purposes.

29. The lake allows boating, skiing, camping, and fishing (almost) everywhere, with the area near the water intake the sole area closed to fishing.⁴² The lake is open year round, although use of the boat ramp is limited to 6 am to sunset.⁴³ The lake does not allow pets or gasoline containers, in order "to preserve the reservoir's water,"⁴⁴ but motor boats are allowed on the lake. Full body contact recreation is also permitted on the lake. Most lakes in California are multi-use lakes like this (Lake Tahoe, Shasta Lake, Lake Oroville, Lake Delvalle, Lake McClure, Bethany Reservoir, etc.), and virtually all of them allow the same broad range of recreational activities.

IV. CONCLUSIONS

30. I reviewed the fishing access for these seven lakes. I note that information is available on other lakes, like Diamond Valley Lake (a drinking water reservoir operated by the Metropolitan Water District of Southern California, which allows extensive fishing and boating),⁴⁵ Sweetwater and Loveland Reservoirs (drinking water reservoirs allowing fishing and horseback

⁴¹ <https://www.modestogov.com/DocumentCenter/View/1651/Modesto-Consumer-Confidence-Reports-PDF>

⁴² https://www.stancountyparks.com/_files/ugd/1cbe94_43131823800e4cd4a172602fc7b8b47d.pdf

⁴³ *Id.*

⁴⁴ <https://www.stancountyparks.com/modesto-reservoir>

⁴⁵ https://www.mwdh2o.com/media/vbhdgtat/2024_dvl-fact-sheet_final-for-web.pdf

riding, among other activities),⁴⁶ and Nacimiento Reservoir (another reservoir used for drinking water which allows extensive fishing and boating),⁴⁷ but I have not researched lakes beyond the seven here in any detail.

31. I've highlighted these seven lakes, Calaveras Reservoir plus six reservoirs for comparison, to provide an array of lakes of different sizes, uses, and locations relative to population centers, and based on the availability of information about their fishing programs.

32. My review of these fishing access programs shows that SFPUC's access plan for the Calaveras Reservoir provides far less access than is the norm and less than what has been safely accommodated in other cases. The plan offers only a very short stretch of shoreline for public fishing, roughly ~0.3% of the lake's shoreline, far less than that allowed on any other reservoir. Most reservoirs have no shoreline access restrictions, except for locations around the dam and around water intakes. There does not appear to be anything unique about the Calaveras Reservoir that would justify this restriction.

33. SFPUC's own reservoir, Hetch Hetchy, offers more fishing access in spite of the less protective drinking water treatment process used for Hetch Hetchy water. It is unclear why water safety concerns would require SFPUC to allow less access to Calaveras Reservoir than to Hetch Hetchy, given that Calaveras Reservoir's water receives more extensive treatment.

34. The City of San Diego also provide several examples of reservoirs that are both larger and smaller than Calaveras, and that accommodate extensive boating and fishing. The SWRCB Division of Drinking Water recently approved this level of access and found that it had not negatively impacts the safety of the water supply. There is no indication in the publicly available

⁴⁶ STATE OF CALIFORNIA DOMESTIC WATER SUPPLY PERMIT

Issued To Sweetwater Authority

Public Water System No. 3710025

By The California Department of Health Services,

Division of Drinking Water & Environmental Management Branch

PERMIT NUMBER 05-14-03P-012 DATE: December 31, 2003

⁴⁷ <https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Water-Resources/Watershed-Sanitary-Surveys/Nacimiento-Watershed-Sanitary-Survey-2011.pdf>

1 materials that explain how San Diego can safely offer this level of access while SFPUC is unable to
2 accommodate similar use of Calaveras Reservoir.

3 35. SFPUC's public statements about the fishing access program do not explain these
4 limitations, and nothing I have reviewed in the record in this case appears to support them. Given
5 that it is "the policy of this state that multiple use should be made of all public water within the
6 state, to the extent that multiple use is consistent with public health and public safety," and that
7 those multiple uses include fishing and other recreational use,⁴⁸ I do not see how this plan allows
8 fishing use of the Calaveras Reservoir to the extent that it is consistent with public health and public
9 safety. Based on my expertise and my review of other reservoirs across the state, Calaveras
10 Reservoir should be able to accommodate much more fishing access, including boating access,
11 without that use being inconsistent with public health and public safety.

12 I declare under penalty of perjury under the laws of the State of California that the foregoing
13 is true and correct. Executed in Davis, California.

14 
15 _____ 9/12/2024
Karrigan S. Bork, JD, Ph.D Date

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24 ⁴⁸ HSC § 115825. See also Cal. Code Regs. tit. 23, § 781 ("In compliance with Fish and Game Code
25 Section 5943, all permits for storage of water on a stream naturally frequented by fish shall require
26 the permittee to accord to the public, for the purpose of fishing, reasonable right of access to the
27 waters impounded by the dam under the permit during the open season for the taking of fish, subject
28 to the regulations of the Fish and Game Commission and, for domestic water supply reservoirs,
subject to applicable public health requirements contained in Title 17 of the California
Administrative Code."); 1970 Cal. AG LEXIS 22.

Exhibit 1

Karrigan S. Börk

University of California, Davis, School of Law, 400 Mrak Hall Drive, Davis, CA 95616-5201
ksbork@ucdavis.edu, 202-271-9392

ACADEMIC/TEACHING EXPERIENCE

THE UNIVERSITY OF CALIFORNIA, DAVIS	Davis, CA
<i>Professor of Law, King Hall</i>	July 2024 - Pres.
<i>Interim Director, Center for Watershed Sciences</i>	Mar. 2024 - Pres.
<i>Co-Director, California Environmental Law and Policy Center (CELPC)</i>	Jan. 2024 - Pres.
<i>Martin Luther King Jr. Hall Research Scholar</i>	July 2019 - Pres.

Design and teach courses for UC Davis Law students (Property, Water Law, Environmental Law, Environmental Externship, Biodiversity Seminar, California Environmental Cases and Places). Lead the UC Davis Center for Watershed Sciences, a research center with an annual research budget of over \$8M. Develop a portfolio of natural resources research. 2022 Distinguished Teaching Award winner. Law school graduation marshal (chosen by students) in 2023. Morrison Prize winner for the most influential academic legal article on environmental sustainability published in North America in 2023.

PAST UC DAVIS APPOINTMENTS

<i>Acting Prof. of Law</i>	July 2019 - July 2024
<i>Assoc. Dir., Center for Watershed Sciences</i>	Aug. 2019 - Mar. 2024
<i>Senior Fellow, CELPC</i>	Dec. 2022 - Jan. 2024
<i>Lecturer, Water Law, Dept. of Land, Air, and Water Res.</i>	Jan. 2018 - Mar. 2018
<i>Postdoctoral Scholar, Animal Sci. Dept., Genomic Variation Lab</i>	Summer 2011
<i>Environmental Law Teaching Assistant, Envtl. Science & Policy Dept.</i>	Spring 2010 & 2011

THE UNIVERSITY OF THE PACIFIC	Sacramento/Stockton, CA
<i>Visiting Asst. Prof., McGeorge Law School & Dept. of Geol. & Envtl. Sci.</i>	Aug. 2015 - July 2019
<i>Codirector, Environmental Studies</i>	Aug. 2015 - July 2019

Jointly appointed at the law school and the Dept. of Geological and Environmental Studies. Developed and taught Administrative Law, Environmental Law, Foundations of Water Law, California Environmental Cases and Places, and other courses as assigned at the law school, and Environmental Law, Environmental Science, and Environmental Studies courses for undergraduates. Increased applications to Environmental Studies program more than five-fold.

THE UNIVERSITY OF KANSAS	Lawrence, KS
<i>Lecturer in Environmental Law, Environmental Studies Dept.</i>	June 2014 - Dec. 2014

Designed and taught undergraduate Environmental Law course. Developed syllabus, selected readings, presented lectures, and evaluated students.

TESTMASTERS	Various Locations
<i>LSAT Course Instructor</i>	Sept. 2004 - Oct. 2011

Taught basic logic/reading comprehension to classes of 25 to 75 students. Over 800 hours of teaching and tutoring.

EDUCATION

STANFORD LAW SCHOOL, JD, 2009

- *Distinction, Pro Bono Distinction*
- *Co-Founder/Managing Editor, Stanford Journal of Law, Science and Policy, 2007 - 2009*
- *Co-President, Stanford Older and/or Wiser Law Students (OWLS), 2007 - 2009*

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- *Co-Chair, Joint Degree Students Association, 2007 – 2009*
 - *Instructor, Stanford Streetlaw, 2007*
 - *EPA Star Fellowship, 2005, \$132,000 over three years for 50 – 60 fellows nationwide*
- UC DAVIS, PhD in Ecology, 2011
- *Outstanding PhD Graduate in Ecology (Shapiro Family Award) – awarded to top graduate*
 - *Switzer Fellow, awarded to 20 California environmental graduate students per year*
 - *Member, UC Davis Ecology Awards Committee, 2009 – 2011*
 - *Member, UC Davis Ecology Admissions Committee, 2009 – 2010*
 - *Co-chair, UC Davis Society for Conservation Biology, Policy Committee, 2010 – 2011*
 - *James P. Michelletti Research Fellowship, 2010, awarded to 1 – 2 ecology students/year*
 - *UC Davis Programmatic Initiatives Grant, 2010, co-principal writer*
 - *UC Davis Graduate Scholar Fellowship, 2005, awarded to 12 UC Davis graduate students per year (\$25,500 stipend plus tuition reimbursement for one year)*
 - *Dissertation: “Restoration and the Law: Rewatering Rivers, Running a Hatchery and Reintroducing Protected Species”*

THE UNIVERSITY OF KANSAS, 2002

Bachelor of Science in Biodiversity, Ecology, and Evolutionary Biology

- *Distinction, Departmental Honors, Chemistry Minor*
- *Chancellor’s Student Award, 2002, 1 of 9 awards recognizing outstanding KU graduates*
- *Outstanding Senior in Biology, 2002, awarded to the top KU graduate in Biology*
- *Outstanding Junior in Biology, 2001, awarded to the top KU junior in Biology*
- *Truman Scholar, 2001, Awarded to 55 – 60 public interest scholars nationwide*

Bachelor of Arts in Environmental Policy

- *Distinction, College Honors*
- *Study Abroad in Gollito, Costa Rica, 2000*
- *Phi Beta Kappa, 2000*

LEGAL PUBLICATIONS AND WORKS IN PROGRESS

THE LAW OF BIODIVERSITY AND ECOSYSTEM MANAGEMENT, 5TH EDITION, expected early 2025)

(with J.B. RUHL & KALYANI ROBBINS).

WATER RESOURCE MANAGEMENT, 9TH ED., expected late 2025 (with REED BENSON, VANESSA

CASADO, & BURKE GRIGGS).

Aquatic Biodiversity Management in the United States, in BIODIVERSITY LAWS, POLICIES AND SCIENCE IN EUROPE, THE UNITED STATES AND CHINA (DR. GIOVANNI ANTONELLI, PROF. TIANBAO QIN, MARIA VITTORIA FERRONI, ALEX ERWIN, EDS) (2024).

Consumption and The Good Life in the Anthropocene, forthcoming in ENVTL. L. REP. (2024) (with 17 others).

Environmental Geography and Law: Towards a Synthesis, forthcoming in TULANE L. R. (2024) (with 8 others, including 2 students).

Public Trust and Water Rights: A Western States Update, forthcoming in ECOL. L. Q. (2024) (with Anna Gard* & Julia Homaechevarria*).

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Great Salt Lake, Environmental Nukes, and the Future of Environmental Law, forthcoming in COL. L. R. (2024) (with Brigham Daniels, Elisabeth Parker, Andrew P. Follet, Corrine Doener, & Danny Dudley).

Adapting Seasonal Water Rights, forthcoming in WILLIAM & MARY ENVTL. L. REV. (2024) (with John Mensik*).

Legal Challenges and Opportunities, in THE ART AND SCIENCE OF PRIVATE LAND STEWARDSHIP (Jenny Sanders & Roel Lopez, eds.) (with Temple Stoellinger & Jim Bradbury) (expected 2024).

A Legacy of Illegal Infrastructure, in development (funded by a UC Davis Small Grant in Aid of Research, Creative Activities, and Scholarship, \$2,000, June 2024).

Rethinking Old Rights, 32 ENVTL. L. NEWS 6 (2023).

The Evolution and Future of the Public Trust Doctrine in the West, 69 FNREL-INST 8 (2023) (with Anna Gard* & Julia Homaechavarria*).

Priorities for Synthesis Research in Ecology and Environmental Science. 14 ECOSPHERE e4342 (2023) (with many others).

Amoral Water Markets, 111 GEORGETOWN L.J. 1335 (2023) (with Sonya Ziaja).

Water Right Exactions, 47 HARV. ENVTL. L. REV. 63 (2023). Chosen as one of the top 20 articles in 2023 by the *Environmental Law and Policy Annual Review*.

Mapping Ecosystem Benefit Flows to Normalize Equity, 54 ARIZ. ST. L. J. 819 (2022) (with Cinnamon P. Carlarne, Keith H. Hirokawa, & Sonya Ziaja). Chosen as one of the top 20 articles in 2023 by the *Environmental Law and Policy Annual Review*.

Time Limits for Water Rights, 37 NAT. RESOURCES & ENV'T 17 (2022).

Western Water Rights in a 4°C Future, in FACING THE WORST CLIMATE CASE: THE ROLE OF LAW (Shannon Roesler & Katrina Kuh, ed.) (Environmental Law Institute, forthcoming 2024) (with Shi-Ling Hsu and Kevin Lynch).

Environmental Law Education: New Techniques in the Classroom and Beyond, 46 VT. L. R. 575 (2022) (with Lincoln Davies and Sarah Krakoff).

California's Constitutional Right to Fish, 51 ENVTL. L. 1085 (2022) (with Francis Coats).

Adapting to a 4°C World, 52 ENVTL. L. REP 10211 (2022) (with 17 others).

Implementing Ecosystem-Based Management, 31 DUKE ENVTL. L. & POL'Y F. 215 (2021) (with Brian Gray and Jennifer Harder).

Rewatering Napa's Rivers, 36 NAT. RESOURCES & ENV'T 1 (2021) (with Amber Manfree).

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- Trends in Local Ecosystem Governance*, 3 FRONTIERS IN CLIMATE 19150 (2021) (with Keith Hirokawa).
- Governing Nature: Bambi Law in a Wall-E World*, 62 B.C. L. REV. 155 (2021).
- Protecting Plants under the Existing Endangered Species Act*, 45 HARV. ENVTL. L. REV. 151 (2021) (with Katie Young*).
- Rebuttal to Weiland and Murphy: Revisiting the Delta Smelt*, 51 ENVTL. L. REP. 9 (2021) (with Peter Moyle, Andrew L. Rypel, John Durand, & Tien-Chieh Hung).
- Small Populations in Jeopardy: A Delta Smelt Case Study*, 50 ENVTL. L. REP. 10714 (2020) (with Peter Moyle, Andrew L. Rypel, John Durand, & Tien-Chieh Hung).
- Targeting Public Trust Suits*, 29 ENVTL. L. NEWS 3 (2020).
- Improving Infrastructure for Wildlife*, 34 Nat. Resources & Env't 1 (2020) (with Andrew L. Rypel).
- Cases and Places: A Field-based Approach to Teaching Natural Resource and Environmental Law*, 68 J. of Legal Ed. 338 (2019) (with Kurtis Burmeister). Finalist, Thomson Reuters' 2021 Land Use & Environment Law Review top papers.
- A PATH FORWARD FOR CALIFORNIA'S ECOSYSTEMS, Public Policy Ins. of Cal. (2019) (with Jeffrey Mount et al.)
- An Evolutionary Theory of Administrative Law*, 72 SMU L. REV. 81 (2019).
- Guest Species: Rethinking Our Approach to Biodiversity in the Anthropocene*, 2018 UTAH L. REV. 169 (2018).
- Community-based Biomonitoring: An Antidote to Insufficient Governmental Water Quality Monitoring and Enforcement*, in FROM EXTRACTION TO EMANCIPATION: DEVELOPMENT REIMAGINED (Raquel Aldana & Steven Bender, ed.) (American Bar Association 2018).
- Through the Looking Glass: Using Trade Agreements to Enforce Environmental Law*, 32 NAT. RESOURCES & ENV'T 36 (2017) (with Rachael E. Salcido).
- Ditching Our Innocence: The Clean Water Act in the Age of the Anthropocene*, 46 ENVTL. L. 415 (2016) (with Rachael E. Salcido).
- The Rebirth of Cal. Fish & Game Code 5937: Water for Fish*, 45 U.C. DAVIS L. REV. 809 (2012) (with Joe Krovoza, Jacob Katz & Peter Moyle).
- "The Wilderness and the Dry Land Will Be Glad; and the Desert Will Rejoice and Blossom Like a Rose," Origins of the Bureau of Reclamation*, 50 J. OF THE WEST 60 (2012).
- Note, *Listed Species Reintroductions on Private Land – Limiting Landowner Liability under the Endangered Species Act*, 30 STAN. ENVTL. L.J. 177 (2011).

(* indicates student coauthor)

ADDITIONAL PUBLICATIONS

Katharine Tomalty, Molly Stephens, Melinda Baerwald, Karrigan Börk, Mariah Meek & Bernie May.
Examining the causes and consequences of hybridization during Chinook salmon reintroductions: using the San Joaquin River as a restoration case study of management options.
12 SAN FRANCISCO ESTUARY AND WATERSHED SCI. 2 (2014).

Karrigan Börk & Paul D. Adelizi, HATCHERY GENETIC MANAGEMENT PLAN: SAN JOAQUIN RIVER
SALMON CONSERVATION & RESEARCH FACILITY, Cal. Dept. of Fish & Game (2010).

Karrigan Börk, Andrea Drauch, Josh Israel, Bernie May, John Pedroia & Jeff Rodzen, *Development of new microsatellite DNA primers for green and white sturgeon*, 9 CONS. GEN. 973 (2008).

Karrigan Börk, *Lunar phobia in the greater fishing bat*, Noctilio leporinus (Chiroptera: Noctilionidae), 54 J. OF TROP. BIOL. 1117 (2006)

David Stockwell, Stephen Shaner, D. Jean Tate, Karrigan Börk & Sean Dougherty, *Integrating Transportation Network Data into Predictive Models for Invasive Species*, TRANSP. RES. BOARD 85TH ANN. MTG. COMP. OF PAPERS (2006).

Karrigan Börk, *National Ag Center Aids Compliance: EPA Center Demystifies Environmental Issues*, 193 AGRICHEMICAL & ENVTL. NEWS 1 (2002).

Karrigan Börk, FLOODPLAIN AND INSTREAM MINING, Trout Unlimited (1999).

CLERKSHIPS

U.S. BANKRUPTCY COURT FOR THE DISTRICT OF KANSAS	Topeka, KS
<i>Law Clerk to the Hon. Judge Janice Karlin</i>	Aug. 2013 - Aug. 2015
Oversaw half of the bankruptcy docket. Researched and drafted memoranda, opinions, and orders for the Judge.	

U.S. DISTRICT COURT FOR THE DISTRICT OF KANSAS	Topeka, KS
<i>Law Clerk to the Hon. Judge Julie Robinson</i>	Aug. 2012 - Aug. 2013
Oversaw half of the criminal docket. Researched and drafted memoranda, opinions, and orders for the Judge for criminal and civil matters.	

U.S. COURT OF APPEALS FOR THE TENTH CIRCUIT	Lawrence, KS
<i>Law Clerk to the Hon. Chief Judge Mary Beck Briscoe</i>	Sept. 2011 - Aug. 2012
Researched and drafted memoranda, opinions, and orders for the Chief Judge.	

OTHER PROFESSIONAL EXPERIENCE

LEGAL CONSULTANT	Davis, CA
Consultant to Planning and Conservation League, Water Law Reform Committee	2023 - Pres.
Consultant to Lawyers for Clean Water	July 2016 - Pres.
Consultant to California Water Audit	Dec. 2016 - Pres.
Assist with strategy and drafting in minimum stream flow litigation.	
Consultant to University of Utah, Water Law	Fall 2024

ENVIRONMENTAL LAW CLINIC, STANFORD LAW SCHOOL
Certified Law Student Stanford, CA
 Aug. 2007 – June 2009

Briefed and argued *Pac. Rivers Council v. Cal. Dep’t of Fish & Game, Case No. 06CS01451* (Sacramento Superior Court, 10/08), successfully challenging California’s failure to prepare environmental impact report for trout stocking activities. Researched and wrote briefs in NEPA and ESA cases. Prepared state ESA listing petition.

DAVIS POLK & WARDWELL
Summer Associate, Corporate/Litigation Menlo Park, CA
 Summer 2007, 2008 (partial), 2009

Strategized with clients and drafted closing documents on Las Vegas casino/hotel acquisition. Drafted memoranda. Analyzed intellectual property litigation ramifications in \$3 billion takeover.

OFFICE OF THE SECRETARY, U.S. DEPT. OF TRANSPORTATION
Acting Special Assistant to the Assistant Secretary Washington, DC
 Mar. 2005 – Aug. 2005
Policy Analyst Aug. 2002 – Mar. 2005

Assisted in drafting and implementation of DOT policies for transportation, environmental, and energy issues, including budget development. Chaired DOT’s Climate Change Center Core Team and represented DOT at interagency meetings. Oversaw more than \$3,000,000 in research annually. Received the Secretary’s Partnering for Excellence Award, the 2nd highest award at DOT, for interdisciplinary work in drafting fuel economy standards.

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Careers Organization Associate, National Ag. Center Kansas City, KS
 Nov. 2001 – July 2002

Developed materials concerning compliance with EPA’s agriculture regulations. Partnered with federal and state agencies to encourage compliance.

Additional professional experience includes consultation on environmental, water law, and other cases and employment with the Washington, D.C. office of Trout Unlimited.

SCHOLARSHIP PRESENTATIONS

1. Keynote Address, *Water Right Exactions*, Arizona State University’s Ninth Annual SRP Sustainability Conference of American Legal Educators, May 2024
2. Presenter, California Instream Flows, International Research Collaboration between Chile’s Universidad del Desarrollo and Universidad de Talca, and the University of California, Davis, Mar. 2024
3. Presenter, *Adapting Seasonal Water Rights*, W&M Environmental Law & Policy Review Symposium, Mar. 2024.
4. Presenter, *Law of the Delta*, National Academies, First Meeting of the Committee for Review of the Long-Term Operations of the Central Valley Project, Jan. 2024
5. Presenter, *Reallocating Risk, a Moderated Discussion*, UC Davis Center for Watershed Sciences Seminar Series, Nov. 2023
6. Guest, Sackett and the Clean Water Act, Talk+Water podcast, Oct. 2023

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7. Presenter, *The Evolution and Future of the Public Trust Doctrine in the West*, Foundation for Natural Resource and Energy Law Annual Meeting, July 2023
8. Presenter, paper: *Western Water: A Counter Narrative*, UC Irvine Law, Mar. 2023
9. Panelist, Public Trust and Unreasonable Use in the West, Public Interest Environmental Law Conference, Mar. 2023
10. Presenter, paper: *Western Water: A Counter Narrative*, Michael Pappas Online Workshop for Environmental Scholarship, Jan. 2023
11. Presenter, paper: *Western Water: A Counter Narrative*, AALS Environmental Works in Progress, Jan. 2023
12. Panelist, paper: *Water Right Exactions*, Harvard Environmental Law Review Fall Issue Launch Event, Dec. 2022
13. Presenter, paper: Rocky Mountain Junior Scholars Forum, Dec. 2022
14. Presenter, paper: *Western Water: A Counter Narrative*, UC Agriculture and Natural Resources, Oct. 2022
15. Presenter, paper: *Water Right Exactions*, Texas A&M Enviroschmooze, Aug. 2022
16. Presenter, paper: *Amoral Water Markets*, Natural Resource Law Teachers Institute, Works-in-Progress, June 2022
17. Panelist, Exposing Environmental Law's Hidden Value Judgments: Benefits Flows, Economics, Algorithms, and Climate Justice, Arizona State University School of Law, Seventh Annual Sustainability Conference of American Legal Educators (SCALE), May 2022.
18. Participant, paper: *Amoral Water Markets*, UC Davis Faculty Schmooze, May 2022
19. Presenter, paper: *A Legacy of Illegal Infrastructure*, Santa Clara Law, Mar. 2022
20. Presenter, paper: *A Legacy of Illegal Infrastructure*, Foundation for Natural Resources and Energy Law, Water Law Institute Works-in-Progress, Nov. 2021
21. Presenter, paper: *Water Right Exactions*, First Annual Starved Planet Environmental Law Scholars (SPELS) workshop, Oct. 2021
22. Presenter, paper: *Water Right Exactions*, Rocky Mountain Mineral Law Foundation Natural Resources Law Teachers Institute Works-in-Progress, June 2021
23. Co-organizer and participant, Paper: *Water Right Exactions*, NorCal Junior Faculty Workshop, June 2021
24. Presenter, paper: *Water Right Exactions*, Columbia Law School, 9th Annual Sabin Colloquium on Innovative Environmental Law Scholarship, May 2021
25. Panel organizer and panelist, Developing Local Ecosystem Governance, Arizona State University Sandra Day O'Connor College of Law, Sixth Annual Sustainability Conference of American Legal Educators (SCALE), May 2021
26. Presenter, paper: *Trends in Local Ecosystem Governance*, Frontiers in Climate - Coordinating Climate Change Adaptation Online Workshop, Apr. 2021
27. Presenter, paper: *California's Constitutional Right to Fish*, UC Davis Law Faculty Intellectual Enrichment Talks, Mar 2021
28. Speaker, Emerging Environmental Law Curriculum: Roundtable on New Techniques in the Classroom and Beyond, Vermont Law School, Feb. 2021
29. Panelist, paper: *Protecting Plants under the Existing Endangered Species Act*, Harvard Environmental Law Review Fall Issue Launch Event, Feb. 2021
30. Presenter, paper: *Water Right Exactions*, University of Utah S.J. Quinney College of Law/Rocky Mountain Mineral Law Foundation Water Law Professors Works-in-Progress Workshop, Dec. 2020
31. Panelist, 16th Annual California Water Law Symposium, Golden Gate University, School of Law, Feb. 2020

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32. Presenter, paper: *Governing Nature: Bambi Law in a Wall-E World*, NorCal Junior Faculty Workshop, UC Hastings, Sept. 2019
33. Presenter, paper: *A Legacy of Illegal Infrastructure*, Colorado Law/UCSB Bren School of Environment's 12th Annual Summer Works-In-Progress Symposium, Aug. 2019
34. Presenter, UC Davis Conjunctive Use Symposium, Aug. 2019
35. Presenter, paper: *Governing Nature: Bambi Law in a Wall-E World*, Natural Resource Law Teachers Works in Progress, 65th Rocky Mountain Mineral Law Foundation Annual Meeting, Jul. 2019
36. Organizer, Natural Resources Law Teachers Institute, Rocky Mountain Mineral Law Foundation, May 2019
37. Panel organizer and Presenter, Field Courses for Environmental and Natural Resources Law, Natural Resources Law Teachers Workshop, 64th Rocky Mountain Mineral Law Institute, July 2018
38. Panelist, Assoc. of CA Water Agencies Legal Affairs Committee CLE Workshop, May 2018
39. Panelist, 27th Annual Rocky Mountain Land Use Conference; Western Places/Western Spaces, Building Sustainable Communities in the Anthropocene, Mar. 2018
40. Panelist, UC Davis Delta Smelt Reintroduction Workshop, May 2017
41. Speaker, John and Mary Louise Riley Geol. Sem. Series, Sonoma State Univ., Apr. 2017
42. Speaker, Geology Dept. Speaker Series, Chico State, Mar. 2017
43. Organizer and panelist, 2nd Annual Cross-Boundary Panel – Age of the Anthropocene: Humanity's Impact on the Planet, Univ. of the Pacific, Jan. 2017 (with Mary Kay Camarillo, Arturo Giraldez, Laura Rademacher, and Rachael Salcido)
44. Invited Participant, Stanford Water Policy Workshop, June 2015
45. Keynote address, Honors Commencement, Univ. of Kansas, May 2013
46. Keynote address, University Scholars Banquet, Univ. of Kansas, Jan. 2012
47. Panelist, The Public Trust Doctrine: 30 Years Later, UC Davis Law Review Symp., Mar. 2011

GUEST LECTURES

1. Guest Lecture, Introduction to Water Law, Stream Ecology, UC Davis, Dept. of Wildlife, Fish, and Cons. Bio., May 2024
2. Guest Lecture, Introduction to Water Law, UC Water Academy, Apr. 2024
3. Guest Lecture, Introduction to Wetland Ecology Law, Wetland Ecology, UC Davis, Dept. of Wildlife, Fish, and Cons. Bio., Mar. 2024
4. Guest Lecture, Public Trust and Western Water Rights, Enviro Law, University of Baltimore School of Law, Nov. 2023
5. Guest lecture, Stream Ecology, UC Davis, Dept. of Wildlife, Fish, and Cons. Bio., May 2023
6. Guest lecture, Rivers of California, UC Davis, Dept. of Geol., Apr. 2023
7. Guest lecture, Water Law on the Colorado River, Ecogeomorphology, UC Davis, Geology Department, Feb. 2023
8. Guest lecture, Rivers of California, UC Davis, Dept. of Geol., Apr. 2022
9. Guest lecture, UC Davis BioLaunch Fellows Program, Career Lab, Feb. 2022
10. Guest lecture, Water Law on the San Juan River, Ecogeomorphology, San Juan River, UC Davis, Geology Department, May 2022
11. Guest lecture, Professional Development Seminar, University of the Pacific, Department of Geological and Environmental Sciences, Nov. 2021
12. Guest lecture, Professional Development Seminar, University of the Pacific, Environmental Studies Department, Oct. 2021
13. Guest lecture, Nature RX, First Year Seminar, UC Davis, Oct 2021
14. Guest lecture, Stream Ecology, UC Davis, Dept. of Wildlife, Fish, and Cons. Bio., May 2021

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15. Guest lecture, Rivers of California, UC Davis, Dept. of Geol., Apr. 2021
16. Guest lecture, Foundations of One Health, UC Davis, Dept. of Pathology, Microbio., and Immunology, Fall and Winter 2021, Fall 2022, Winter 2023, Fall 2023
17. Guest lecture, Seminar in Law Science and Technology, UMKC Law School, Sept. 2020
18. Guest lecture, Climate and Energy Workshop class, UCLA School of Law, Sept. 2020
19. Guest lecture, Rivers of California, UC Davis, Dept. of Geol., Apr. 2020
20. Guest lecture, Pacific Legal Scholars Program, Feb. 2016, Feb. 2017
21. Guest lecture, Admin. Law and Listing Decisions, Cons. Biol. graduate class, UC Davis, Jan. 2011

OTHER COMMENTARY, PRESENTATIONS, AND OUTREACH:

1. Numerous California Water Blog posts, distributed to over 14,000 subscribers, with an average of 1,500 – 4,000 unique views per post
2. Presenter, Introduction to US Environmental Law, UC Davis Orientation in USA Law, July 2024
3. Co-organizer, 10 Year SGMA Report Card Symposium, UC Davis Center for Environmental Law and Policy, 2023 – 2024
4. Co-organizer, Salt Lakes in Crisis: Legal Responses to Ecological Catastrophes, UC Davis 2024 Law Review Symposium, Mar. – Sept. 2024
5. Moderator, Panel 1 – Getting Acquainted: Species Management in California, UC Davis School of Law, Environmental Law Society's Annual Symposium, Mar. 2024
6. Presenter, Mapping Environmental Justice, Aoki Center 1L Critical Perspectives Series, Property, Jan. 2024.
7. Organizer and presenter, UC Davis Float with the Salmon, Nov. 2023
8. Presenter, Introduction to Property, UC Davis LL.M. Program, Oct. 2023
9. Organizer and Presenter, Putah Creek Dams and Flows field trip, Chilean delegation of Environmental Law LL.M. students and engineers, Sept. 2023
10. Presenter, Property lecture, Orientation in USA Law program, UC Davis, July 2023
11. Presenter, California Instream Flow Laws, International Research Collaboration between Chile's Universidad del Desarrollo and Universidad de Talca, and the University of California, Davis, July 2023
12. Presenter, 2023 King Hall Outreach Program Winter Session Mock Class, Jan. 2023
13. Conference co-organizer, Inaugural Environmental Geography and Law Conference, Dec. 2022 (funded by \$11,000 grant from the Foundation for Natural Resources and Energy Law)
14. Organizer, American River Rafting for Salmon, UC Davis, Nov. 2022
15. Presenter, Fall Open House Mock Class, UC Davis, Nov. 2022
16. Panelist, River Roundtable Session 1 – Putah Creek, Bring Back the Kern, Oct. 2022
17. Moderator, CWA Futures Panel, California Environmental Law and Policy Center “Clean Water Act at 50” conference, Oct. 2022
18. Organizer, Natural Resource Law Teachers Institute, Water Panel and Public Lands Panel, June 2022
19. Presenter, UC Davis Terrafest, sponsored by the Mexican UC Davis Graduate Students Association, at the Whole Earth Festival, May 2022
20. Moderator, Voluntary Agreements Panel, Water Law Symposium, Apr. 2022
21. Panelist, Meet the Professionals Event, UC Davis Career Discovery Group, March 2022
22. Featured speaker, UC Davis Environmental Law Society's culture week, Feb. 2021
23. Guest, UC Davis Law Podcast – California's Constitutional Right to Fish, Feb. 2022

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24. Op Ed CalMatters Article, Protect the public's interest with Kern River water allocation decision, Jan. 3, 2022, reprinted in the Mercury News, East Bay Times
25. Organizer, American River Rafting for Salmon, UC Davis, Nov. 2021
26. Panelist, Corporate Accountability in Wildlife Protection, 20th Annual Vermont Law Review Symposium, Nov. 2021
27. Discussion leader, Future of Environmental Law Education, Environmental Law Collaborative, July 2021
28. Moderator, UC Davis Law School Book Publishing Roundtable, June 2021
29. Featured speaker, Riverflow and Instream Rights: Professor Paul Kibel in Conversation with Professor Karrigan Bork, Sacramento County Bar Association, Environmental Law Section, May 2021
30. Introductory speaker, 2021 California Water Law Symposium, Climate Change: Adapting to a Warming Climate, Feb. 2021
31. Featured speaker, UC Davis Environmental Law Society's culture week, Feb. 2021
32. Speaker, UC Davis Law School, Aoki Center for Critical Race and Nation Studies, One L Critical Perspective Talks, Property: Mapping Environmental Justice, Jan. 2021
33. Invited speaker, Fireside Chat, Albany Law School, Jan. 2021
34. Organizer, American River Rafting for Salmon, UC Davis, Nov. 2020
35. Speaker, Episode 6: California Water Law 101, University of California's Division of Agriculture and Natural Resources Water Talk podcast, May 2020
36. Panel moderator, Saving a Bug's Life: Legal Solutions to Combat Insect Biodiversity Decline and the Sixth Mass Extinction, Mar. 2020
37. Featured speaker, UC Davis Environmental Law Society's culture week talk, Feb. 2020
38. Lead, Reimagining Environmental and Natural Resources Law Ecosystem work group, Environmental Law Institute/George Washington University Law School, Nov. 2019
39. Panelist, Water Law & Policy Program, Schwartz-Levi Inn of Court, Nov. 2019
40. Moderator, Environmental Law Conference at Yosemite, Deltas in the Delta panel, Oct. 2019
41. Presenter, UC Davis Conjunctive Use Symposium, Aug. 2019
42. Featured commentator, Documentary film Sacramento: At Current Speed, 2019 - 2020, (*People's Choice award winner at the 2020 Wild and Scenic Film Festival*)
43. Speaker, Iris Care 101, Ted and Chris Robb Garden, Univ. of the Pacific, Apr. 2017
44. Additional media quotations in Time magazine article on wild horses, Ag News magazine article on water rights, Guardian article on water issues, Washington Post article on fisheries, KFBK News Radio in Sacramento, UC Davis Magazine article on the drought, Maven's Notebook (leading California water blog), in a Westlaw Today envirobrief article (a legal publication), and in a Los Angeles Times article.

SELECTED SERVICE

UC Davis School of Law

- *Law Faculty Co-chair, 2022 - Pres.*
- *Member, UC Davis School of Law Admissions Committee, 2023 - Pres.*
- *Advisor for the National Environmental Moot Court team, the National Native American Law Student Association Moot Court team, the Environs Environmental Law Journal, the Environmental Law Society, and the Water Law and Policy Society, 2023 - 2024*
- *FNREL, Journal Editorial Board, 2023 - 2024*
- *First Generation Advocates Mentor, 2022 - Pres., 4 students*
- *Interview Committee, Director of Externships, June 2024*
- *UC Davis Global Professional Programs, Mandela Washington Fellowship Mentor, 2022 - 2024*

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- *Member, Hiring Committee, UC Davis Water Justice Clinic (Water Justice Clinical Lecturer/Director, Small Farm Program), Jan. 2024*
- *Development & Alumni Relations, Faculty Education Program, 2023*
- *Co-Auctioneer/Emcee, King Hall Legal Foundation's 45th Annual Charity Auction, 2023, 2024*
- *Member, 2024 School of Law Outstanding Staff Award advisory committee (inaugural)*
- *Interviewer, UCD CEE Water Resources Engineering hire, Feb 2024*
- *Member, Technical Advisory Group Member, Water Research Network, Public Policy Ins. of Cal., 2019 - Pres.*
- *UC Davis Law Distinguished Teaching Award Selection Committee, 2022 - 2023*
- *Alternate Law School Representative, UC Davis Academic Senate, 2021 - 2024.*
- *Advisory Committee for the UC Davis Water Policy Certificate, housed in UC Davis Continuing and Professional Education, 2021 - Pres.*
- *UC Davis Trustee, Rocky Mountain Mineral Law Foundation (Education & Planning Committees), 2020 - pres.*
- *Faculty advisor/cofounder for the UC Davis Law Parent Legal Society, 2020 - Pres.*
- *Advising assistant, UC Davis Prestigious Scholarship Advisor, 2020 - Pres.*
- *Law School Representative, University Library Committee, 2019 - Pres.*
- *UC Davis California Environmental Law and Policy Committee Advisory Board, 2019 - Pres.*
- *Faculty panelist, 2021 King Hall Admitted Students Weekend*
- *UC Davis Law Intellectual Enrichment Committee, 2020 - 2021*
- *UC Davis Law Academic Appeals Committee, 2019 - 2024*
- *UC Davis Law Ad Hoc Grade Appeal Committee, 2019 - 2020*
- *Faculty supervisor, Pace Nat'l Environmental Law Moot Court Competition, 2019 - 2020*
- *Review editor for Frontiers in Climate, peer reviewer for Case Studies in the Environment, published by the University of California Press, and the Land Use and Environment Law Review, 2020 - Pres.*
- *Extensive student mentorship for law review notes and independent study projects*

Univ. of the Pacific, College of the Pacific

- *Codirector, Environmental Studies Program, 2015 - 2019*
- *Member, Institutional Effectiveness Committee, 2015 - 2019*
- *Chair, Geol. and Env'tl. Sci. Dept. Peer Review Committee, 2016 - 2017*
- *Member, Biology tenure track faculty hiring committee, 2016*

Univ. of the Pacific, McGeorge School of Law

- *Member, Admissions Committee, McGeorge School of Law, 2017*
- *Member, Garden Director hiring committee, 2016*
- *Member, Water and Environmental Sustainability Task Force, 2015 - 2017*
- *Member, Vice-Chair, Board of Advisors, KU Natural History Museum and KU Biodiversity Institute, 2012 - 2016*

Reviewer, Foundation for Natural Resource and Energy Law, Public Policy Institute of California, Molecular Ecology Journal, Minnesota Sea Grant College Program, Transactions of the American Fisheries Society, Society for Conservation Biology, 2006 - 2011