



Matters Impacting Metropolitan

Arvin Edison Water Storage District v. The Dow Chemical Co., et al. and Semitropic Water Storage District, et al. v. The Dow Chemical Co., et al. (San Bernardino County Superior Court)

On September 13, 2022, defendant Shell USA, Inc. (Shell) served Metropolitan with a Deposition Subpoena for Personal Appearance and Production of Documents and Things in *Arvin Edison Water Storage District v. The Dow Chemical Co., et al.*, Case No. JCCP 4435/BCV-21-102485 (the Arvin-Edison case). Subsequently, Shell served Metropolitan with: (1) a Deposition Subpoena for Production of Business Records in *Semitropic Water Storage District, et al. v. The Dow Chemical Co., et al.*, Case No. JCCP 4435/BCV-21-102528 (the Semitropic case) on September 19, 2022, and (2) a Deposition Subpoena for Personal Appearance in the Semitropic case on September 20, 2022. The subpoenas seek the production of documents and the deposition testimony of Metropolitan's person(s) most qualified relating to Metropolitan's groundwater banking programs with Arvin-Edison Water Storage District (Arvin-Edison) and Semitropic Water Storage District, including communications regarding 1,2,3-trichloropropane (TCP) in the groundwater banking programs and any operational changes instituted in response to the presence of TCP in the groundwater banking programs.

In October 2021, Arvin-Edison and Semitropic Water Storage District, as well as its several affiliated improvement districts (collectively, Semitropic), sued The Dow Chemical Company, Shell Oil Company, and others regarding TCP in

Arvin-Edison's and Semitropic's groundwater basins. According to Arvin-Edison's and Semitropic's Complaints, the defendants are the manufacturers and distributors of the TCP that caused the contamination of Arvin-Edison's and Semitropic's groundwater supplies. Arvin-Edison and Semitropic allege that the widespread presence of TCP at concentrations above the maximum contaminant level (MCL) in their wells has caused certain of their water banking partners to reduce and/or suspend their water banking and management programs. The Complaints assert five causes of action: (1) strict products liability based on defective design; (2) strict products liability based on failure to warn; (3) nuisance; (4) trespass; and (5) negligence. Arvin-Edison estimates that treatment would cost approximately \$465 million, which includes capital costs and the 50-year net present cost of operation and maintenance.

Although both the Arvin-Edison case and the Semitropic case were originally filed in Kern County Superior Court, they have been coordinated in San Bernardino County Superior Court with several other cases regarding alleged TCP contamination. The cases are grouped and are subject to various case management schedules. The Arvin-Edison case and the Semitropic case are in the same group, which is Group 6. Fact discovery in Group 6 is currently scheduled to end on November 1, 2022, but Metropolitan understands the parties in the Arvin-Edison and Semitropic cases are discussing a possible extension of that date. The Legal Department is performing the majority of the work to represent Metropolitan. Special Counsel has been retained to provide assistance.

Matters Concluded and/or Terminated

Close of Escrow for Sale of Former Metropolitan Headquarters Parking Structure

On September 8, 2022, Metropolitan's parking structure and fleet vehicle service center located at 1030 Alpine Street in Los Angeles was sold to Palisades Capital Partners, LLC. In the past, the

structure was used to support Metropolitan's former administrative headquarters that faced Sunset Boulevard. In recent years, the structure was used for vehicle fueling and servicing functions and special event parking. The Legal Department supported the Real Property Group in this conveyance.



Other Matters

A Note from General Counsel

Attached is an article in the fall issue of Sierra Magazine on the impact of the current drought on the City of Phoenix. The 9-page article is appended to the end of this month's report.

Matters Received

<u>Category</u>	<u>Received</u>	<u>Description</u>	
Subpoenas	2	(1) Deposition Subpoena for Production of Business Records and (2) Deposition Subpoena for Personal Appearance served by Shell in the case <i>Arvin-Edison Water Storage District v. The Dow Chemical Co., et al.</i> , San Bernardino Superior Court, Case No. JCCP 4435/BCV-21-102528. (See Matters Impacting Metropolitan.)	
Requests Pursuant to the Public Records Act	12	<u>Requestor</u>	<u>Documents Requested</u>
		Blue Environmental Services	Contract for Hazardous Waste Management Services
		CASC Engineering & Consulting	Record drawings of MWD pipeline near housing tract project along south side of Scott Road in the County of Riverside
		Center for Contract Compliance (4 requests)	(1) Contract documents; and (2) certified payroll and fringe benefit statements for Landscape Maintenance and Tree Trimming in La Verne; (3) invoices and backup; and (4) certified payroll records and fringe benefit statement for Weed Abatement, Herbicide Application and Trash Removal at Hemet
		Commercial Development Resources	As-built drawings for MWD facilities near project along South Bristol Street in Santa Ana
		Deltek	Awarded contract and bid results for On-Call Information Technology Services
		Korea Water Resources Corporation	Information about MWD's projects including smart water management, engineering, and climate change
		Michael Baker International	As-built drawings for MWD structures near Western Bypass Bridge project
		Private Citizens (2 requests)	(1) Documents relating to any discharges from the Foothill Feeder near the easterly terminus and any plans to extend the feeder; and (2) Contract between MWD and San Diego County Water Authority for the supply of water



<u>Category</u>	<u>Received</u>	<u>Description</u>
Other	1	California Public Employment Relations Board (PERB) Unfair Practice <u>Charge</u> filed by AFSCME against MWD relating to employee housing



PLEASE NOTE

- ADDITIONS ONLY IN THE FOLLOWING TWO TABLES WILL BE SHOWN IN RED.
- ANY CHANGE TO THE *OUTSIDE COUNSEL AGREEMENTS* TABLE WILL BE SHOWN IN REDLINE FORM (I.E., ADDITIONS, REVISIONS, DELETIONS).



Bay-Delta and SWP Litigation	
Subject	Status
<p>Consolidated DCP Revenue Bond Validation Action and CEQA Case</p> <p><i>Sierra Club, et al. v. California Department of Water Resources</i> (CEQA, designated as lead case)</p> <p><i>DWR v. All Persons Interested</i> (Validation)</p> <p>Sacramento County Superior Ct. (Judge Kenneth C. Mennemeier)</p>	<ul style="list-style-type: none"> • Validation Action <ul style="list-style-type: none"> • Metropolitan, Mojave Water Agency, Coachella Valley Water District, and Santa Clarita Valley Water Agency have filed answers in support • Kern County Water Agency, Tulare Lake Basin Water Storage District, Oak Flat Water District, County of Kings, Kern Member Units & Dudley Ridge Water District, and City of Yuba City filed answers in opposition • North Coast Rivers Alliance et al., Howard Jarvis Taxpayers Association, Sierra Club et al., County of Sacramento & Sacramento County Water Agency, CWIN et al., Clarksburg Fire Protection District, Delta Legacy Communities, Inc, and South Delta Water Agency & Central Delta Water Agency have filed answers in opposition • Case ordered consolidated with the DCP Revenue Bond CEQA Case for pre-trial and trial purposes and assigned to Judge Earl for all purposes • DWR’s motions for summary judgment re CEQA affirmative defenses granted; cross-motions by opponents denied • August 25, 2022 North Coast Rivers Alliance filed motion for summary judgment on Delta Reform Act and public trust doctrine affirmative defenses; DWR filed motion for summary adjudication of all Delta Reform Act and public trust doctrine affirmative defenses; Metropolitan and other supporting water contractors joined DWR’s motion; Howard Jarvis Taxpayers Assn. filed motion for summary adjudication on scope of DWR’s complaint re Prop 13 applicability to future taxes that may be adopted to repay bonds • Nov. 18, 2022 Hearing on dispositive motions • Dec. 9, 2022 Case Management Conference • CEQA Case <ul style="list-style-type: none"> • Sierra Club, Center for Biological Diversity, Planning and Conservation League, Restore the Delta, and Friends of Stone



	<p>Lakes National Wildlife Refuge filed a standalone CEQA lawsuit challenging DWR’s adoption of the bond resolutions</p> <ul style="list-style-type: none"> • Alleges DWR violated CEQA by adopting bond resolutions before certifying a Final EIR for the Delta Conveyance Project • Cases ordered consolidated for all purposes • DWR’s motion for summary judgment granted; Sierra Club’s motion denied • Aug. 23, 2022 Sierra Club filed motion for new trial or reconsideration on prior dismissal of its CEQA case and seeking entry of summary judgment in its favor • Nov. 18, 2022 hearing on motion for new trial or reconsideration re CEQA • Dec. 9, 2022 case management conference
<p>SWP-CVP 2019 BiOp Cases</p> <p><i>Pacific Coast Fed’n of Fishermen’s Ass’ns, et al. v. Raimondo, et al. (PCFFA)</i></p> <p><i>Calif. Natural Resources Agency, et al. v. Raimondo, et al. (CNRA)</i></p> <p>Federal District Court, Eastern Dist. of California, Fresno Division (Judge Thurston)</p>	<ul style="list-style-type: none"> • SWC intervened in both <i>PCFFA</i> and <i>CNRA</i> cases • Briefing on federal defendants’ motion to dismiss CNRA’s California ESA claim is complete; no hearing date set and may be decided on the papers • Federal defendants circulated administrative records for each of the BiOps • December 18, 2020 PCFFA and CNRA filed motions to complete the administrative records or to consider extra-record evidence in the alternative • Federal defendants reinitiated consultation on Oct 1, 2021 • On Nov. 8, 2021, Federal Defendants and PCFFA plaintiffs stipulated to inclusion of certain records in the Administrative Records and to defer further briefing on the matter until July 1, 2022 • On Nov. 12, 2021, SWC filed a motion to amend its pleading to assert cross-claims against the federal defendants for violations of the ESA, NEPA and WIIN Act; Court has yet to set a hearing date • November 23, 2021, Federal Defendants filed a motion for voluntary remand of the 2019 Biological Opinions and NEPA Record of Decision and requesting that the Court issue an order approving an



	<p>Interim Operations Plan through September 30, 2022; that the cases be stayed for the same time period; and that the Court retain jurisdiction during the pendency of the remand. State Plaintiffs filed a motion for injunctive relief seeking judicial approval of the Interim Operations Plan</p> <ul style="list-style-type: none"> • December 16, 2021 – NGO Plaintiffs filed a motion for preliminary injunction related to interim operations • Motions fully briefed as of Jan. 24, 2022 • Hearing on motions held Feb. 11, 2022 • District court (1) approved the State and Federal Government’s Interim Operations Plan (IOP) through September 30, 2022; (2) approved the federal defendants’ request for a stay of the litigation through September 30, 2022; (3) remanded the BiOps without invalidating them for reinitiated consultation with the 2019 BiOps in place; (4) denied PCFFA’s alternative request for injunctive relief; and (5) by ruling on other grounds, denied the state plaintiffs’ motion for injunctive relief and the federal defendants’ request for equitable relief • September 30, 2022, Federal Defendants and State Plaintiffs filed a joint status report: 1) describing the status of the reinitiated CVP and SWP consultation; 2) recommending a plan for interim CVP and SWP operations to govern for the 2023 water year or some other interval of time, if consultation remains ongoing; and 3) requesting a continued stay or other path forward in the litigation
<p>CESA Incidental Take Permit Cases</p> <p>Coordinated Case Name <i>CDWR Water Operations Cases, JCCP 5117</i> (Coordination Trial Judge Gevercer)</p> <p><i>Metropolitan & Mojave Water Agency v. Calif. Dept. of Fish & Wildlife, et al.</i> (CESA/CEQA/Breach of Contract)</p> <p><i>State Water Contractors & Kern County Water Agency v. Calif. Dept. of Fish & Wildlife, et al.</i> (CESA/CEQA)</p>	<ul style="list-style-type: none"> • All 8 cases ordered coordinated in Sacramento County Superior Court • Stay on discovery issued until coordination trial judge orders otherwise • All four Fresno cases transferred to Sacramento to be heard with the four other coordinated cases • SWC and Metropolitan have submitted Public Records Act requests seeking administrative record materials and other relevant information



<p><i>Tehama-Colusa Canal Auth., et al. v. Calif. Dept. of Water Resources</i> (CEQA)</p> <p><i>San Bernardino Valley Municipal Water Dist. v. Calif. Dept. of Water Resources, et al.</i> (CEQA/CESA/ Breach of Contract/Takings)</p> <p><i>Sierra Club, et al. v. Calif. Dept. of Water Resources</i> (CEQA/Delta Reform Act/Public Trust)</p> <p><i>North Coast Rivers Alliance, et al. v. Calif. Dept. of Water Resources</i> (CEQA/Delta Reform Act/Public Trust)</p> <p><i>Central Delta Water Agency, et. al. v. Calif. Dept. of Water Resources</i> (CEQA/Delta Reform Act/Public Trust/ Delta Protection Acts/Area of Origin)</p> <p><i>San Francisco Baykeeper, et al. v. Calif. Dept. of Water Resources, et al.</i> (CEQA/CESA)</p>	<ul style="list-style-type: none"> • Answers filed in the three cases filed by State Water Contractors, including Metropolitan’s • Draft administrative records produced on Sept. 16, 2021 • Certified administrative records lodged March 4, 2022 • State Water Contractors et al. granted leave to intervene in Sierra Club, North Coast Rivers Alliance, Central Delta Water Agency, and San Francisco Baykeeper cases by stipulation • Sept. 9, 2022 fifth Case Management Conference • Sept. 9, 2022 Court ordered DWR and CDFW to produce privilege logs to the State Water Contractors et al. by Sept. 30, 2022 showing the basis for withholding hundreds of records from the administrative records on the deliberative process and official information privileges, then meet and confer; State Water Contractors et al. may renew their motion to augment if disputes remain • Sept. 29, 2022 State Water Contractors, et al.’s motion to intervene as petitioners in the <i>Tehama-Colusa Canal Auth., et al. v. Calif. Dept. of Water Resources</i> CEQA case denied without prejudice to re-filing a motion to intervene as respondents
<p>CDWR Environmental Impact Cases Sacramento Superior Ct. Case No. JCCP 4942, 3d DCA Case No. C091771 (20 Coordinated Cases)</p> <p>Validation Action <i>DWR v. All Persons Interested</i></p> <p>CEQA 17 cases</p> <p>CESA/Incidental Take Permit 2 cases</p> <p>(Judge TBD)</p>	<ul style="list-style-type: none"> • Cases dismissed after DWR rescinded project approval, bond resolutions, decertified the EIR, and CDFW rescinded the CESA incidental take permit • January 10, 2020 – Nine motions for attorneys’ fees and costs denied in their entirety • Parties have appealed attorneys’ fees and costs rulings • May 11, 2022, court of appeal reversed the trial court’s denial of attorney fees and costs in an unpublished opinion • Opinion ordered published • Coordinated cases remitted to trial court for re-hearing of fee motions consistent with the court of appeal’s opinion
<p>COA Addendum/ No-Harm Agreement</p> <p><i>North Coast Rivers Alliance v. DWR</i> Sacramento County Superior Ct.</p>	<ul style="list-style-type: none"> • Plaintiffs allege violations of CEQA, Delta Reform Act & public trust doctrine • USBR Statement of Non-Waiver of Sovereign Immunity filed September 2019



<p>(Judge Gevercer)</p>	<ul style="list-style-type: none"> • Westlands Water District and North Delta Water Agency granted leave to intervene • Metropolitan & SWC monitoring • Deadline to prepare administrative record extended to <u>Nov. 18</u>, 2022
<p>Delta Plan Amendments and Program EIR 4 Consolidated Cases Sacramento County Superior Ct. (Judge Gevercer)</p> <p><i>North Coast Rivers Alliance, et al. v. Delta Stewardship Council</i> (lead case)</p> <p><i>Central Delta Water Agency, et al. v. Delta Stewardship Council</i></p> <p><i>Friends of the River, et al. v. Delta Stewardship Council</i></p> <p><i>California Water Impact Network, et al. v. Delta Stewardship Council</i></p> <p>Delta Stewardship Council Cases 3<u>One</u> Remaining Cases (CEQA claims challenging original 2013 Delta Plan EIR) (Court of Appeal for the Third App. Dist. Case No. C096380)</p> <p><i>North Coast Rivers Alliance, et al. v. Delta Stewardship Council</i></p> <p><i>Central Delta Water Agency, et al. v. Delta Stewardship Council</i></p> <p><i>California Water Impact Network, et al. v. Delta Stewardship Council</i></p>	<ul style="list-style-type: none"> • Cases challenge, among other things, the Delta Plan Updates recommending dual conveyance as the best means to update the SWP Delta conveyance infrastructure to further the coequal goals • Allegations relating to “Delta pool” water rights theory and public trust doctrine raise concerns for SWP and CVP water supplies • Cases consolidated for pre-trial and trial under <i>North Coast Rivers Alliance v. Delta Stewardship Council</i> • SWC granted leave to intervene • Metropolitan supports SWC • 2013 and 2018 cases to be heard separately due to peremptory challenge • SWC and several individual members, including Metropolitan, SLDMWA and Westlands have dismissed their remaining 2013 CEQA claims but remain intervenor-defendants in the three remaining <i>Delta Stewardship Council Cases</i> <p>2013 Cases</p> <ul style="list-style-type: none"> • After a hearing on Feb. 25, 2022 the court ruled against plaintiffs on the merits of their BDCP-related CEQA claims • April 22, 2022 court ruled against the remaining CEQA claims and denied the petitions for writs of mandamus • Delta Stewardship Council filed memorandum of costs seeking \$362,407.47, mostly for cost to prepare the administrative record • SWC and individual water contractors, including Metropolitan, entered a settlement with the Delta Stewardship Council on their share of costs for \$45,435, of which Metropolitan <u>has paid</u> \$6,490.71 • <u><i>One case, North Coast Rivers Alliance, et al. v. Delta Stewardship Council remains on appeal</i></u> <p>2018 Cases</p> <ul style="list-style-type: none"> • Hearing on the merits held July 22, 2022 • Ruling on the merits anticipated in September



<p>SWP Contract Extension Validation Action Sacramento County Superior Ct. (Judge Culhane) Court of Appeal for the Third App. Dist. Case No. C096316 <i>DWR v. All Persons Interested in the Matter, etc.</i></p>	<ul style="list-style-type: none"> • DWR seeks a judgment that the Contract Extension amendments to the State Water Contracts are lawful • Metropolitan and 7 other SWCs filed answers in support of validity to become parties • Jan. 5-7, 2022 Hearing on the merits held with CEQA cases, below • Final statement of decision in DWR’s favor filed March 9, 2022 • Final judgment entered and served • C-WIN et al., County of San Joaquin et al. and North Coast Rivers Alliance et al. filed notices of appeal
<p>SWP Contract Extension CEQA Cases Court of Appeal for the Third App. Dist. Case Nos. C096384 & C096304 Sacramento County Superior Ct. (Judge Culhane) <i>North Coast Rivers Alliance, et al. v. DWR</i> <i>Planning & Conservation League, et al. v. DWR</i></p>	<ul style="list-style-type: none"> • Petitions for writ of mandate alleging CEQA and Delta Reform Act violations filed on January 8 & 10, 2019 • Deemed related to DWR’s Contract Extension Validation Action and assigned to Judge Culhane • Administrative Record completed • DWR filed its answers on September 28, 2020 • Metropolitan, Kern County Water Agency and Coachella Valley Water District have intervened and filed answers in the two CEQA cases • Final statement of decision in DWR’s favor denying the writs of mandate filed March 9, 2022 • Final judgments entered and served • <u>North Coast Rivers Alliance et al. and PCL et al. filed notices of appeal</u> • <u>Nov. 1, 2022 Planning & Conservation League’s Opening Brief and Appendix Due</u>



<p>Delta Conveyance Project Soil Exploration Cases</p> <p><i>Central Delta Water Agency, et al. v. DWR</i> Sacramento County Superior Ct. (Judge Chang)</p> <p><i>Central Delta Water Agency, et al. v.. DWR (II)</i>, Sacramento County Super. Ct. (Judge Acquisto)</p>	<ul style="list-style-type: none"> • Original case filed August 10, 2020; new case challenging the second addendum to the CEQA document filed Aug. 1, 2022 • Plaintiffs Central Delta Water Agency, South Delta Water Agency and Local Agencies of the North Delta • One cause of action alleging that DWR's adoption of an Initial Study/Mitigated Negative Declaration (IS/MND) for soil explorations needed for the Delta Conveyance Project violates CEQA • March 24, 2021 Second Amended Petition filed to add allegation that DWR's addendum re changes in locations and depths of certain borings violates CEQA • Deadline to prepare the administrative record extended to April 22, 2022 • DWR's petition to add the 2020 CEQA case to the <i>Department of Water Resources Cases</i>, JCCP 4594, San Joaquin County Superior Court denied • Hearing on the merits scheduled for Oct.13, 2022
<p>Water Management Tools Contract Amendment</p> <p><i>California Water Impact Network et al. v. DWR</i> Sacramento County Superior Ct. (Judge Acquisto)</p> <p><i>North Coast Rivers Alliance, et al. v. DWR</i> Sacramento County Super. Ct. (Judge Acquisto)</p>	<ul style="list-style-type: none"> • Filed September 28, 2020 • CWIN and Aqualliance allege one cause of action for violation of CEQA • NCRA et al. allege four causes of action for violations of CEQA, the Delta Reform Act, Public Trust Doctrine and seeking declaratory relief • Parties have stipulated to production of a draft administrative record by April 1, 2022 and to a timeline to attempt to resolve any disputes over the contents • SWC motion to intervene in both cases granted



San Diego County Water Authority v. Metropolitan, et al.

Cases	Date	Status
2010, 2012	Aug. 13-14, 2020	Final judgment and writ issued. Transmitted to the Board on August 17.
	Sept. 11	Metropolitan filed notice of appeal of judgment and writ.
	Jan. 13, 2021	Court issued order finding SDCWA is the prevailing party on the Exchange Agreement, entitled to attorneys' fees and costs under the contract.
	Feb. 10	Court issued order awarding SDCWA statutory costs, granting SDCWA's and denying Metropolitan's related motions.
	Feb. 16	Per SDCWA's request, Metropolitan paid contract damages in 2010-2012 cases judgment and interest. Metropolitan made same payment in Feb. 2019, which SDCWA rejected.
	Feb. 25	Metropolitan filed notice of appeal of Jan. 13 (prevailing party on Exchange Agreement) and Feb. 10 (statutory costs) orders.
	Sept. 21	Court of Appeal issued opinion on Metropolitan's appeal regarding final judgment and writ, holding: (1) the court's 2017 decision invalidating allocation of Water Stewardship Rate costs to transportation in the Exchange Agreement price and wheeling rate applied not only to 2011-2014, but also 2015 forward; (2) no relief is required to cure the judgment's omission of the court's 2017 decision that allocation of State Water Project costs to transportation is lawful; and (3) the writ is proper and applies to 2015 forward.
	Mar. 17, 2022	Court of Appeal unpublished decision affirming orders determining SDCWA is the prevailing party in the Exchange Agreement and statutory costs.
	Mar. 21	Metropolitan paid SDCWA \$14,296,864.99 for attorneys' fees and \$352,247.79 for costs, including interest.
	July 27	Metropolitan paid SDCWA \$411,888.36 for attorneys' fees on appeals of post-remand orders.
2014, 2016	Aug. 28, 2020	SDCWA served first amended (2014) and second amended (2016) petitions/complaints.
	Sept. 28	Metropolitan filed demurrers and motions to strike portions of the amended petitions/complaints.



Cases	Date	Status
2014, 2016 (cont.)	Sept. 28-29	Member agencies City of Torrance, Eastern Municipal Water District, Foothill Municipal Water District, Las Virgenes Municipal Water District, Three Valleys Municipal Water District, Municipal Water District of Orange County, West Basin Municipal Water District, and Western Municipal Water District filed joinders to the demurrers and motions to strike.
	Feb. 16, 2021	Court issued order denying Metropolitan’s demurrers and motions to strike, allowing SDCWA to retain contested allegations in amended petitions/complaints.
	March 22	Metropolitan filed answers to the amended petitions/complaints and cross-complaints against SDCWA for declaratory relief and reformation, in the 2014, 2016 cases.
	March 22-23	Member agencies City of Torrance, Eastern Municipal Water District, Foothill Municipal Water District, Las Virgenes Municipal Water District, Three Valleys Municipal Water District, Municipal Water District of Orange County, West Basin Municipal Water District, and Western Municipal Water District filed answers to the amended petitions/complaints in the 2014, 2016 cases.
	April 23	SDCWA filed answers to Metropolitan’s cross-complaints.
	Sept. 30	Based on the Court of Appeal’s Sept. 21 opinion (described above), and the Board’s Sept. 28 authorization, Metropolitan paid \$35,871,153.70 to SDCWA for 2015-2017 Water Stewardship Rate charges under the Exchange Agreement and statutory interest.
2017	July 23, 2020	Dismissal without prejudice entered.
2018	July 28, 2020	Parties filed a stipulation and application to designate the case complex and related to the 2010-2017 cases, and to assign the case to Judge Massullo’s court.
	Nov. 13	Court ordered case complex and assigned to Judge Massullo’s court.
	April 21, 2021	SDCWA filed second amended petition/complaint.
	May 25	Metropolitan filed motion to strike portions of the second amended petition/complaint.
	May 25-26	Member agencies City of Torrance, Eastern Municipal Water District, Foothill Municipal Water District, Las Virgenes Municipal Water District, Three Valleys Municipal Water District, Municipal Water District of Orange County, West Basin Municipal Water District, and Western Municipal Water District filed joinders to the motion to strike.



Cases	Date	Status
2018 (cont.)	July 19	Court issued order denying Metropolitan’s motion to strike portions of the second amended petition/complaint.
	July 29	Metropolitan filed answer to the second amended petition/complaint and cross-complaint against SDCWA for declaratory relief and reformation.
	July 29	Member agencies City of Torrance, Eastern Municipal Water District, Foothill Municipal Water District, Las Virgenes Municipal Water District, Three Valleys Municipal Water District, Municipal Water District of Orange County, West Basin Municipal Water District, and Western Municipal Water District filed answers to the second amended petition/complaint.
	Aug. 31	SDCWA filed answer to Metropolitan’s cross-complaint.
	April 11, 2022	Court entered order of voluntary dismissal of parties’ WaterFix claims and cross-claims.
2014, 2016, 2018	June 11, 2021	Deposition of non-party witness.
	Aug. 25	Hearing on Metropolitan’s motion for further protective order regarding deposition of non-party witness.
	Aug. 25	Court issued order consolidating the 2014, 2016, and 2018 cases for all purposes, including trial.
	Aug. 30	Court issued order granting Metropolitan’s motion for a further protective order regarding deposition of non-party witness.
	Aug. 31	SDCWA filed consolidated answer to Metropolitan’s cross-complaints in the 2014, 2016, and 2018 cases.
	Oct. 27	Parties submitted to the court a joint stipulation and proposed order staying discovery through Dec. 8 and resetting pre-trial deadlines.
	Oct. 29	Court issued order staying discovery through Dec. 8 and resetting pre-trial deadlines, while the parties discuss the prospect of settling some or all remaining claims and crossclaims.
	Jan. 12, 2022	Case Management Conference. Court ordered a 35-day case stay to allow the parties to focus on settlement negotiations, with weekly written check-ins with the court; and directed the parties to meet and confer regarding discovery and deadlines.
	Feb. 22	Court issued order resetting pre-trial deadlines as proposed by the parties.
	Feb. 22	Metropolitan and SDCWA each filed motions for summary adjudication.



Cases	Date	Status
2014, 2016, 2018 (cont.)	April 13	Hearing on Metropolitan’s and SDCWA’s motions for summary adjudication.
	April 18	Parties filed supplemental briefs regarding their respective motions for summary adjudication, as directed by the court.
	April 18	Court issued order resetting pre-trial deadlines as proposed by the parties.
	April 29	Parties filed pre-trial briefs.
	April 29	Metropolitan filed motions in limine.
	May 4	Court issued order granting Metropolitan’s motion for summary adjudication on cross-claim for declaratory relief that the conveyance facility owner, Metropolitan, determines fair compensation, including any offsetting benefits; and denying its motion on certain other cross-claims and an affirmative defense.
	May 11	Court issued order granting SDCWA’s motion for summary adjudication on cross-claim for declaratory relief in the 2018 case regarding lawfulness of the Water Stewardship Rate’s inclusion in the wheeling rate and transportation rates in 2019-2020; certain cross-claims and affirmative defenses on the ground that Metropolitan has a duty to charge no more than fair compensation, which includes reasonable credit for any offsetting benefits, with the court also stating that whether that duty arose and whether Metropolitan breached that duty are issues to be resolved at trial; affirmative defenses that SDCWA’s claims are untimely and SDCWA has not satisfied claims presentation requirements; affirmative defense in the 2018 case that SDCWA has not satisfied contract dispute resolution requirements; claim, cross-claims, and affirmative defenses regarding applicability of Proposition 26, finding that Proposition 26 applies to Metropolitan’s rates and charges, with the court also stating that whether Metropolitan violated Proposition 26 is a separate issue; and cross-claims and affirmative defenses regarding applicability of Government Code section 54999.7, finding that section 54999.7 applies to Metropolitan’s rates. Court denied SDCWA’s motion on certain other cross-claims and affirmative defenses.
	May 13	Pre-trial conference; court denied Metropolitan’s motions in limine.
	May 16	Court issued order setting post-trial brief deadline and closing arguments.
	May 16-27	Trial occurred but did not conclude.
	May 23, June 21	SDCWA filed motions in limine.



Cases	Date	Status
2014, 2016, 2018 (cont.)	May 26, June 24	Court denied SDCWA's motions in limine.
	June 3, June 24, July 1	Trial continued, concluding on July 1.
	June 24	SDCWA filed motion for partial judgment.
	July 15	Metropolitan filed opposition to motion for partial judgment.
	Aug. 19	Post-trial briefs filed.
	<u>Sept. 14</u>	<u>Court issued order granting in part and denying in part SDCWA's motion for partial judgment (granting motion as to Metropolitan's dispute resolution, waiver, and consent defenses; denying motion as to Metropolitan's reformation cross-claims and mistake of fact and law defenses; and deferring ruling on Metropolitan's cost causation cross-claim).</u>
	<u>Sept. 21</u>	<u>Metropolitan filed response to order granting in part and denying in part SDCWA's motion for partial judgment (requesting deletion of Background section portion relying on pleading allegations).</u>
	<u>Sept. 22</u>	<u>SDCWA filed objection to Metropolitan's response to order granting in part and denying in part SDCWA's motion for partial judgment.</u>
	Sept. 27	Post-trial closing arguments.
	<u>Dec. 16</u>	<u>Parties' proposed trial statements of decision due.</u>
All Cases	April 15, 2021	Case Management Conference on 2010-2018 cases. Court set trial in 2014, 2016, and 2018 cases on May 16-27, 2022.
	April 27	SDCWA served notice of deposition of non-party witness.
	May 13-14	Metropolitan filed motions to quash and for protective order regarding deposition of non-party witness.
	June 4	Ruling on motions to quash and for protective order.



Outside Counsel Agreements				
Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Andrade Gonzalez LLP	MWD v. DWR, CDFW and CDNR Incidental Take Permit (ITP) CESA/CEQA/Contract Litigation	185894	07/20	\$250,000
Aleshire & Wynder	Oil, Mineral and Gas Leasing	174613	08/18	\$50,000
Atkinson Andelson Loya Ruud & Romo	Employee Relations	59302	04/04	\$1,214,517
	MWD v. Collins	185892	06/20	\$100,000
	Delta Conveyance Project Bond Validation-CEQA Litigation	185899	09/21	\$100,000
	MWD Drone and Airspace Issues	193452	08/20	\$50,000
	Equal Employee Opportunity Commission Charge	200462	03/21	\$20,000
	Public Employment Relations Board Charge No. LA-CE-1441-M	200467	03/21	\$30,000
	Representation re the Shaw Law Group's Investigations	200485	05/20/21	\$50,000
	DFEH Charge- (DFEH Number 202102-12621316)	201882	07/01/21	\$25,000
	AFSCME Local 1902 in Grievance No. 1906G020 (CSU Meal Period)	201883	07/12/21	\$30,000
	AFSCME Local 1902 v. MWD, PERB Case No. LA-CE-1438-M	201889	09/15/21	\$20,000
	MWD MOU Negotiations**	201893	10/05/21	\$100,000
	DFEH Charge- (DFEH Number 202106-13819209)	203439	12/14/21	\$15,000
	DFEH Charge- (DFEH Number 202109-14694608)	203460	02/22	\$15,000



Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Best, Best & Krieger	Navajo Nation v. U.S. Department of the Interior, et al.	54332	05/03	\$185,000
	Bay-Delta Conservation Plan/Delta Conveyance Project (with SWCs)	170697	08/17	\$500,000
	Environmental Compliance Issues	185888	05/20	\$100,000
	Public Records Act Requests	203462	04/22	\$30,000
Blooston, Mordkofsky, Dickens, Duffy & Prendergast, LLP	FCC and Communications Matters	110227	11/10	\$100,000
Brown White & Osborn LLP	HR Matter	203450	03/22	\$50,000
Buchalter, a Professional Corp.	Union Pacific Industry Track Agreement	193464	12/07/20	\$50,000
Burke, Williams & Sorensen, LLP	Real Property - General	180192	01/19	\$100,000
	Labor and Employment Matters	180207	04/19	\$50,000
	General Real Estate Matters	180209	08/19	\$100,000
Law Office of Alexis S.M. Chiu*	Bond Counsel	200468	07/21	N/A
Cislo & Thomas LLP	Intellectual Property	170703	08/17	\$75,000
Cummins & White, LLP	Board Advice	207941	05/22	\$10,000
Curls Bartling P.C.*	Bond Counsel	174596	07/18	N/A
	Bond Counsel	200470	07/21	N/A
Duane Morris LLP	SWRCB Curtailment Process	138005	09/14	\$615,422
Duncan, Weinberg, Genzer & Pembroke PC	Power Issues	6255	09/95	\$3,175,000
Ellison, Schneider, Harris & Donlan	Colorado River Issues	69374	09/05	\$175,000
	Issues re SWRCB	84457	06/07	\$200,000
Haden Law Office	Real Property Matters re Agricultural Land	180194	01/19	\$50,000



Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Hanson Bridgett LLP	SDCWA v. MWD	124103	03/12	\$1,100,000
	Finance Advice	158024	12/16	\$100,000
	Deferred Compensation/HR	170706	10/17	\$ 400,000
	Tax Issues	180200	04/19	\$50,000
Hausman & Sosa, LLP	MOU Hearing Officer Appeal	201892	09/21	\$95,000
	MOU Hearing Officer Appeal	207943	05/22	\$25,000
	MOU Hearing Officer Appeal	207949	07/22	\$25,000
Hawkins Delafield & Wood LLP*	Bond Counsel	193469	07/21	N/A
Horvitz & Levy	SDCWA v. MWD	124100	02/12	\$900,000
	General Appellate Advice	146616	12/15	\$100,000
	Colorado River	203464	04/22	\$100,000
Internet Law Center	HR-Matter	174603	05/18	\$60,000
	Cybersecurity and Privacy Advice and Representation	200478	04/13/21	\$100,000
	Systems Integrated, LLC v. MWD	201875	05/17/21	\$65,000
Amira Jackmon, Attorney at Law*	Bond Counsel	200464	07/21	N/A
Jackson Lewis P.C.	Employment: Department of Labor Office of Contract Compliance (OFCCP)	137992	02/14	\$45,000
Jones Hall, A Professional Law Corporation*	Bond Counsel	200465	07/21	N/A
Kegel, Tobin & Truce	Workers' Compensation	180206	06/19	\$250,000
Lesnick Prince & Pappas LLP	Topock/PG&E's Bankruptcy	185859	10/19	\$30,000
	Labor and Employment	158032	02/17	\$201,444



Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Liebert Cassidy Whitmore	EEO Investigations	180193	01/19	\$100,000
	FLSA Audit	180199	02/19	\$50,000
LiMandri & Jonna LLP	Bacon Island Subrogation	200457	03/21	\$50,000
Manatt, Phelps & Phillips	In Re Tronox Incorporated	103827	08/09	\$540,000
	SDCWA v. MWD rate litigation	146627	06/16	\$4,400,000
	Raftelis - Subcontractor of Manatt, Phelps & Phillips Agreement No. 146627: Pursuant to 05/02/22 Engagement Letter between Manatt, Phelps & Phillips and Raftelis Financial Consultants, Inc., Metropolitan Water District paid Raftelis Financial Consultants, Inc.	Invoice No. 23949		\$56,376.64 for expert services and reimbursable expenses in SDCWA v. MWD
Meyers Nave Riback Silver & Wilson	OCWD v. Northrop Corporation	118445	07/11	\$2,300,000
	IID v. MWD (Contract Litigation)	193472	02/21	\$100,000
Miller Barondess, LLP	SDCWA v. MWD	138006	12/14	\$600,000
Morgan, Lewis & Bockius	SDCWA v. MWD	110226	07/10	\$8,750,000
	Project Labor Agreements	200476	04/21	\$100,000
Musick, Peeler & Garrett LLP	Colorado River Aqueduct Electric Cables Repair/Contractor Claims	193461	11/20	\$900,000
	Arvin-Edison v. Dow Chemical	203452	01/22	\$50,000 \$90,000
Nixon Peabody LLP*	Bond Counsel	193473	07/21	N/A
Norton Rose Fulbright US LLP*	Bond Counsel	200466	07/21	N/A
Olson Remcho LLP	Government Law	131968	07/14	\$200,000
	Executive Committee/Ad Hoc Committees Advice	207947	08/22	\$60,000
	MWD Board/Ad Hoc Committee Advice	203459	03/22	\$60,000
	Public Records Act	207950	08/22	\$20,000



Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Renne Public Law Group, LLP	ACE v. MWD (PERB Case No. LA-CE-1574-M)	203466	05/22	\$50,000
	<u>MOU Hearing Officer Appeal</u>	<u>203948</u>	<u>07/22</u>	<u>\$25,000</u>
Ryan & Associates	Leasing Issues	43714	06/01	\$200,000
Seyfarth Shaw LLP	HR Litigation	185863	12/19	\$250,000
	Claim (Contract #201897)	201897	11/04/21	\$100,000 <u>\$200,000</u>
	Claim (Contract #203436)	203436	11/15/21	\$100,000 <u>\$350,000</u>
	Claim (Contract #203454)	203454	01/22	\$100,000 <u>\$160,000</u>
	Claim (Contract #2034)	203455	10/21	\$100,000 <u>\$175,000</u>
Sheppard Mullin Richter & Hampton LLP	Rivers v. MWD	207946	07/22	\$100,000
Stradling Yocca Carlson & Rauth*	Bond Counsel	200471	07/21	N/A
Theodora Oringher PC	OHL USA, Inc. v. MWD	185854	09/19	\$1,100,000
	Construction Contracts - General Conditions Update	185896	07/20	\$100,000
Thomas Law Group	MWD v. DWR, CDFW, CDNR – Incidental Take Permit (ITP) CESA/CEQA/Contract Litigation	185891	05/20	\$250,000
	Iron Mountain SMARA (Surface Mining and Reclamation Act)	203435	12/03/21	\$100,000
Thompson Coburn LLP	FERC Representation re Colorado River Aqueduct Electrical Transmission System	122465	12/11	\$100,000
	NERC Energy Reliability Standards	193451	08/20	\$100,000



Firm Name	Matter Name	Agreement No.	Effective Date	Contract Maximum
Van Ness Feldman, LLP	General Litigation	170704	07/18	\$50,000
	Colorado River MSHCP	180191	01/19	\$50,000
	Bay-Delta and State Water Project Environmental Compliance	193457	10/15/20	\$50,000
Western Water and Energy	California Independent System Operator Related Matters	193463	11/20/20	\$100,000

*Expenditures paid by Bond Proceeds/Finance

**Expenditures paid by another group



INHERIT THE DUST

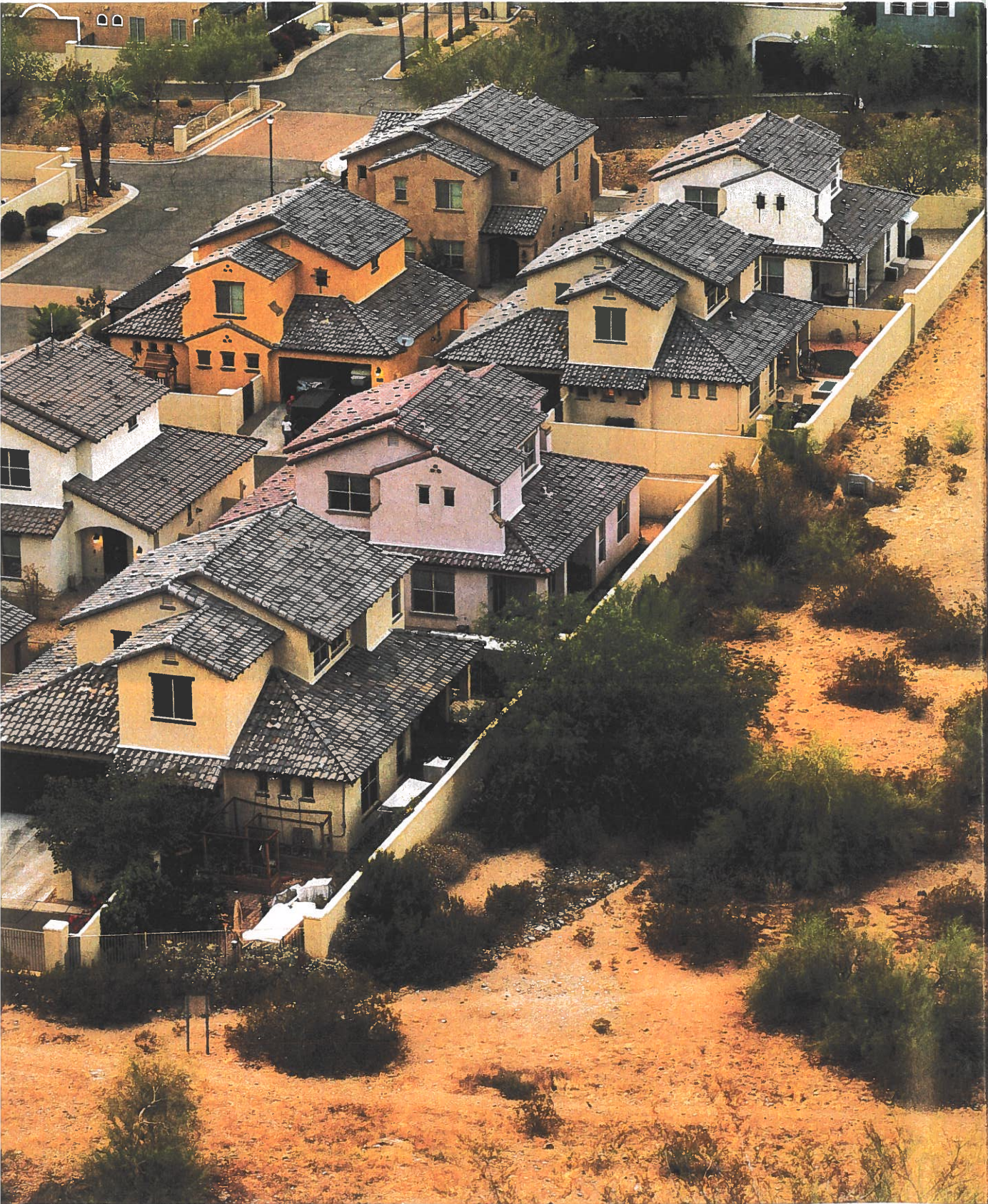
The Colorado River is running out of water. No place will be more affected than the arid metropolis of Phoenix.

NOT FAR FROM the constant roar of Phoenix's Sky Harbor Airport and just a few miles from the massive, air-conditioned stadium of the Arizona Diamondbacks baseball team lies what might be the quietest enclave in the United States' fastest-growing city. Pueblo Grande, the "big house," was settled around AD 450 and for close to 1,000 years was continuously inhabited by the Hohokam people. Home to hundreds of families at any one time, Pueblo Grande was but a single outpost in a sprawling, thriving civilization of as many as 300,000 people at its height. While the Roman Empire was falling into decay, the Hohokam culture was building one of the greatest cities in what would eventually be called the Americas.

The key to the Hohokam's success in the blistering climate of the Sonoran Desert was a complex network of canals that, at its zenith, was some 500 miles in length, crisscrossing what is now affectionately referred to as the Valley of the Sun. The canals diverted water from the Salt River to irrigate the Hohokam's fields of maize, melons, squash, and beans. No other ancient civilization in the Americas—not even the Inca or the Maya—built a more extensive water conveyance system. Nineteenth- and early-20th-century white settlers marveled at the perfect design of the canals, which, in the words of one observer, were "an engineering triumph."

Story by Jeremy Miller

Photos by David Wallace



Today, all that remain of the Hohokam big house are a smattering of mounds, earthen walls, and the outlines of small rooms that served as living quarters, granaries, and perhaps ceremonial centers. Along one side of the site runs a small trickle of water, slick with languid green strands of algae. This concrete-lined channel, known as the Old Crosscut, is one of hundreds of canals built by white farmers who settled the region in the late 1800s and who also grew melons and squash in the desert. In some cases, they grafted their ditch over the outline of an ancient canal—a modern civilization building upon the foundations of a past one.

No one knows exactly why, in the 14th century, the Hohokam abandoned Pueblo Grande and other settlements across the Salt River Valley. Two hypotheses (perhaps not mutually exclusive) are that the Hohokam were laid low by prolonged drought and that hundreds of years of relentless irrigation salinized the soil, which in turn led to a collapse in agriculture. “In either case, the mysterious disappearance of Hohokam civilization seems linked to water,” Marc Reisner wrote in his masterwork *Cadillac Desert*. “They either had too little or used too much.”

The secret of the culture’s disappearance from the region may be encapsulated in its name. *Hohokam* derives from a word in the language of the Akimel O’odham, a contemporary Native nation. It means “all used up” or “exhausted.”

THE QUIET POIGNANCY of Pueblo Grande is a striking contrast to the gleam and frenetic hum of modern Phoenix. In 1950, the Arizona capital was little more than a large town, home to roughly 100,000 residents scattered across 17 square miles. Today, Pueblo Grande lies at the heart of a sprawling 15,000-square-mile megalopolis with some 4.9 million

residents, which for the better part of half a century has been among the fastest-growing metropolitan regions in the United States.

Like the previous civilization over which it is built, Phoenix must rely on maintaining control of that most precious and fleeting of desert resources: water.

The first major step in the modern effort to water the desert came in the early 1900s with the construction of the Salt River Project. Built under the auspices of the National Reclamation Act, the SRP saddled the region’s largest river with four major reservoirs and 130 miles of canals. Yet even with the new infrastructure intended to “reclaim” the desert, cities and farmers were ultimately limited by the same modest water sources that had sustained the Hohokam centuries before.

That all changed in 1922, with the signing of the Colorado River Compact. This master document provided a framework to divide the Colorado River’s water among seven western states and promised a massive new supply of water to Arizona—though it would take more than 70 years of political and legal wrangling to get it flowing. In 1973, construction began on the Central Arizona Project, or CAP, a massive system of reservoirs, pumping stations, and aqueducts that would shuttle water 336 miles across the desert from Lake Havasu to Phoenix.

The completion of the CAP in 1994 accelerated the Phoenix area’s explosive growth. Already a sprawling metropolis, Phoenix and its suburbs spread even farther, as tangles of subdivisions and big-box stores materialized across vast tracts of desert. Many of the new neighborhoods (Hohokam Hills, Apache Peak, Anasazi Village) paid lip service to the region’s original inhabitants while adhering to none of the principles that allowed those cultures to survive

there for centuries. Golf courses and megaresorts resplendent with green grass materialized in terrain naturally suited to mesquite and saguaro. Despite the infernal summer temperatures, the modern desert dwellers could live in climate-controlled comfort, cooled 24-7 with air conditioners powered by the Palo Verde Generating Station, the biggest nuclear generator in the world that is not located on a body of water.

It was not cities, however, but agriculture—notably the “big c’s” of cotton, citrus, and cattle—that took greatest advantage of the new water supply. Today, agriculture in Arizona consumes 74 percent of the state’s water supply. And it’s not just local entities that are competing for the increasingly scarce water. Fondomonte, a Saudi Arabian agricultural firm, has rented a 3,500-acre plot of state-owned land at a steeply discounted rate to grow feed for cattle in Saudi Arabia. To grow its crop, Fondomonte is slurping up as much as 18,000 acre-feet per year—enough water to supply 54,000 homes.

The runaway agricultural and urban growth in the Phoenix metro area and across the state runs parallel to another story that is defining the West: the diminishment of the Colorado River. The river’s natural average flow at Lees Ferry (downstream from Glen Canyon Dam) declined from around 12 million acre-feet in 1900 to a forecast 6.5 million acre-feet in 2022. The reasons the river is shrinking are many, from the climate-change-related declining snowpack in the Rocky Mountains to the rising demand from rapidly growing cities such as Denver and Salt Lake City.

Last year, the river’s diminution reached a crisis point hydrologists have been warning of for decades. Wracked by more than 20 years of drought, the two largest reservoirs along the Colorado River—Lake



Powell and Lake Mead—dropped to their lowest levels in history. In April, Lake Mead fell below the level of the reservoir’s water intakes, which send water to pipelines feeding Las Vegas and other communities in southern Nevada. In May, as water levels dipped even further, a barrel containing a human corpse turned up on the reservoir’s retreating shoreline.

Though the drying of the Colorado River is dire for states across the West, the consequences are most severe for Arizona. Under the rules of the Colorado River Compact, Arizona’s water rights are the most junior in the Colorado River Basin. This means that it is first in line to have its allocations cut during a shortage.

In August 2021, Lake Mead fell to 1,075 feet, a critical threshold that prompted the Department of the Interior to declare a water shortage for the first time in the river’s history. Deliveries to the Central Arizona

Project were cut by a volume of 512,000 acre-feet, roughly 8 percent of the state’s total annual water use. The state’s farmers were the most affected. “The story is actually pretty simple,” Will Thelander, a third-generation farmer, told the *Arizona Republic* the week the cuts were announced. “River was overallocated, too much growth, huge drought, not enough water. You got to start cutting it off somewhere.” In August 2022, the federal government went further and slashed Arizona’s 2023 water allocation by 21 percent.

A moment of hydraulic reckoning has come for Arizona and its largest metropolitan area. But even as a new era of water scarcity looms over the state, local leaders continue to preach the gospel of endless growth. “No one even wants to mention that Arizona might have a water problem,” Sierra Club Grand Canyon Chapter director Sandy Bahr said,

The 336-mile-long Central Arizona Canal delivers a third of Arizona’s water from the Colorado River to the state’s cities and farms.

“because to admit that would be ‘bad for business.’” Even as the Colorado River dries up, the boom shows no signs of abating. Phoenix and the adjacent city of Mesa (population 504,000) remain among the most competitive real estate markets in America. At current rates of growth, the population of Phoenix’s metro area is expected to include another 2.1 million people by 2040.

By most measures, the present drought in the greater Southwest is entering its 22nd year. Some researchers and policy experts have started to question whether *drought* is even the right word to describe what is unfolding and instead prefer the terms *megadrought* and *aridification*. It is likely that the southwestern United States is on the front



In metro Phoenix, golf courses and megaresorts have materialized on terrain better suited to saguaro and mesquite.

end of a long-term shift in climate, a region-wide drying out that is driven in large part by human-made carbon pollution.

The hydraulic reckoning is forcing hard questions that the state's political leaders have always procrastinated in addressing. Can the region's agricultural and urban sectors continue their rapid expansion as the Colorado River withers? Or is it a slow-motion disaster, a situation the late Arizona representative Morris Udall envisioned as "a return to desert, to dust"?

ABOUT 20 MILES north of central Phoenix, a concrete river slices through the desert and past craggy peaks. This artificial waterway, the Central Arizona Canal, carries more than one-third of the state's water

supply from the main stem of the Colorado River to the desert metropolis and the farms that surround it. The Central Arizona Project is the largest and most expensive aqueduct system ever built in the United States, and it's no exaggeration to say that without this vital artery and its massive transfusion of water, modern Phoenix would not exist at its current size and scope.

A few hundred yards from the canal are the low-rise headquarters of the CAP. In this rather nondescript building, I met with Vineetha Kartha, the CAP's Colorado River program manager, who oversees "planning and strategy" for the vast irrigation project. Kartha spent her early years living on oceangoing ships with her father, who worked as the chief engineer on oil tankers and freighters. Among her most powerful memories is the wonder she felt when passing through the Suez and Panama Canals as a child. "I guess I've always had a

thing for canals," Kartha said with a laugh, explaining that she sees her job as akin to piloting a freighter through the Panama Canal: "I have to steer my ship through that canal, within the boundaries that are set by the law of the river."

The keystone of that so-called law of the river is the Colorado River Compact. When the interstate delegation of leaders, water managers, and real estate developers from Colorado, Utah, Wyoming, New Mexico, Nevada, Arizona, and California sat down to draft the compact in 1922, their first step was to reach an agreement on how much water the Colorado River carried. Relying heavily on data in a report compiled by hydrologist Arthur Powell Davis and Interior Secretary Albert Fall, the group arrived at a final figure of 18 million acre-feet of water annually. That volume was to be divided evenly among the states of the upper basin (New Mexico, Colorado, Utah,

and Wyoming) and the lower basin (Nevada, Arizona, and California).

In the 100 years since, many researchers have questioned the scientific rationale and political machinations behind the 18 million acre-foot figure. Whether the decision was accidental or the product of an opportunistic myopia is uncertain. What is clear is that when the compact was drafted, the American West was in one of its wettest periods in more than 1,300 years. The architects of the Colorado River Compact consented to a number that Mother Nature simply could not fulfill.

Those historic miscalculations are weighing heavily on the present management of the river and making Kartha's job increasingly difficult. The current "Tier 1" cuts triggered by the drop in water levels at Lake Mead fall almost entirely on Arizona, specifically its farmers, who collectively use more than two-thirds of the water delivered via the CAP aqueduct system. If Lake Mead continues its precipitous decline, new, more far-reaching reductions will be enacted. "As the drought gets worse, more and more people will be affected," Kartha said. At Tiers 2 and 3, she explained, municipal and industrial water users will experience reductions, as will the Native American nations that collectively hold rights to roughly a quarter of Arizona's Colorado River allotment. "We need to figure out how to resolve this supply and demand imbalance."

An ardent technocrat, Kartha said she sees the dwindling Colorado not as an existential threat but as a situation demanding a host of technical solutions. She pointed to measures put in place in 2007 to more carefully coordinate water releases in Lake Powell and Lake Mead and enhance storage mechanisms, which she said have made the system more responsive and resilient to drought. On the supply side, Kartha said, new desali-

nation plants along the Gulf of California and cloud seeding in the Rockies could help mitigate further reductions in water supplies. (Others have proposed more audacious plans, such as piping water in from the Mississippi River.) On the demand side, she mentioned efforts to incentivize conservation, including so-called toilet-to-tap schemes, which use recycled wastewater for drinking water. "The power of the human mind is incredible," she said. "We can use our brains to work through the current times."

Kartha soon had to take her leave, and I was left in the company of CAP spokesperson DeEtte Person, who escorted me down a long hallway covered with framed images of each major piece of infrastructure in the CAP system. We arrived at a conference room that she referred to as CAP's "nerve center." It was not immediately clear what made this room special. The secret, it turned out, lay behind three large glass windows covered in wooden shutters. Person picked up a telephone and asked the person on the other end of the line if she could "give a reporter a glimpse inside." Because the room is considered a piece of "critical infrastructure," Person said I could not take pictures.

There came a mechanical whirring as the shutters began to rise. Beyond was a room filled with an array of blinking lights and glowing computer screens. Two men dressed in jeans and T-shirts watched a bank of monitors. On the wall before them was a large, flickering schematic map of the CAP system. The whole network of dams, pumping stations, canals, and floodgates can be controlled from this one room. The place conjured images of a miniature NORAD or the bridge of the starship *Enterprise* bedecked with wall-to-wall carpeting.

The entirety of the CAP network is

remotely operated, Person explained, allowing decisions to be made in real time, somewhat like an extremely huge and complex sprinkler system. "Say there's an unexpected rainstorm and a farmer doesn't need his full allocation of water for that day," Person said. "That farmer can simply call us up, and we can change his irrigation schedule. We can track everything, all from right here."

CAP's nerve center is impressive—evidence, of a sort, of what Kartha called "the power of the human mind." In the control room, you can witness how human ingenuity has remade the desert. But is it truly control? Or the mere imagining of it? The CAP network, after all, is tied to a natural system beyond human command. And that system, scientists caution, seems to be breaking down.

FOR THE PAST 30 years, Connie Woodhouse, a geography professor at the University of Arizona, and her colleague, paleohydrologist David Meko, have been trying to figure out how drought factors into the natural climate cycles of the Southwest. On a 95-degree day in late April, she and Meko sat in her darkened office, located on the top floor of the Bannister Tree-Ring Building. It is the largest repository of tree ring samples in the world, and with its thin vertical columns and curved glass windows, Woodhouse explained, the building is designed to resemble a futuristic treehouse. Tens of thousands of pieces of wood are housed inside its vast archives—each a small chapter in the sprawling narrative of the planet's climate.

Woodhouse, along with former University of Arizona professor Jonathan Overpeck, is credited with coining the word *megadrought*. She admitted, however, that she doesn't much care for the term, which she feels has become something of a hollow buzzword. "It's used a lot

without defining what it means,” she said, “and with little precision in terms of duration.”

Woodhouse retrieved a cross section of wood from a bookshelf behind her desk. This one was a slice of ancient bristlecone pine that she’d collected several years ago high in the Colorado Rockies. Bristlecones are among the oldest living organisms on Earth. They are also extremely slow growing, in some cases adding only an inch of diameter per century. Their longevity provides an invaluable snapshot of climate. Woodhouse pointed to one section of rings more widely spaced than the rest. This indicated a series of years in which the tree received above-average moisture. Then she pointed to an area in which the rings were hardly separated from one another. “This is a dry period,” Woodhouse said. In the driest periods, several years of growth rings are so tightly packed together that the rings run together in wide, dark bands. By collecting wood samples from long-lived conifers along the Colorado River, Woodhouse and Meko have constructed a long-term record of streamflow on the Colorado River system dating to AD 762.

When Woodhouse and Meko published their first comprehensive streamflow reconstruction of the Colorado River in 2007, they found that the current dry period (then in its seventh year) was not as prolonged or severe as droughts that had struck the basin in the 1100s and 1200s. But the situation has worsened drastically since that analysis 15 years ago. Last year, Meko was invited to a water conference in western Colorado to talk about the current drought and how it compares with those in the past. To figure that out, he looked back at the 2007 study along with another undertaken in 2018. Then Meko projected forward, assuming the dry period would

continue at least through 2024. The results shocked him. “In that scenario, the current drought is more severe than any we saw in our previous reconstructions.”

In other words, if there were a megadrought in the Colorado River Basin in the past 13 centuries, we are currently in the middle of it. “The CAP can be optimistic, but the problem, as you can read every day in the paper, is that Powell and Mead are being drawn down,” Woodhouse said. “The Colorado River has much less water in it because of this historic drought. How are you going to engineer your way out of that?”

THE LIKELIHOOD OF long-term aridification and megadrought has prompted some of the region’s leaders to contemplate what was once considered unthinkable: the renegotiation of the 100-year-old Colorado River Compact. In May, Bruce Babbitt, a former Arizona governor and a secretary of the interior during the Clinton administration, called for that very thing. “While I once thought that these aridification scenarios were kind of abstract and way out in the future, I don’t think that anymore,” Babbitt told the *Los Angeles Times*. “It’s absolutely urgent that we start thinking now, while there’s time, about how we adjust the compact, the regulations, the necessary reductions, in the most careful way so that we limit the damage, which can really be extreme.”

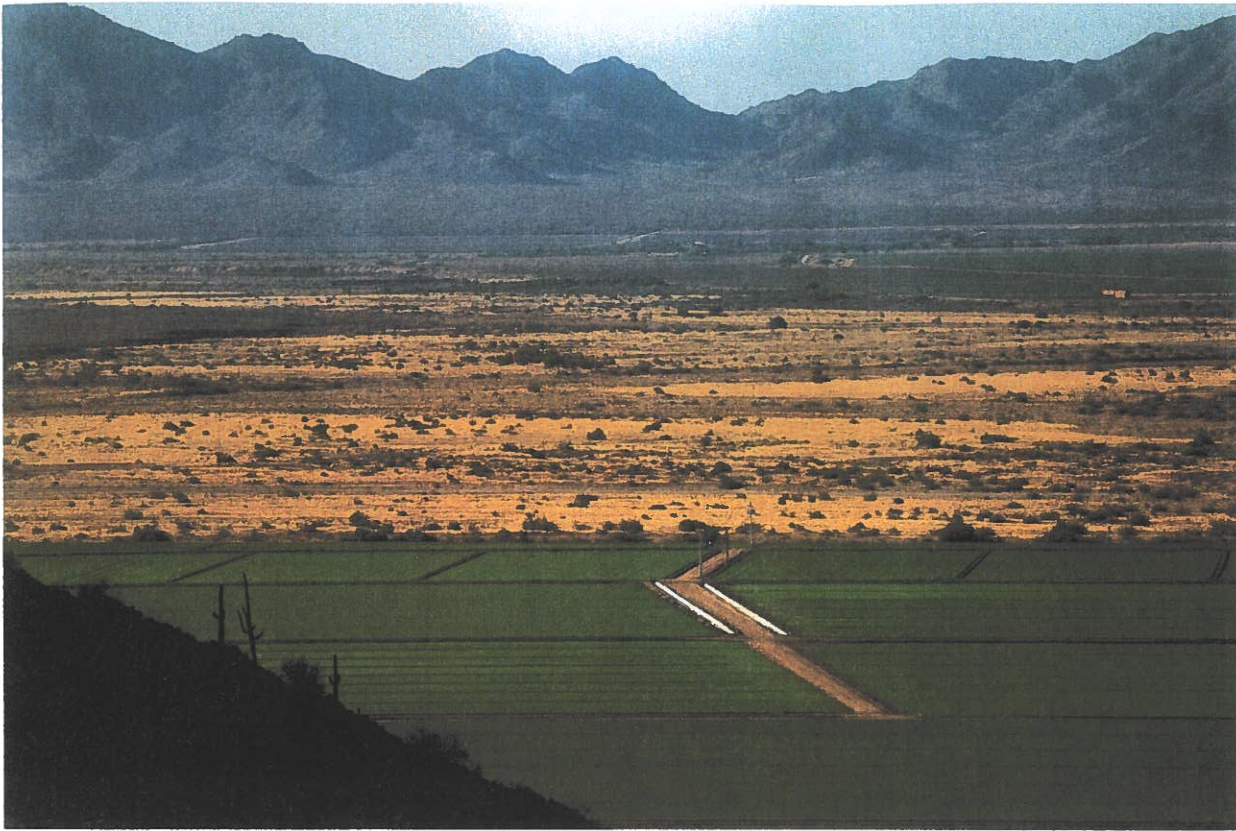
Others, though, believe renegotiating the compact is a nearly impossible task. “If we look at the compact today and ask ourselves, Was it equitable given 2022 values? No, it wasn’t,” said Anne Castle, a former Interior Department official in the Obama administration, during a speech at the University of Utah in March. “But part of the reason I say that I wouldn’t suggest a renegotiation is because I don’t think it’s politically possible.”

That’s because the compact requires cooperation among the states before Congress can alter the terms of the agreement. Any renegotiations would require the consent of leaders in upper basin states, many of whom are pushing to utilize a greater share of their Colorado River entitlements. Those aspirations are embodied in projects such as the proposed Lake Powell Pipeline, which would deliver water from the receding reservoir to fuel the growth of St. George, in southwestern Utah.

In the absence of any real hope of securing more Colorado River water, Arizona is doing what most water users in the West do when drought hits: pumping more water from the ground.

For decades, farms and cities in Arizona tapped local aquifers with abandon. That unchecked siphoning caused mass subsidence across the region. In the 1970s, surveyors found that a 625-mile area around the farming town of Eloy had sunk by as much as 12 feet. In some places, massive fissures formed in the earth, a process that continues today. Collapsed aquifers not only threaten roads, buildings, and other pieces of infrastructure (notably irrigation canals, including those of the CAP itself) but also prevent water from being pumped back into the ground for storage.

In 1980, the Arizona legislature passed the Groundwater Management Act, or GMA, to curb the rapid depletion of aquifers. The act required farms and cities in specifically defined “active management areas” to balance their groundwater use by 2025. The GMA was a step in the right direction, said Kathy Ferris, a senior research fellow at the Kyl Center for Water Policy at Arizona State University and one of the main authors of the act. “We were trying to get our act together,” she said. “And it looked like we finally would.”



But recent efforts to conserve water and replenish aquifers in Phoenix and other municipalities—by eliminating lawns, for example, and requiring high-efficiency appliances—are being overwhelmed by blistering growth in outlying communities. Ferris mentioned the city of Buckeye, which has grown from a mere 6,500 people in 2000 to close to 100,000 today. The problem is not merely Buckeye’s frenetic growth but the fact that the city, like many of the state’s rapidly expanding communities, has no access to surface water and is entirely dependent on groundwater.

It wasn’t supposed to be this way, Ferris said. In 1993, the Arizona legislature required developers to prove that their new developments would have a 100-year “assured water supply”—a “safe yield” that state water managers hoped would foster more sustainable patterns of devel-

opment. Builders hell-bent on covering the desert with tracts of houses soon found a loophole in the law. Rather than building single large subdivisions with hundreds of homes, developers instead built many small, scattered groups of houses, so-called wildcat developments. This tactic allowed developers to evade the 100-year water requirements of the GMA, since those rules apply only to homes built in subdivisions.

The community of Rio Verde, located in the desert northeast of Phoenix’s neighbor, Scottsdale, is one example of a development built this way—and it offers a troubling glimpse of the future for tens of thousands of residents living in other wildcat developments statewide. Earlier this year, after the shortage in Lake Mead was announced, Scottsdale officials notified Rio Verde residents that the city would no longer truck water into Rio Verde and residents would

Agriculture, like these fields of alfalfa grown for cattle feed, uses nearly three-quarters of Arizona’s limited water supply.

need to secure a new water source by the end of the year. To make ends meet, some have come to rely on friends and family bringing water in jugs. Others have found temporary salvation by hiring fly-by-night water haulers who in recent years have been accused of illegally siphoning water from fire hydrants in the Phoenix metro area.

“We can’t conserve our way into safe yield anymore,” Ferris told me. “We have too much growth, and we have too much residual groundwater pumping.” She noted that the GMA grandfathered many agricultural users, allowing them to pump “in perpetuity.” “We have also granted new

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users to use groundwater. We keep adding to the load, to the stress on our groundwater supplies, and we are not subtracting from it at the moment.”

“In order to begin to solve that problem, you have to start doing stuff right now,” said Grady Gammage Jr., a noted water policy expert at Arizona State University and an attorney who often represents developers. Gammage estimates that the Phoenix metro area has enough water to keep growing at its current rate for between 25 and 40 years—even factoring in water cuts and climate change. Gammage also believes that the water that has been artificially banked will last another 15 to 30 years. “But that’s like a savings account. Once it’s gone, it’s gone.”

While his growth projections seem rosy given the severity of the water crisis on the Colorado River, they come with one hard-nosed caveat: the near-total elimination of all farming in central Arizona. “That’s the big issue we’re going to have to face,” he said. “If we’re going to continue to have urban growth, we can’t have farming at anything like the level we’ve had in the past.”

ON A WINDY late-April afternoon, Nancy Caywood led a small group of visitors on a tour of her farm. Her family has grown cotton on the 255-acre plot outside Casa Grande, about 60 miles south of downtown Phoenix, since the 1930s. But there was no sign of the farm’s signature crop. The fields were sere, blank, furrowed like corduroy, and devoid of vegetation save for a few weeds along the margins.

Heavy gusts threw dust into the air and snapped the limbs of a towering mesquite tree. Caywood walked over a parched expanse of caliche—soil turned concrete-hard by the elements—pausing occasionally to

explain the array of sandblasted machinery scattered about the yard. Soon the wind and dust became too much to bear, so the group retreated to a small trailer adorned with folksy baubles—baskets, hand-painted saws, Christmas wreaths made of raw cotton.

Inside, Caywood turned on a laptop and projected a PowerPoint presentation onto a screen. The farm, she explained, at one point grew a variety of cotton called pima, which is adapted to heat and dry climates. Now it’s too dry here for even pima to thrive, and the farm grows an upland variety of cotton. She proudly proclaimed pima to be one of the finest cottons in the world. To illustrate, she handed everyone a boll, which she urged us to pull apart. She said the cotton had been genetically modified to withstand heavy doses of pesticides applied to keep bollworms in check.

Soon the presentation came to its crux—which wasn’t cotton-ravaging pests but water. Caywood said her family would be receiving a mere 5 percent of its water allotment this year. (Since that tour, the farm’s water allotment has shrunk to zero.) The farm, she explained, does not receive water from the CAP but from the Gila River, Arizona’s largest tributary of the Colorado. The Gila’s San Carlos Reservoir was at less than 3 percent of capacity. Caywood flashed through pictures of dry canals, receding reservoirs, and parched fields and said the current drought along the Gila has been even more persistent than the one ravaging the rest of the Colorado River Basin. “The last wet year we had here was 1993,” she said. “It’s been a very long time.”

Outside, the sky filled with dust and turned a brownish red, the color of ash. Suddenly, she took on a more combative and boosterish tone. “Unless you came here naked and

starving, you are part of our agriculture system,” she said. Then she handed out an assortment of popcorn, processed meat sticks, candies, and the grand prize, Hostess Twinkies. Her guests laughed giddily as she tossed the bullet-shaped pastries across the room.

“Any ideas about what these foods have in common?” Caywood asked.

One of the visitors chanced a guess: “Cotton?”

“Yes!” she replied. “All these foods are made with cottonseed oil.”

She built to her conclusion: “Cotton is in your clothes, and it’s in your food. It’s in every part of your life.”

Caywood opened the floor to questions. Those in attendance were not pesky environmentalists but people like her who work the land, albeit in wetter parts of the country that are more hospitable to agriculture. A dairy farmer from Ithaca, New York, questioned the wisdom of the entire enterprise. “Look out the window—hello, it’s a desert,” he said. “Is it smart to grow cotton in a desert?”

Another visitor, a hobby farmer from Wisconsin who sported a Sierra Club backpack, mentioned the heating of the planet. “Things are changing,” he said. “It’s getting hotter and drier. Do you think climate change has anything to do with your water shortages?”

Caywood balked. “I believe climate change is at play,” she said. “I also think naturally occurring drought is cyclical.”

The Wisconsin visitor pressed on: “But if the drought continues like it has, can you keep growing cotton?”

The wind clattered the roof and rattled the walls.

“We don’t plan to quit farming out here anytime soon.” ●

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