Environmental justice organizing as commoning practice in groundwater reform: Linking movement and management in the quest for more just and sustainable rural futures

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Despite the commons being a long-standing site of conflict, the role of social movements in common-pool resource management has been underaddressed. By exploring the role of environmental justice organizing in the San Joaquin Valley during California's landmark groundwater reform process as a commoning practice, this article seeks to fill this gap and advance our understanding of how collective action can, and is, being leveraged to advance just and sustainable transitions. I argue that through three principal strategies of challenging participation, scope, and authority, the movement has played a formative role in a landscape of intensive enclosure. Applying a commoning lens to the case highlights the important role of not only social movements in commons management but also of commons management as a venue for the rearticulation of regional socionatural relations. Such opportunities are particularly important in underinstitutionalized rural areas where opportunities to renegotiate these relations are often few and far between. Understanding the emergence and growth of commoning communities engaged in such efforts provides several important lessons. Individual commoning strategies can help identifying principal constraints and opportunities to transcend them. To be fully understood, however, they need to be considered collectively as well as in context. In doing so, the critical importance of focusing on the work commons do, rather than produce, becomes apparent. Commoning is both a tool and a goal in itself.

Keywords: Commons, Commoning, Environmental justice, Groundwater, Social movements

Introduction

Groundwater Sustainability Plans must include a sustainability goal which is the vision for groundwater for the region. We want to hear from you all about what the sustainability goal should entail. What is the vision we want for the future?

This question is posed by an employee of Self-Help Enterprises, a nonprofit technical assistance organization standing in front of a room of more than 20 residents in the unincorporated community of Planada, Merced County, California. It doesn’t take long before a chorus of responses starts up: All private well owners are aware and involved; clean drinking water, sustainability, conservation, sharing. Two months later in October 2019, a similar conversation is being had in the City of Lindsay, Tulare County, 110 miles south. “En un mundo ideal, ¿cómo sería su agua?” asks the founder of El Quinto Sol de America, a grassroots environmental justice organization. In an ideal world, what would your water be like? De la llave; Limpia; Purificada; Todos tiene acceso por un base economico sin tener comprar un filtro o botellas; Que el agua este al alcance de todos. From the tap, clean, purified, everyone has access at an affordable base rate without having to buy filters or bottles, everyone has water.

Both groups have been gathered to discuss and respond to draft Groundwater Sustainability Plans (GSPs) recently released for public comment by newly formed Groundwater Sustainability Agencies (GSAs) in their areas. Although these local agencies have been meeting for years to prepare their plans (which are thousands of pages long), many local residents are hearing about the law that mandated them, known as the Sustainable Groundwater Management Act (SGMA), for the first time. Workshops are a crash course in the legislation, the local self-appointed agencies that formed in response, and how they propose to define and implement “sustainability” all at once. Organizers are also simultaneously collecting community input on sustainability and groundwater priorities to share back to the agencies, most of which are barely, if at all, mentioned in the draft texts as written. The enclosure of the process, as much as access and use of the
groundwater itself, is extensive, more than a century in the making, but it is not uncontested and certainly not guaranteed. These workshops and dozens of similar ones hosted throughout the San Joaquin Valley (SJV) by a coalition of community-based organizations clearly demonstrate the unwavering commitment of the region’s environmental justice movement to the pursuit of a more just and sustainable future.

Such community groundwater workshops are just one of many diverse tactics being employed by environmental justice organizers to challenge the exclusion of low-income and farmworker communities, contest narrow technical framings that exclude considerations of community and environmental well-being, and defy ongoing enclosure in the state’s massive groundwater reform process. In this article, I detail the region’s environmental justice movement’s engagement in the development of GSPs and demonstrate how this organizing can be understood as commoning, or “processes/relations enacted to challenge capitalist hegemony and build more just/sustainable societies” and the contributions of doing so (García López et al., 2017, p. 1). I argue that through three principal strategies of challenging participation, scope, and authority, the region’s environmental justice movement has played a formative role in SGMA’s implementation as insistent commoners in a landscape of intensive enclosure. Although the immediate, material impacts of their challenges have been limited, there is an indication of the broader impacts reshaping not just groundwater management but the region as a whole, slowly but surely advancing more complex socionatural relations through the “performance of counter hegemony” (García López et al., 2017). In this way, we see how in taking a commoning perspective that foregrounds contingent and contested relations in lieu of institutions and attends to confrontations between resource users as power-laden struggles over access (Scholtens, 2016), the critical role of social movements in common-pool resource management is highlighted. Further, the resource management process itself is shown to be a key venue for renegotiating and fostering new relations. The commoning practices employed in trying to do so, then, offer empirical lessons for the pursuit of “transitions that are truly transformative” (Nikolaeva et al., 2019, p. 348).

Social movements, commons, and commoning

Generations of scholars have made enormous advances in understanding common pool resources and their sustainable management, or lack thereof. However, the dominant institutionalist approach focused on understanding the rules, norms, and strategies employed in management (Crawford and Ostrom, 1995; Ostrom, 2009) has led to a relatively static perspective on these issues (Villamayor-Tomas and García-López, 2018). Generally, this literature has focused on the conditions under which sustainable resource management is possible with significantly less attention paid to how such conditions can or do change (Scholtens, 2016; Varvaroussis, 2020) including a heavy focus on diagnosing collaborative dynamics and comparative institutional design to the neglect of feedbacks, interdependencies, and the continual evolution of these management regimes at all levels (Emerson et al., 2012; Berardo and Lubell, 2019). Relatedly, the institutionalist approach has been critiqued for a lack of attention to the historical, political, and embedded nature of resource governance (Johnson, 2004; Clement, 2010; Scholtens, 2016; Morrison et al., 2019).

Perhaps it is not surprising, as a result, efforts to understand the ways by which social movements organize to promote or defend commons, let alone the implications of these efforts, have been sparse with a few notable exceptions (Scholtens, 2016; Villamayor-Tomas and García-López, 2018, 2021). This gap is curious for several reasons. In addition to their common interest in collective action (Villamayor-Tomas and García-López, n.d.), social movements around the globe have long been using the language of the commons in their struggles. Prominent examples related to water access include Cochabamba, Bolivia, and Stockton, California (Olivera and Lewis, 2004; Robinson, 2013). Moreover, the global commons have long been a site of social movements with a long history of resource users mobilizing to contest their exclusion in natural resource management (Scholtens, 2016). Indeed, as De Angelis (2012) reminds us, the commons, in practice, has always been a storehouse of dynamic struggles over enclosure and access and that of movements to defend and reconstitute commons. As sites of capitalist accumulation and dispossession (García López et al., 2017), commons are prime sites for struggle globally (Kashwan, 2017).

This gap is also consequential. The focus on institutions misses the embedded and political nature of commons, thereby limiting our understanding of variable outcomes (Johnson, 2004; Emerson et al., 2012; Scholtens, 2016; Morrison et al., 2019). For example, social movement actors can play a key role in diffusing innovation (Stern et al., 2002). Moreover, movement engagement can have both positive and negative effects on management regimes (Villamayor-Tomas et al., 2020). Villamayor-Tomas and García-López (2021) find that social movements contribute to commonization through five principal pathways: defense of communal use and management rights, promotion of economic autonomy, strengthening of community ties, improvement of community decision-making, and promotion of community organizational capacity. As some of these pathways indicate, social movements can produce effects that transcend management itself with long-term implications such as reinvigorating identity ties and inaugurating nested user organizations among others (Villamayor-Tomas and García-López, 2018).

Second, the omission of social movement actors obscures the important role common pool resource management can play as a terrain for the articulation of existing socionatural relations (Veuchey and Gerber, 2012; García...
López et al., 2017; Singh, 2017). Institutions are as much about norms, behavior, and values as they are about rules, law, and governance (Morrison, 2006). They do not exist solely in the environment, independent from individuals, but rather in combination, producing both old and new subjectivities. Keen attention to why some groups benefit over others and, particularly, how this changes through time underscores the processual and fluid nature of the commons (Bresnihan and Byrne, 2015; Scholten, 2016).

A central argument of this article is that by framing social movement engagement in common-pool resource management as commoning, these dimensions are productively clarified. Broadly defined as “a process of making and remaking of the commons” (Clement et al., 2019, p. 2), commoning is an action (“doing in common”) that promotes commonization, an alternative to commodification and capitalization guided by emancipation, social justice, and ecological sustainability (Centemeri, 2018). Emerging from the convergence of a diverse array of literature from geography to feminist theory to political ecology among others, a commoning perspective expands and diversifies our understanding of common-pool resources (and even more broadly, common goods), foregrounding the social relations that facilitate the production and perpetuation of commons (Turner, 2017). The active and collective nature brings the processual, spatial, and relational dimensions of commons management to the forefront (Nikolaeva et al., 2019). In doing so, commoning focuses on practices for fostering new relations and the ongoing renegotiation and ambivalence of these relations over time (Nightingale, 2019), including strategies for advancing more just, inclusive, and sustainable spaces (Nikolaeva et al., 2019).

Scholten (2016, p. 931) explains the scholarly study of commoning, as compared to commons, as constituting a switch in focus from collective action as “fostering institutions” to collection action as “contesting power structures.” In doing so, a commoning perspective is more explicitly inclusive of social movement actors even though they often lack formal roles in management. Commoning also helps focus us on the key role of common-pool resource management as venues of socinatural renegotiation and critically, the practices of fostering new relations (Nightingale, 2019) occurring in these spaces. Whereas institutional common-pool theory has concerned itself with common pool resource management almost exclusively, in taking a commoning approach in this article, I am explicitly concerned with the commons as “a vehicle for broader societal transformations” (Villamayor-Tomas and García-López, n.d.) and what we can learn from movements already doing this work.

The generative nature of this switch is well-demonstrated in the case of California groundwater reform. Although there is much written about California environmental justice movements (e.g., Pulido, 1996; Harrison, 2011; Perkins, 2012; Perkins, 2021), and groundwater management (e.g., Blomquist, 1992; Leahy, 2015; Owen et al., 2019) individually, in keeping with the aforementioned trends, much less scholarly attention has been paid to the relationship between the two. Given the long-term intensive enclosure of the resource in the SJV and the resulting displacement and movement response of rural drinking water users as will be detailed shortly, the case provides a fertile context for demonstrating and learning from these intersections that complements existing (and growing) institutional analyses.

Methods, positioning, and paper organization
This article benefits from the engaged scholarship model (Morello-Frosch et al., 2005; Fine, 2008; Balazs and Morello-Frosch, 2013; Derickson and Routledge, 2015) through which the research was conducted. In elaborating my argument, I draw on diverse primary documents ranging from comment letters and technical reports to op-eds and media articles as well as transcripts from 27 previously conducted semistructured interviews (see Dobbin, 2020). I also draw directly on my participation in meetings and workshops over the course of 3 years (2017–2019) and ongoing communication and participation with several of the organizations discussed. These relationships stem, in part, from my employment by one of these organizations, Community Water Center, working on SGMA implementation from 2015 to 2017, an experience that further informs my analysis. Thus, my positioning in writing this article is undeniably one from “within” although not “of” the organizers and organizations discussed, as they are my own as both a scholar and activist in this space. This positioning is intentional to provide a unique viewpoint into the unfolding of the groundwater reform process in the SJV capable of rendering not just a deep understanding of environmental justice organizing in the case but also the complex dialectics between organizing and groundwater management at play and their implications for each.

This article is organized as follows: The next section situates the narrative by detailing pervasive enclosure and inequity in groundwater access in the SJV and SGMA as the case context. This is followed by a detailed exploration of the three commoning strategies employed by the environmental justice movement to advance their commons agenda through the implementation of the policy reform. Subsequently, the discussion explores the contributions of the commoning framing to this case followed by a brief conclusion.

Background and case context
Inequity and enclosure in water access in the SJV and environmental justice resistance
Sometimes called “the other California” (Haslam, 1993) or the “Appalachia of the West” (The Economist, 2010), the SJV is a place of contradictions and extremes. The SJV is the world’s most productive agricultural region and produces 75% of California’s crude oil. Not unrelatedly, it is home to some of the worst air quality in the nation (Huang and London, 2012), an overconcentration of prisons (Gilmore, 2007), and 25% of the nation’s pesticide applications (Harrison, 2014). Taken together, this means that the region produces tens of billions of dollars through its extractive industries while remaining one of
the poorest regions in the United States where one in four children have asthma and are food insecure.

These conditions aptly characterize the SJV as a slow violence landscape (Sze, 2020, personal communication). This violence is borne out on residents in a handful of cities (37, many small) and over 500 unincorporated communities spread across a region larger than the state of West Virginia (Flegal et al., 2013). Unincorporated communities are populated settlements outside of municipal boundaries. Shaped by de jure and de facto segregation (Eissinger, 2008; Eissinger, 2017), unincorporated communities have, in effect, been “mapped out” of local democracy via their explicit exclusion from local governance (Anderson, 2012). This shocking level of informality has subsequently been maintained through a century of county underinvestment and neglect evidenced by the lack of rudimentary services and interspersed toxic land uses (Anderson, 2009; Flegal et al., 2013). Such “creative extraction,” as Seamster and Purifoy (2020) refer to it, has led to White overdevelopment of not just a few select cities but also industry, principally agriculture, via Black/Brown underdevelopment.

This uneven development and representation has directly shaped both water infrastructure and water access in the region, thereby leading to another central mechanism of slow violence in the SJV: drinking water injustice (Pannu, 2012; London et al., 2018). Shut out of rights to the subsidized imported surface water afforded to farming and a few large cities, the rural residents of the SJV’s unincorporated communities and small cities are almost entirely reliant on groundwater as their drinking water supply. They access this water through shallow and often single groundwater wells, leaving them at the mercy of changing conditions. Although always somewhat tenuous (Eissinger, 2008, 2017), the ever-growing footprint and intensification and industrialization of agriculture in the region (Arax, 2019) have increasingly squeezed out community drinking water access through both excessive pumping (appropriation) and unbridled contamination of remaining groundwater reserves.

The socionatural consequences of these trends are stark, constituting a marked enclosure of the region’s shared groundwater resources. Accelerated pumping has led to widespread lowering of the SJV groundwater table causing the land surface to subside by as much as 28 feet since the 1920s as water pockets amid the sediments are drained of water and collapse, permanently reducing the aquifers ability to store groundwater reserves (Galloway and Riley, 1999). As climate change exacerbated drought compounded the human-made overpumping drought from 2012 to 2016, the previous gradual drying out of drinking water wells accelerated to unprecedented levels: more than 10,000 residents found themselves without running water, the majority of them low-income residents in unincorporated communities (Feinstein et al., 2017). Five years later, some continue to rely on hauled water from county emergency services. Far more of these same communities are impacted each year by primary (health-based) violations of the Safe Drinking Water Act, some resulting from long-standing naturally occurring contaminants such as Arsenic but most from agricultural by-products such as nitrates, 1,2,3-TCP, and DBCP (Burow et al., 2008; Balazs et al., 2011; London et al., 2018). Nitrogen fertilizer applications alone increased by 554% in the region from 1950 to 1980 (to say nothing of confined-animal feedlots, another prominent source) corresponding to a marked increase in groundwater nitrates levels which continue to rise and are expected to do so for decades even if all input sources ceased immediately due to gradual leaching from existing deposits (Dubrovsky et al., 1998; Harter et al., 2012). In the pest-vulnerable eastern SJV citrus belt, one study shows agricultural pesticides to be detectable in nearly 70% of domestic wells sampled (Dubrovsky et al., 1998). The culmination of these impacts means that for those wells that remain operable, the water they produce more than likely represents a threat to human health.

To be clear, what proceeded this long-term enclosure let alone the recent intensification did not constitute a commons in that it lacked any management, let alone democratic or community norms and processes. Prior to the passage of the SGMA in 2014 as will be discussed next, California had no systematic required groundwater monitoring or management enabling open access and exploitation (Leahy, 2015). But due to ample groundwater reserves, initially, this regime did facilitate, and even encourage, community water access. As such, these changes by which large agricultural groundwater users grew still larger through use accumulation was experienced as an enclosure by SJV communities as defined not just by the displacement of drinking water users but also the “appropriation of wealth produced” (Jeffrey et al., 2012, p. 3).

Further, not dissimilar to other enclosures around the globe, this displacement of drinking water users for private gain has spurred a movement response to resist enclosure and envision and enact a water commons in its place (Scholten, 2016; Villamayor-Tomas and García-López, 2018). With roots in the United Farm Workers (Pulido, 1996; Perkins, 2021) and famous David-and-Goliath struggles in communities like Kettleman City (Cole and Foster, 2001; Richter, 2018), the SJV’s environmental justice movement is expansive and multifaceted. Yet given the region’s conditions of water inequity and enclosure, water justice has always been central to the movements’ work and vision.

How this work is conducted, however, has changed over time. Mirroring the broader movement’s trends toward increasing institutionalization and professionalization (Perkins, 2015). Organizing has gradually expanded from being highly localized, focused on individual communities, toward increasingly regional and statewide efforts (although not to the exclusion of local organizing), including the development of coalitions, both among

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2. Nixon (2011, p. 2) defines slow violence as “violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all.”
communities, such as AGUA (la Asociación de Gente Unida por el Agua or the association of people united for water) and the organizations that work in them, such as the Environmental Justice Coalition for Water. This transition has corresponded with increased involvement in Sacramento policy making (London et al., 2008; Perkins, 2015) leading to the passage of California’s human right to water law, AB 685, in 2012. Organizers have also spent years working on the state’s Integrated Regional Watershed Management (IRWM) program initiated in 2002 and played a key role in regional nitrates and salts management programs through political and legal advocacy at all levels. During the recent drought, the movement’s leaders were on the front lines at all levels—arguing for, designing, and implementing emergency solutions including hauled water replacement and leveraging the crisis to develop mandatory programs for drought resilience planning in rural areas.

Groundwater reform under the SGMA

The passage and implementation of the SGMA in 2014 highlight the movements’ role as a key actor in present-day water policy making at the state and local levels. Several of the SJV’s prominent environmental justice organizations played an important role in negotiating the three-bill package and were present for its signing by Governor Brown on September 14, 2014. Among the artifacts of this advocacy were several provisions for the consideration and involvement of low-income, small water system, and domestic well stakeholders specifically. Critically, advocates also worked in parallel to the legislative process to secure public water bond funding for sustainable groundwater planning in low-income communities. Ultimately, US$16.2 million was awarded, split between technical assistance funding provided to environmental justice and community assistance organizations for SGMA (which several of the organizations subsequently applied for and received) and more traditional planning activities for capital improvement projects in these areas.

SGMA set into motion a complete reorganization of groundwater management in the state (Leahy, 2015). Whereas previously management efforts had been voluntary, resulting in spotty coverage and little to no capacity to address the root causes of groundwater overdraft, under SGMA groundwater management is now mandatory and comes with a whole host of new institutional powers for monitoring and regulation. These new powers were granted to GSAs, which were formed in an opt-in manner by local water and land-use agencies covering each high- and medium-priority groundwater basin by June 2017. SGMA sets up a state framework for sustainable management that is to be implemented locally by these GSAs with significant flexibility. In writing their plans, GSAs must define a locally determined sustainability goal as well as define what constitutes “undesirable results” for six groundwater indicators. These definitions then must be used to set minimum thresholds and measurable objectives that bound a sustainable operating range that ensures the avoidance of “significant and unreasonable” impacts to beneficial uses and users of groundwater. Per the design of SGMA, state agencies will only intervene if locals decide not to assume the responsibility of groundwater management or if they fail to comply with state guidelines. This “state backstop” alternative as it is referred to, however, is not permanent. Rather, even in the case of noncompliance, GSAs are expected to revise their plans and resume local management as soon as possible.

This collaborative, stakeholder-driven, local control design of SGMA is a double-edged sword. Although potentially opening the door for direct participation by SJV communities in resource governance (as opposed to a top-down state-controlled program; Harrington, 2015), it also cedes decision-making to local jurisdictions (cities and counties) along with special districts, all of which are highly unrepresentative of the hundreds of low-income rural unincorporated communities who have continually been excluded from the material benefits of local government since colonization (Pannu, 2012). In this way, enclosure is not just the reason for groundwater reform via SGMA but also the context in which it would be performed. Alternatives, however, were not on the table. Not only would any other approach be a significant break from more than a century of California groundwater management precedent (Leahy, 2015), but anything less than local control was considered nonviable in the state legislature given the power of the agricultural lobby. Several years into a historic drought tens of thousands were living without running water, residents and advocates lacked a venue to challenge these impacts let alone build the water commons they desired. Regional groundwater planning very clearly provided new opportunities to alter regional drivers of local inequity (London, 2016). As such, they were ready to fight for the passage of SGMA, and its full and equitable implementation, despite challenges with the specific method.

Based on SGMA’s design, any progress to advance a more secure water future for the hundreds of communities reliant on single and shallow water sources in the SJV within the program hinged on local implementation in fragmented, parallel efforts. Such regional governance and local control-oriented state policy directives were not new in California or the SJV. Reflecting a general move toward regional institutional integration for achieving rural sustainability (Morrison, 2006), environmental justice advocates were already accustomed to fighting for land use, air quality, and greenhouse gas reduction mandates on multiple regional fronts, often through coordinated coalitions (London, 2016). Similar tactics were immediately pursued for SGMA although the fragmentation far surpassed what had been seen before: By June 2017, SGMA’s statutory deadline for the formation of Agencies, more than 260 had formed, over 100 of which were found in the SJV.3 Groundwater basins, the socio-ecological unit around which SGMA was written, were split into as many as 12 agencies, bifurcating or even tri-furcating unincorporated communities and public water systems. Existing research shows that these agencies are

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3. For comparison, the region formed eight Council of Governments for transportation planning at the county level (London, 2016).
highly unrepresentative of the SJV’s environmental justice communities (Dobbin and Lubell, 2019) and have been heavily influenced by the region’s large-scale agricultural interests, which have dominated not just the agencies (Dobbin, 2020; Méndez-Barrientos et al., 2020) but also the public narrative of the process (Bernacchi et al., 2020).

Upon their formation, these GSAs were tasked with developing GSPs, which for most SJV areas, were due January 2020 due to their critically overdrafted status. Thus, environmental justice organizations, in partnership with environmental allies from around the state, found themselves engaged in the parallel development of 37 unique GSPs across the SJV (some written by individual GSAs and some collaboratively written by several). Even with coordinating their involvement and leveraging the public technical assistance funding they had fought for, the sheer magnitude of agencies and plans resulted in far more work than any had staffing for. An individual GSA could have as many as seven meetings per month, stretching thin not just organizations working across agencies but also residents trying to keep pace with just one process. Thus, not just the formal governance of the process has been one of continued exclusion but also the supposedly public participation mechanisms. Organizers and residents alike have critiqued the representativeness, inclusivity, and transparency of the process noting significant barriers to accessing, let alone influencing, decision-making (Dobbin, 2020). In consequence, SGMA has in many ways, grown rather than reversed, the enclosure of groundwater in the SJV. This enclosure, however, has not gone uncontested by the region’s environmental justice movement who, despite these challenges, have continued to leverage SGMA as an opportunity to articulate and pursue their vision of groundwater commons in which groundwater is not just a common good, accessible and sustainable as a life source, but also actively commoned by commoners through shared, democratic management (Centemeri, 2018). In a region where water rules (Arax, 2019), there could be no clearer challenge to capitalist hegemony (García López et al., 2017, p. 1).

SGMA’s contested fronts: Challenging participation, scope, and authority as environmental justice commoning strategies

The commons are inherently contested (Harvey, 2011; Nightingale, 2019) and SJV groundwater is not an exception. Despite the ongoing and sometimes seemingly increasing threat of enclosure through SGMA implementation, environmental justice organizing efforts in the process have continued through and past the submission of GSPs to the Department of Water Resources for review in January 2020. Their ongoing efforts can be summarized by three principal strategies identified inductively through my research: challenging participation, scope, and authority. Through each, organizers have worked to defy status quo powers that sought to constrain and limit, seeking instead to connect and amplify in pursuit of a more just and sustainable SJV. Together, I argue, these strategies constitute an environmental justice commoning practice dedicated to advancing an SJV water commons that does not yet exist. How these strategies were employed, and what we can learn from them with respect to the role of both movements and resource management in advancing just and sustainable transitions are the subject of this and the following sections, respectively.

Participation

Reflecting the environmental justice movement’s long-standing attention to process encapsulated by the motivating refrain “we speak for ourselves” (Cole and Foster, 2001), ensuring broad and inclusive participation has been a focal point of environmental justice advocacy around SGMA since the beginning. In direct defiance of local water managers’ efforts to play off SGMA as a niche undertaking, environmental justice organizers have promoted a clear and consistent message: SGMA is about all of us; therefore, we all need to be involved. They have done so by underscoring the relevance of groundwater to every facet of life in the SJV. Meeting flyers proclaimed “your comments on this Plan are vital to helping address water quality and water supply challenges in your community” and presentations and workshops often started by linking community-specific water challenges to regional groundwater management. In one SGMA training, Self-Help Enterprises started with a community visioning worksheet where residents described or drew what they wanted their community to look like in 20 years (the deadline for achieving sustainability under SGMA) and then linked that vision to specific water management priorities that would facilitate it.

Using this messaging, community-based organizations heavily prioritized outreach, holding community meetings and providing updates at local water board meetings and other community venues regularly. Often this was in areas where organizations had existing ties but some of the outreach was “cold” often leading to new relationships. Several organizations created “get to know your GSA” factsheets and videos encouraging community involvement in the process. In support of this outreach, a critical role that nonprofits and community organizations have played to support broader participation was providing training to make both the complicated policy process and the technical groundwater subject matter more accessible. In partnership with the Union of Concerned Scientists, several SJV organizations provided a series of bilingual community workshops on SGMA and GSPs with hands-on activities such as calculating water budgets for their own groundwater basins and role-playing negotiations for setting management criteria and selecting projects and management actions for hypothetical basins. Building off of these efforts, the Union of Concerned Scientists also published a bilingual layperson “Getting involved in groundwater guide.”

Based on previous experiences with attrition in leadership positions, particularly in hostile environments, supporting community leaders to stay involved was of the utmost importance. To sustain involvement, organizers provided one-on-one support to dozens of community representatives, sending meeting reminders, collaboratively reviewing agendas, and providing ongoing training to help participants feel confident in SGMA meetings. To support
residents in person, and to fill gaps to maintain an ongoing presence, organizers also attended hundreds, if not thousands, of GSA meetings themselves, coordinating their involvement to maximize coverage with attention to leveraging key strategic, preexisting relationships with local communities, water managers, and local elected alike.

New relationships also evolved through this work. Community-based organizations convened communities in the same GSA to work together in SGMA. In one such case, five unincorporated communities worked together to negotiate a legal agreement with their overlying GSA for GSP development and implementation. They did so based on their shared priorities but also advocated collectively for individual community needs: one of the five communities lacked a sewer system (a common challenge for unincorporated communities in the SJV stemming from withheld county investment). Without one, this community had no means to quantify and claim credits for recharging the aquifer to help offset potential pumping quotas or fees. Despite this challenge being unique to only one community, all five communities worked together to insist the GSA include a mechanism for estimating that communities recharge credits for their household septic tanks.

Importantly, efforts to broaden participation targeted not just environmental justice community residents but also GSAs themselves. Starting immediately with the passage of SGMA, an environmental justice priority was securing decision-making representation in GSAs. Wary of the limited benefits low-income communities continued to reap from the similar IRWM program, organizers were determined that environmental justice representatives would not just participate in SGMA but have a meaningful say. Advocates engaged in negotiations establishing dozens of GSAs in the South SJV to secure community representation on board of directors and advisory boards as well as in some cases to establish rural community and drinking water committees. Learning from their engagement across many GSAs, they used wins in one agency as leverage in others and often replicated proposals for committee and board structures from one to another. For example, the establishment of a “rural communities committee” with an assigned board seat/vote in one Tulare County GSA known as Greater Kaweah GSA was replicated in neighboring Fresno County in the North Fork Kings GSA where environmental justice organizers were also deeply engaged. North Fork Kings GSA was formed via special act district legislation after local agricultural water districts appealed to legislators in Sacramento for assistance in setting up an agency with more flexibility than the more popular routes of establishing Memorandums of Understanding or Joint Powers Agreements.4 In both cases, environmental justice advocates were able to flex their power in the state capitol to ensure voting seats for local communities.

Organizers have been the first to say that progress in securing meaningful representation in decision-making has fallen far short of what is needed. They were successful in obtaining voting seats in just a handful of GSAs and advisory roles in another handful. On more than one occasion, organizers fought tirelessly for these roles and then struggled to find residents that were willing and able to hold them as they balanced work and other responsibilities. Notably, however, despite these challenges the environmental justice community’s focus on representation in decision-making roles has not faded with time. For the past several years, an ongoing coalition of environmental justice, community development, and traditional environmental nongovernmental organizations working on groundwater have convened annually to reflect and strategize on SGMA. At each convening enhancing representation, specifically voting representation has arisen as a key shared priority moving forward. Further, organizers have been busy making sure they are ready to leverage representation opportunities when they arise: Since the passage of SGMA, Community Water Center launched their Community Water Leaders Network, a leadership cohort for local elected, and Self-Help Enterprises revamped a Rural Community Water Managers Leadership Institute. Both included a significant focus on SGMA and have already seen new residents move into decision-making positions. One such win came in 2018 when a local organizer and participant Daniel Peñaloza, 25 at the time, was elected to the Porterville City Council and promptly volunteered for every water-related committee assignment including representing the city on the East Tule GSA for which he became an alternate voting member.

Inverting the dominant policy narrative focused on low-income communities needing capacity building to participate, advocates also spent significant time engaging GSAs and state agencies on the skills they needed to develop to make the process more inclusive. Especially in the first few years of GSP development, advocates spent significant time working with GSA staff for improved outreach and meetings, sometimes partnering with the agencies to implement their suggestions. Environmental justice organizations also consistently watchdogged agencies for compliance with California’s public meeting law, the Brown Act.

To expand these efforts statewide, Community Water Center along with the Union of Concerned Scientists and Clean Water Action published a report entitled “Collaborating for Success” highlighting best practices and examples for broad stakeholder engagement in water management. Significant effort was also dedicated to pushing the Department of Water Resources, which was charged with technical assistance for GSAs, to publish a similar document. When the Department finally began working on one, the same advocates worked diligently to improve its contents. The result, which was published in January 2018, more than a year after the Department’s other supporting materials had come out, was considered far too little too late. Yet advocates’ sense of the importance of these documents was borne out in time. The state backstop design of SGMA incentivizes local agencies to

4. For more information about the formation of Groundwater Sustainability Agency, see Dobbin and Lubell (2019) and Milman et al. (2018).
adhere to state guidelines and recommendations as a means of preventing state intervention. The stakeholder communication and engagement plan template suggested in the document, created with substantial environmental justice input, appeared in more than 80% of the GSPs submitted in January 2020 despite it only being a suggested example.

**Scope**

In addition to fighting for an inclusive democratic process, a second major environmental justice priority has been fighting for an inclusive scope for groundwater planning. Generally, GSAs have sought to limit what is considered relevant to GSP development and, ultimately, what a GSP can accomplish. In doing so, they have unabashedly pursued a “one-world world.” In contrast, environmental justice stakeholders have fought to make SGMA accommodate multiple forms of knowledge and expertise in pursuit of a “pluriverse” (Singh, 2017, pp. 762, 766).

In day-to-day SGMA meetings, engineers, and occasionally lawyers, were the primary voices in the room. Similar to other cases (Yates et al., 2017; Garcia and Bodin, 2019), these expert discourses limited environmental justice participation and influence in decision-making. SJV residents and organizers knew the impact of poor water management and had important expertise to offer, but ontological differences made it challenging to do so. For example, the official declaration of the end of the recent drought in 2017 based on average regional and state precipitation was inconsistent with the lived reality of ongoing drought by residents who remain without running water in their homes and wanted planning to reflect this by discussing drought in the present tense rather than the past.

The topical coverage of SGMA meetings was also heavily policed. For environmental justice stakeholders, SGMA was, and had always been, a visionary law about the future of the SJV, implicating everything from land use and labor to safe drinking water and public infrastructure. In contrast, GSAs typically focused on and claimed a very limited scope. As GSAs were developed, it was not uncommon to hear leaders describe their purpose as simply “to balance water inputs and outputs” often adding “without impacting surface water rights.” In other words, their vision was to calculate all of their groundwater inflows, assign proprietary rights to every drop of those that could be claimed, and then divide up the remainder among users per some allocation system (often acreage or crop based). In direct defiance of the nature of the shared resource itself, any potential impacts from these actions were portrayed as simply out of their hands, the consequences of the legislation rather than their implementation. This approach intentionally excluded two primary environmental justice priorities: drinking water quality and mitigation, particularly for domestic wells, the shallowest and therefore most vulnerable groundwater users. Incidentally contesting these exclusions became a primary practice for residents and organizers at meetings, one of whom reported feeling like a broken record. In addition to meeting participation, extensive comment letters to local GSAs became another important tool for pushing a more expansive approach. Informed by community meetings and their own, often contracted, technical analyses, comment letters increasingly became the place in which advocates could develop and support their own vision. Community organizations submitted dozens of comment letters on draft GSPs, often dozens of pages long and accompanied by exhibits and appendices.

To facilitate GSA’s consideration of these important topics, Community Water Center, Leadership Counsel for Justice and Accountability, Self-Help Enterprises, and other ally organizations also developed new support tools and resources, essentially leading by example. Much as they had done in developing best practices and guidance documents for stakeholder engagement, the organizations turned toward developing model projects and policies that could be adopted by GSAs. They also developed support tools with the explicit intention of making it easier for GSAs to integrate drinking water into their plans such as the Community Water Center (n.d.) drinking water tool. Working together, the three organizations also developed guidance for designing drinking water well impact mitigation program. Although the idea wasn’t adopted as widely as they hoped, there was some effect: Four GSAs in the SJV included the development of a mitigation program in their GSP and another five stated their intent to consider such a program.

Environmental justice was not alone in being shut out from this overly narrow approach to GSPs, environmental justice interests also found their priorities missing from the conversation and draft plans. Working together as part of a newly developed Groundwater Leadership Forum funded by the California Water Foundation, they developed a GSP review tool that they then pitched as an additional support tool to GSAs. A chief goal of this tool was to highlight, and encourage remedying, common deficiencies relevant to the coalition’s groundwater priorities, namely, the failure to discuss, let alone proactively address domestic drinking water wells, drought/climate change, and interconnected groundwater–surface water habitats.

But it was not just the scope of GSPs where organizers and traditional water managers had different visions but also the goal of, and possibilities under, SGMA itself. Whereas advocates read SGMA, which requires local stakeholders to define sustainability based on the avoidance of “undesirable results” and assumed that GSAs would define sustainability metrics and then design management actions to meet them, many GSAs did exactly the opposite. In nearly a third of GSPs, local definitions of sustainability were set by extending the pre-SGMA rate of groundwater level decline into the future, in some cases all the way to 2040, creating what is essentially “business as usual” or “no management” scenario (Bostic, 2020).

Such was the approach in the Kings basin where the North Kings GSA established minimum criteria of groundwater levels to accommodate more than 40 feet of additional groundwater level decline in some areas, the result of which would be the dewatering of at least 65% of the domestic wells that remained functioning in the area (Bostic, 2020). Meeting after meeting organizers tried to...
refocus conversations away from minutia of calculating groundwater inflows and outflows toward bigger-picture questions of what sustainability might look like in the SJV with limited success. Many of those interviewed reported there was little to no opportunity to explicitly discuss the end goal of the management process, effectively making implementation about procedural rather than substantive compliance.

Where organizers had more success with this strategy was in their own meetings, which they leveraged to create dedicated community spaces that made room for residents to be experts and world-builders as described in the opening vignettes. Similarly, the possibility of a very different future became a primary talking point as organizers transitioned their strategies to other forums (see next section). Water-intensive large-scale industrial agriculture did not have to be a foregone conclusion of GSPs as everyone seemed to be acting they argued. In a letter to the Secretary of California Natural Resources Agency, Groundwater Leadership Forum members wrote:

*It is unfair and unreasonable to assume that the only path to economic prosperity is water. While we support a healthy and thriving agricultural economy, the state should also use this moment to invest in additional pathways of economic development and prosperity through workforce development and job training, investments in broadband, transportation and other infrastructure, as well as providing economic incentives that attract less water-intensive businesses to our state.*

This argumentation clearly demonstrates the expansive scope of the commoning agenda motivating environmental justice engagement in SGMA. Broadening the scope of GSPs, like broadening participation, is about far more than equitable groundwater access, it is about challenging the socioeconomic context that fosters those inequitable and unsustainable sociophysical relations.

**Authority**

A third principal strategy wielded by the environmental justice movement in the SJV was contesting the definition of “local” in SGMA’s local control design and the authority of those who coopted this label. The false and inequity of local control was clearly evident to residents and organizers who felt no control of the process (Dobbin, 2020). Although this challenge was anticipated based both on past experience and the legislative design, the legitimacy that this concept bestowed on the process also made it an important locus of contestation. Questions of who was included and excluded from GSAs and GSPs and the material implications were powerful tools that effectively served to expose the enclosures perpetuated by SGMA. Organizers pursued this message on two parallel stages, with the state and with the public, but toward one goal: the continued renegotiation of groundwater planning in such a way that allows from more collective, or common, authority over a shared future.

A central component of this work was dissecting these plans in order to message both their contents and potential impacts. Working with the Union of Concerned Scientists and American Rivers, Community Water Center, Self-Help Enterprises, and Leadership Counsel for Justice and Accountability developed a Human Right to Water Scorecard for reviewing GSPs. Unlike the SGMA regulations which only considered whether agencies have “adequately responded to comments that raise credible technical or policy issues” (CA Water Code § 355.4(b)(10)), the scorecard explicitly integrated community expertise on drinking water issues as a review criterion and was extensively cited to California code sections including SGMA requirements but also state nondiscrimination and civil rights law. The Groundwater Leadership Forum group also used their previously discussed plan review tool to write comments on 31 draft and final plans. In addition to leveraging their own expertise to review the plans, a key tool used in their comments and meetings with agency officials were contracted technical analyses and hydrologic assessments quantifying the potential drinking water impacts of GSPs. The results showed nearly 130,000 people at risk of losing their water supply statewide (Water Foundation, 2020) and more than 350,000 people reliant on water supplies where contaminant concentrations would continue to increase (Environment & Water, Inc., 2020).

With these assessments in hand, appealing directly to the state, advocates framed GSPs as a giant step backward for California’s progress on the human right to water (AB 685). This approach was seen as particularly persuasive to new Governor Newsom who had just signed the monumental Safe and Affordable Drinking Water Fund (SB 200) that would provide a sustainable funding source to “help water systems provide an adequate and affordable supply of safe drinking water in both the near and long terms.” For advocates, this was a huge victory that they had been envisioning for decades and actively working on for years. For the governor, too, SB 200 was important, as an early and challenging legislative win. Thus, the movement began immediately connecting successful implementation with SGMA. In a large coalition letter spanning many of the state’s most prominent environmental justice, environmental, public health, faith, and civic organizations addressed to key governor appointees ([Figure 1](#)), advocates argued that “poor implementation of SGMA now threatens the success of the Fund, as it is being implemented in a manner that ignores safe drinking water needs of our most vulnerable communities and threatens Governor Newsom’s vision of providing safe water to all.” Tombstone Territory in Fresno County, the signing location of SB 200, quickly became a face of SGMA’s challenges as well. The private well community had experienced household outages in 2015 and 2016. They so happened to also sit squarely in the middle of what advocates saw as one of the more egregious GSAs. These appeals as to what was at stake for the human right to water were complimented by appeals as to what was at stake for the state financially if the continued siphoning of public water for private profit was allowed. The sheer number of potentially impacted drinking water wells
would be an expensive proposition for the state that had just spent hundreds of millions on emergency aid and drought solutions.

Simultaneously, coalition members also pursued news and social media campaigns intended to increase public awareness of the potential impacts and force increased scrutiny on agencies and plans alike. To do so, they once again leveraged the immediate relevance of groundwater to the lives of residents, both urban and rural. Social media posts highlighted the potential for negative impacts using their contracted technical analyses (Figure 2). Countless media and other news pieces emphasized...
rural community dependence on groundwater. Opinion pieces in the Bakersfield Californian (Clary and Renteria, 2019) and Fresno Bee (Monaco, 2019) among others emphasized the importance of groundwater management for the human right to water and the future of the region. One such op-ed read:

As a region and a state we’re going to have to think creatively about how we transition to an ethical and sustainable economy. We have precedent. The New Deal of the 1930s put millions of people to work doing the jobs that America needed to transform our economy. Our water crisis in California demands equally bold action. We can knit together labor and environmental concerns, and create a movement toward a common vision, but we cannot have business as usual, where agricultural water usage runs amok and wrecks communities and our environment. (Monaco, 2019)

In this example, we once again see how these forums were not just used to expose/critique but also to amplify the movement’s comprehensive vision of what sustainable management could and should mean for the SJV, encouraging new shared imaginaries.

Discussion
From the proceeding narrative, it is clear that environmental justice organizers and residents have fought diligently in the SGMA process to assert their right to not just participate but shape groundwater management. Further, they have applied their expansive environmental justice lens to assert a broader, more holistic, and more inclusive vision for the future than GSAs presented to them. In seeking to renegotiate the contested political relationships governing groundwater, these efforts are well conceptualized as commoning or a “collective rethinking” of the ways groundwater management is performed and the resource is governed guided by objectives of emancipation, social justice, and ecological sustainability (Cente meri, 2018; Nikolaeva et al., 2019, p. 354).

The label of commoning, however, is not just apt, but also productive in that it highlights several oft-overlooked elements of the case ripe for discussion and learning. Not only does this case lend further support to the assertion that social movements are key actors in common-pool resource management (Villamayor-Tomas and García López, 2018), but contextualization of groundwater management in time and space as a contingent and relational process emphasizes the stakes and potential of the process. Environmental justice movement investment in SGMA and the broad-ranging effects detailed herein position SGMA itself as a key venue for contesting the long-standing enclosure of groundwater in the SJV that is intricately tied up with regional inequality and oppression. The commoning strategies, collectively constituting a commoning practice, they use to do so are informative, then, for understanding the emergence and growth of commoning communities toward these ends. This section explores these contributions in further detail.

Social movements as key actors in common-pool resource management
SGMA, like other California water management programs before it, have been shaped by environmental justice organizing. SGMA’s legislative design itself is a tangible example, with unprecedented language in the water code explicitly calling for the integration of low-income communities and rural drinking water stakeholders. Although the language was frustratingly (and anticipatedly) unenforceable, it was symbolically important in tone and placed environmental justice stakeholders as key actors in the events to follow.

Just because SGMA was not passed with the intent of enacting a groundwater commons does not mean that residents and organizers cannot leverage it toward that purpose, even when the same process is simultaneously posing new and expanded threats of enclosure. Spanning the entire region and engaging in almost every GSP, environmental justice actors have played a critical role as diffusers and innovators as they worked diligently to make groundwater management in the region inclusive, participatory, and equitable: The environmental justice informed communications and engagement plan recommended by the state appeared in most GSPs, governing board and committee structures for representing environmental justice and drinking water stakeholders were replicated between GSAs, and community-based organizations packaged and marketed their own policies and management actions which surfaced in countless plans.

In individual GSP development processes, many participants also cited important instances where formal positions and even public comment allowed them to raise concerns and ideas that shifted conversations and even
made it into GSPs. Contracted reports, technical analyses, support tools, comment letters, and guidance documents helped drive conversations even in their absence and helped protect communal use and management rights (Villamayor-Tomás and García-López, 2021). As one organizer put it: “We forced ourselves into those tables.” Similar watchdogging tactics and applying pressure via state-level advocacy led to some important, particularly procedural, improvements incentivizing increased efforts related to outreach, translation, water quality, and more. Additional and future impacts are almost certainly unknown.

It is for precisely these reasons why attending to the bottom-up power of social movements is so important. Although admittedly far short of the change they seek, we cannot understand groundwater management without understanding the role and impact of commoners like environmental justice organizers. However, to only consider these proximal impacts risks painting SGMA implementation as wholly reformist in nature and misses much of the significance of this movement–management interface and the broader relevance of the commoning practices detailed herein. As the next section explains, not only has the impact of environmental justice organizing transcended SGMA as a policy reform, but the intent of this organizing has squarely kept the broader goal of regional change in view.

Common pool resource management as key venue for fostering new sociocultural relations

Although the direct impacts of environmental justice organizing in this case are largely reformist in nature and somewhat limited in nature as detailed above. The broader perspective afforded by a commoning framing clarifies that this is not the whole story of this case. Participation in the SGMA process has had a multitude of wide-ranging, indirect effects that also contribute to communization beyond defending community groundwater use and management rights such as through the promotion of community organization (Villamayor-Tomás and García-López, 2021). SGMA provides a place for new practices, relations, identities, and discourses to emerge (Villamayor-Tomás and García-López, n.d.).

One such example is increased relationship building between adjacent SJV communities and between environmental justice organizations and other community-based nonprofits. Although the movement has a long history of broad regional organizing, a challenge and benefit of SGMA was to focus on coordination between communities in immediate proximity. This included working toward coordinated community participation which had long been a vision of organizers but prior to SGMA had seen little implementation. In several cases, residents who participated in the SGMA process for years found themselves looking to these relationships as one of the most tangible outcomes of their efforts. Similarly, regional relationships were developed and strengthened among nonprofit and community-based organizations which already had a long history of coalition work but were challenged to coordinate in new ways as they worked and shared updates and strategies across dozens of GSAs. Whereas past organizing had been strongest in communities with existing water challenges, which also tend to be extremely small, the proactive nature of SGMA brought additional communities to the table including larger unincorporated communities and small cities. Many of these relationships were later leveraged to build support for the passage of SB 200.

Given the evident limits of procedural reform and state engagement (Holifield, 2004; London et al., 2008; LiévanoS, 2012), SGMA has also refocused many organizers on the importance of building and maintaining local/ regional relationships and leadership. That environmental justice participants and GSA leaders have a fundamentally different vision is not something that can or should be worked around. Instead, both changing local leader’s minds and changing local leaders will be necessary to move SGMA, and the SJV at large, forward. This reminder has spurred new leadership development and civic engagement programs that continue to grow.

A related outcome of 5 years of ongoing engagement in SGMA has been to increase the visibility of SJV environmental justice communities. Although their differing use and relationship with groundwater posed ontological challenges, so too did it provide an avenue to involvement, with their status as users ultimately making more legible their status as residents. As one water system operator put it: “SGMA has put us on the map.” We can see this progress comparing the interested parties lists GSAs submitted to the state in 2015 with the plans they submitted in 2020. Per SGMA, the interested parties’ list was required to include a list of “disadvantaged communities"
(low-income) in the boundaries of the new agency yet only 55% of them appeared. Whereas in final GSPs, the number, names, and locations of these communities were adequately described in 76%. For communities that have quite literally been intentionally written out of planning for decades (Balazs and Ray, 2014), being written into GSPs is a tangible sign of progress made possible only by overwhelming environmental justice investment in these long term efforts. These dynamic social and ecological relations (Singh, 2017) also undergirded the growth of the movement and regional networking. Communities identified and advocated for shared vulnerabilities as well as learned from, and advocated for, their differences.

Finally, among the most salient contributions of the movement’s engagement has been the contribution of the expansive environmental justice lens itself. When asked about the progress that has been made since 2015, changing public discourse and increased attention to groundwater management is often among the first items to be cited by those involved. Environmental justice organizing over the last 5 years has undeniably, and potentially irreversibly, connected drinking water, and by extension public health and safety, with groundwater in a way that has never been achieved before. Previously, groundwater in California had existed as an essential but mostly invisible resource, securely the domain of industry not the public lacking both management and discussion. Although SGMA introduced management, it has been environmental justice organizers that have achieved discussion. In amplifying the discussion to a broader public and tying it to a shared future, organizers have made significant headway in reshaping local narratives about groundwater and increasing attention and involvement.

These changes highlight SGMA as an important venue for advancing broader structural change to the socionatural organization of the region. Critically, these broader impacts are neither accidental nor peripheral. Rather such transformations are central to the vision and intent of organizers. Embedded as they are in the socionatural and historical context, the three strategies of challenging participation, scope, and authority are not just strategies for amplifying the shared use of groundwater resources but also transforming the region through the “performance of counter hegemony” (García López et al., 2017). It is true that SGMA has been a tangible and extremely motivating organizing platform for very practical reasons. But for organizers and residents alike, SGMA has always been as much about the forces that produce regional groundwater conditions as it has been about the conditions themselves (Read, 2011). SGMA is a means rather than an end, which is exactly how organizers discuss it.

GSAs play not just ecological but also key social and political roles (García-López, 2013). And in the rural SJV, which has been fundamentally shaped by the absence of such venues in which to seek the “renegotiation of the (contested) political relationships through which everyday community affairs, production and exchange are organised and governed” (Nightingale, 2019, p. 17), this potential was rare and not to be overlooked. As Morrison (2006) points out, institutions are as much about norms, behavior, and values as they are about rules, law, and governance. These changes cannot be orchestrated from the top down. Bringing along local leadership from city councils to community services districts to irrigation districts, or replacing them, is a critical component of advancing a more just and sustainable region which is exactly the opportunity afforded by SGMA. As we can see, this is a difficult and contested process. Ongoing challenges highlight how much work is needed in this regard, but they have also focused and reinvigorated efforts toward that goal. The intersection of commons and movements provides a necessary generative space for deconstruction, learning, and collective resistance (Hardt and Negri, 2009; Barron, 2017; De Angelis, 2017). Precisely, based on its regional design, long-term nature, and the salience of the resource, SGMA provides the foundation to build for a new future. In organizers’ strategic deployment of imaginaries, we see very clearly the “world-making possibilities” baked intentionally and explicitly into their commoning practice (Singh, 2017).

Learning from the SJV’s environmental justice commoning practice

Given these findings, what can we learn from the strategies employed in this case? After starting with a brief exploration of the deeply contextual nature of commoning efforts this section extracts three generalizable lessons from this case useful for understanding others.

Among the clearest empirical contributions of this case study is the deeply contextual nature of commoning strategies employed by the movement. All three strategies are clearly informed by past organizing efforts and, in turn, informative of future efforts. For example, the focus on governing representation is a clear consequence of the lack of progress attributed to lack of representation in the precursor IRWM Program. Similarly, the very language of SGMA was only possible after decades of grassroots power building. Failures or challenges encountered throughout the SGMA process have been critical for promoting further learning and adaptions, for example, the transition to more community-oriented spaces and the production of comments through community groundwater workshops in lieu of direct meeting participation.

Similarly, the environmental justice movement as a commoning community is also clearly constrained by the socionatural context in which they work. Organizers are not free actors in these events (Perkins, 2015). The tough choices they have made in implementing their strategies reflect not just their preferences and priorities but also the conditions under which they are working. In contracting and publishing technical analyses to push GSPs toward greater consideration of drinking water, climate vulnerability, and so on, they risk reinforcing the dominant technocratic discourses they are simultaneously challenging in meetings. In creating their community-centered spaces for fostering community involvement, they are challenged to balance fostering a safe and productive conversation that values community input and expertise and the need for decision makers to hear and interface with residents directly. Similarly, the extreme
fragmentation of GSAs stretched community and organizational resources leading to tough choices about where and how much to invest in SGMA at the expense of other campaigns/projects and subsequently encouraged more engagement with state agencies as did SGMA’s design through the establishment of the state backstop.

Despite this co-constitution of commoning with common-pool resources and commoners (Centemeri, 2018), however, this case, I argue, offers generalizable insights for understanding other commoning communities and their practice. First, the three commoning strategies, together as a commoning practice, help us identify key constraints to the environmental justice vision and strategies that can transcend them (Villamayor-Tomas and García-López, 2018). Throughout the SGMA process, state, regional, and local decision makers have focused heavily on broadening participation in SGMA as a goal. The environmental justice movement has similarly emphasized this goal. But addressing participation without addressing scope or authority is clearly insufficient for achieving the vision of a more just and sustainable groundwater commons. Applying this lesson to other cases then systematically analyzing the various components of a commoning movement can help clarify a grounded pathway toward change and all of the various components that will be needed to achieve it.

Relatedly, the strategies of participation, scope, and authority are connected and interdependent. As such, they need to be considered together as a commoning practice to be fully understood. Participation itself serves normative goals by proactively taking space and asserting a role in decision-making, but it is also a key means to expanding scope and authority. The three strategies build off each other to assert the connection between racial and social injustice with ecological problems (Sze et al., 2009). Taken together, then, the strategies represent an environmental justice vision of connection and expansion posed as an alternative to reductionism and dualism. Individually, however, they are prone to be misunderstood. By scaling up their organizing and directly engaging with the state on SGMA implementation, rather than falling into what might be seen as a liberal state trap (Pulido et al., 2016; Mendez, 2020) among others. That the environmental justice movement plays an important role in shaping common pool resource management, on the other hand, has received far too little attention in literature on “the work commons do” rather than produce (Singh, 2017, p. 754). Social movement organization to imagine and build commons under capitalism is often, if not always, a both/and proposition.

**Conclusion**

That the environmental justice movement in the SJV has evolved through and with SGMA implementation is an important but not revelatory finding as to the dynamism of progressive social movements. Indeed, the organizing strategies detailed in this case clearly align with existing literature on the California environmental justice movement and social movements more broadly including the movements’ prefigurative politics (Yates, 2020), scale shifting (Kurtz, 2003; Sze et al., 2009; Perkins, 2015; London, 2016; Mendez, 2020), focus on participation (London et al., 2008; London, 2016), use of public comment (Cole & Foster, 2001; London, 2016), and use of coalitions (London, 2016; Mendez, 2020) among others. That the environmental justice movement plays an important role in shaping common pool resource management, on the other hand, has received far too little attention in the literature (Villamayor-Tomas and García-López, 2018). The fact that environmental justice organizers are natural commoners should perhaps not be surprising. After all, environmental justice has always been about expansion. The frame is an inherently connecting one, premised on making visible the links between social and environment (Sze et al., 2018). But that as insistent commoners in a landscape of intensive enclosure, environmental justice organizers have fundamentally shaped, and been shaped by, groundwater reform in California through a set of three, well-defined and interrelated commoning strategies of contesting participation, scope, and authority is important for three reasons.

First, if we fail to consider natural resource management regimes within their broader social, political, and economic context, we risk missing the important ways these processes are mutually shaped and subsequently limit our understanding of them (Clement, 2010; Emerson...
et al., 2012; Villamayor-Tomas and García-López, 2018). As is clearly evidenced in this case, social movements can be an important part of this context and have significant implications for resource management and vice versa. These formative interactions also have potentially positive and negative reinforcing effects that will inevitably shape both moving forward and continue to inform their mutual development (Villamayor-Tomas and García-López, 2018). As such, understanding the implementation and outcomes of SGMA and other common pool resource management programs requires keen attention to these dynamics. Much the same can be said for understanding the emergence and growth of commoning communities themselves (Nightingale, 2019), which is intricately intertwined with the socionatural landscape they are working to reshape.

This movement–management connection is also critical for understanding the role that common-pool resource management, with the help of social movements, can play in advancing just and sustainable transitions. The history of the commons has always been one of struggle and enclosure (Villamayor-Tomas and García-López, 2018). Yet often these governance tales, especially in polycentric systems, are focused on top-down and repressive exercises of power, neglecting more enabling forms of power and bottom-up processes of empowerment that are also operating in these spaces (Morrison et al., 2019). GSAs are sites where power relationships are reinforced (Dobbin, 2020), but they are also where power asymmetries can be changed. The commons is a critical site of not just resistance but also world-building. This perspective is too often neglected in political ecology and environmental governance literature more broadly (Clement, 2010; Martin et al., 2019; Morrison et al., 2019). Focusing on relationality, rather than just institutions, underscores the inherent potential of the commons as a venue for advancing structural change even in a case such as SGMA where the legitimization of enclosure appears to be the most material result. It is this potential that animates social movement commoning as a practice.

Finally, the case of environmental justice organizing in SGMA implementation provides an important illustration of how collective action is mobilized for the promotion of commons rather than just their administration (Villamayor-Tomas and García-López, 2018). The three fronts of contestation detailed here are strategies for commoning intentionally crafted as a pathway to more sustainable and equitable future commons and as such provide several empirical lessons for understanding commoning movements. Given the co-constitution of commons, commoners, and commoning demonstrated in this case, as well as the interdependence and cumulative nature of the individual commoning strategies themselves, there is a clear need to understand any commoning practice holistically, situated in place and time. Yet mapping individual commoning strategies can help us understand this context by identifying principal constraints. Analyzing the broader impacts of these events also demonstrates the folly of focusing on the commons at the expense of the work commons do. The production of commoners and the development and articulation of shared imaginaries is highly germane for understanding the impact and future of these efforts. Understanding commoning as a rearticulation in which both social movements and resource management play a key role is an essential perspective afforded by the commoning perspective with valuable lessons for advancing just and sustainable transitions.

**Data accessibility statement**

No data were generated except for interview transcripts that cannot be made publicly available.

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