

# A Flexible Framework or Rigid Doctrine? Assessing the Legacy of the 2000 Mojave Decision for Resolving Disputes Over Groundwater in California

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*The string of California Supreme Court cases establishing and elucidating groundwater pumping rights and rules for adjudicating them, culminating in the court's 2000 decision in City of Barstow v. Mojave Water Agency, has produced a framework that is frustratingly rigid and unclear at the same time. Fully litigating the relevant issues under that framework is a potentially time consuming and expensive slog. The rigidity drives up the cost of proving rights and the appropriate formula for allocating water, while the uncertainty creates room for litigious mischief. However, a close look at seven adjudications that have gone to judgment since Mojave shows a more*

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*complex and interesting story. In five of those cases, the parties and the courts effectively finessed the property rights rules to reach relatively quick settlements that included creative groundwater management solutions. In two of the seven, however, the Mojave framework produced over a decade of litigation. Both lines of cases hold important lessons for groundwater management generally, and for California as it moves forward in implementing the Sustainable Groundwater Management Act of 2014.*

I. INTRODUCTION .....	186
II. LEGAL FRAMEWORK.....	190
A. Katz v. Walkinshaw (1903).....	190
B. City of Pasadena v. City of Alhambra (1949).....	191
C. City of Los Angeles v. City of San Fernando (1975) .....	194
III. MOJAVE ADJUDICATION AND DECISION.....	199
IV. POST-MOJAVE ADJUDICATIONS .....	211
A. Group I – Settled Cases.....	218
1. Beaumont .....	218
2. Seaside Basin .....	220
3. Santa Paula.....	223
4. San Jacinto .....	226
5. Los Osos .....	228
B. Group II: Litigated Adjudications .....	230
1. Santa Maria .....	230
2. Antelope Valley .....	235
V. THE FUTURE OF ADJUDICATIONS IN CALIFORNIA .....	238
A. Sustainable Groundwater Management Act (SGMA) .....	239
B. Legislation to Streamline Adjudications .....	242
C. Lessons From Recent Adjudications in Light of SGMA .....	245
D. SGMA Implementation in the Post-Mojave Environment....	247

## I. INTRODUCTION

The history of California groundwater law has been characterized by change, uncertainty, and local experimentation. Over most of that history, the state lacked a comprehensive statutory system for permitting groundwater withdrawals or managing groundwater consistently. The law has evolved instead through court adjudicated disputes under the common law of property rights in groundwater. As a result, the law's

evolution has been characterized by sudden changes of direction, usually in the form of a decision of the California Supreme Court, followed by several decades of efforts by lower courts, attorneys, and water users to either resolve or live with the uncertainty, followed by yet another shift announced by the court. Efforts to adapt to the evolving law of groundwater rights have produced a diversity of local experimentation in resolving disputes and managing groundwater.<sup>1</sup>

The most recent swerve in the common law occurred in 2000 with the California Supreme Court's decision in *City of Barstow v. Mojave Water Agency*<sup>2</sup> (broadly known as the Mojave Basin decision, hereinafter "*Mojave*"). That opinion reemphasized the hierarchical system of property rights to groundwater after a period of experimentation with equitable apportionment by lower courts and litigants—all inspired by a 25-year-old footnote in *City of L.A. v. City of San Fernando*.<sup>3</sup> *Mojave*'s emphasis on the priority of pumping rights was perceived by many as tightening the rules in a way that would make litigating adjudications more difficult and that might limit options for settling them. The *Mojave* decision's course correction, however, was modest compared to the seismic upheaval unleashed by the 2014 Sustainable Groundwater Management Act ("SGMA").<sup>4</sup> Enacted in the midst of a historic drought, SGMA for the first time required a statewide system of sustainable groundwater management. This system covers the many important groundwater basins across the state that remain unadjudicated, including some that have been overdrafted for decades.<sup>5</sup> With state oversight, local entities (Groundwater Sustainability Agencies or "GSAs," designated local governments, water agencies, or newly created agencies) have been tasked with ensuring accomplishment of the statute's goals.<sup>6</sup>

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1. W. BLOMQUIST, *DIVIDING THE WATERS: GOVERNING GROUNDWATER IN SOUTHERN CALIFORNIA* (1992). For a discussion of local control and experimentation, see R. Nelson, *Assessing Local Planning to Control Groundwater Depletion: California as a Microcosm of Global Issues*, 48 *WATER RESOURCES RESEARCH* 01502 (2012); see also, D. A. Sandino, *California's Groundwater Management Since the Governor's Commission Review: The Consolidation of Local Control*, 36 *MCGEORGE L. REV.* 471 (2005).

2. 99 Cal. Rptr. 2d 294 (2000).

3. See *City of L.A. v. City of San Fernando*, 14 Cal. 3d 199, 265, n.61 (1975).

4. The Act was made up of three separate bills: SB 1319, SB 1168, and AB 1739.

5. See CAL. WATER CODE § 10727(a)(1) (basins in chronic overdraft must comply on a shorter timeframe); CAL. DEP'T OF WATER RES., *CALIFORNIA'S GROUNDWATER: WORKING TOWARD SUSTAINABILITY 10*, Bulletin 118 Interim Update (2016) (identifying basins in chronic overdraft).

6. See CAL. WATER CODE § 10723, *et seq.* (creation of GSAs); CAL. WATER CODE § 10735, *et seq.* (state oversight). For a discussion of the significance of SGMA in the context of California groundwater law and management, see T. C. Leahy, *Desperate Times Call for Sensible*

Taken together, these two legal turning points judicial and legislative raise critical questions for California groundwater law and management. Basin adjudications have been much-maligned in California for being expensive, time consuming, and inefficient.<sup>7</sup> Nonetheless, the resolution of adjudications has, in certain parts of the state, both produced innovative and effective groundwater governance,<sup>8</sup> and provided certainty in their resolution of pumping rights. *Mojave*, when read in the context of prior cases, created a cloud of uncertainty over adjudications. At least some commentators and litigants in other adjudications have perceived *Mojave* as requiring a more scrupulous classification and quantification of groundwater rights and their priorities, potentially complicating adjudications. Other parties have seen the case as preserving a great deal of flexibility. SGMA, of course, creates a whole new world of groundwater management in over 125 overdrafted California basins, and raises a host of questions. One of those questions is how SGMA will interact with property rights to pump groundwater and the system for adjudicating those rights.

Our goals in this study have been two-fold. First, we have evaluated the seven adjudications finalized since the *Mojave* decision to assess its effect on the resolution of those adjudications. That evaluation also sheds light on the ability of parties to develop creative and effective groundwater management regimes against the backdrop of California groundwater rights as enunciated by *Mojave* and earlier cases. Second, we have assessed these adjudications for any lessons for the implementation of SGMA, and in particular how creative, proactive groundwater management regimes can be implemented in harmony with California's property rights rules. This study involved a detailed document review including judgments and other court documents, annual reports, and management plans as well as seven interviews with attorneys who were closely involved in these cases.

There have been seven basin adjudications brought to final judgment since the *Mojave* decision: Antelope Valley, Beaumont, Los Osos, San

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*Measures: The Making of the California Groundwater Management Act*, 9 GOLDEN GATE U. ENVTL. L. J. 5 (2016).

7. T. C. Leahy, *Desperate Times Call for Sensible Measures: The Making of the California Groundwater Management Act*, 9 GOLDEN GATE U. ENVTL. L. J. 1, 13 (2016); R. Enion, *Allocating Under Water: Reforming California's Groundwater Adjudications*, UCLA PRITZKER BRIEF NO. 4, (UCLA School of Law/Emmett Ctr. on Climate Change and the Env't., Los Angeles, Cal.), Sept. 2013, at 4; GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW: FINAL REPORT, 237 et seq. (1978) [hereinafter GOVERNOR'S COMMISSION REPORT].

8. See BLOMQUIST, *supra* note 1; R. McGlothlin and J. Acos, *The Golden Rule\* of Water Management*, 9 GOLDEN GATE ENVIRONMENTAL LAW JOURNAL 109, 116-123 (2016).

Jacinto, Santa Maria, Santa Paula, and Seaside.<sup>9</sup> Five of these have been resolved through relatively collaborative settlements, and courts have entered stipulated judgments that have in some way finessed strict application of the property rights regime established over the course of the 20<sup>th</sup> century and clarified by *Mojave*.<sup>10</sup> Courts and litigants have, for the most part, found practical solutions and then fit them into the *Mojave* framework, despite both the lack of clarity in the *Mojave* rules and the potentially very high transaction costs associated with implementing them.<sup>11</sup> As explained in this article, this approach has involved municipal water providers (all appropriative pumpers) essentially giving up their claims to prescriptive rights and reducing pumping in a way that dramatically limited the potential burden on overlying landowners of achieving safe yield. These adjudications have provided significant benefits for water users, including certainty, durability, and a clear institutional framework for resolving future disputes (a watermaster overseen by the court). They also deploy groundwater management tools that could be used by groundwater sustainability agencies under SGMA, including groundwater allocation trading regimes. In short, the complexity and uncertainty associated with the California property rights regime as amplified by *Mojave* have hampered the resolution of disputes less than might be expected.

However, the implications of these adjudications may be limited for GSAs in some unadjudicated basins that are required to comply with SGMA. The two post-*Mojave* adjudications that involved lengthy adjudication - Santa Maria (fifteen years) and Antelope Valley (sixteen years) both involved large numbers of parties and significant disputes over property rights, including two central issues to resolving those disputes, safe yield and prescription. Many of the unadjudicated basins that are subject to SGMA are both highly overdrawn and include large numbers of water users. This may make the process of developing and implementing a plan to reach sustainable management as required under SGMA—quite challenging.<sup>12</sup> Adjudication remains an alternative

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9. The Santa Paula adjudication was originally decided in 1996, but the judgment was substantively amended in 2010, making it relevant for our inquiry.

10. Santa Maria and Antelope Valley both went through considerable litigation, although in the end Antelope Valley was decided through a stipulated judgment.

11. Some have termed this infusion of practicality into the property rights regime as the Golden Rule\* (with an asterisk) of California groundwater law. See, e.g., McGlothlin & Acos, *supra* note 8, at 110-112.

12. SGMA requires that in basins designated by the California Department of Water Resources as high or medium priority, GSAs must develop and implement Groundwater Sustainability Plans (GSPs) to reach sustainable management within twenty years of plan adoption. GSPs must be adopted by 2022 in most of the 127 basins currently designated as high or

in these basins and others, but as things stand now, it would appear to be a double-edged sword. Recent legislation seeking to harmonize SGMA and adjudications, as well as the flexible and creative approach that some litigants and courts have taken before and after *Mojave* creates the potential for adjudications to provide certainty and durability for the SGMA process. Nevertheless, lengthy and contentious adjudications remain a threat to smooth implementation of SGMA, particularly where litigants push the *Mojave* decision to the limits regarding its mandate to prioritize and quantify pumping rights.

## II. LEGAL FRAMEWORK

The legal framework for groundwater rights in California is discussed extensively in the legal literature,<sup>13</sup> and we will only provide a brief sketch of major milestones that preceded *Mojave*. Three decisions of the Supreme Court, as well as California's constitutional framework, create an evolving set of rules that have proved difficult to apply, particularly in complex cases. Indeed, a dissenter in one of those cases characterized the framework established by his own court as "a hodge-podge of conflicting rules and principles," and a "confused state of affairs."<sup>14</sup> Below we summarize these three cases and their implications.

### A. *Katz v. Walkinshaw* (1903)

In this case, the Supreme Court established the basic framework for allocating groundwater rights.<sup>15</sup> The *Katz* court rejected the argument that groundwater should be governed by the common law rule of capture, which would have given overlying landowners rights to pump unlimited amounts of groundwater for use on their land. Instead, the court held that overlying landowners had "correlative" rights to

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medium priority, and by 2020 in 21 basins listed as "critically overdrafted." See CAL. WATER CODE § 10722.4 (prioritization of basins), § 10720.7 (planning deadlines), and § 10727 *et seq.* (development of GSPs).

13. See generally, J. L. Sax, *We Don't Do Groundwater: A Morsel of California Legal History*, 6 U. DENVER WATER L. REV. 269 (2002); Eric Garner & Jill N. Willis, *Right Back Where We Started From: The Last 25 Years of Groundwater Law in California*, 36 MCGEORGE L. REV. 413 (2005); Jan Stevens, *California's Groundwater: A Legally Neglected Resource*, 19 HASTINGS W. NW. J. ENVTL L. & POL'Y 3 (2013); J. M. Miller, *When Equity Is Unfair—Upholding Long Standing Principles of California Water Law in City of Barstow v. Mojave Water Agency*, 32 MCGEORGE L. REV. 991 (2001).

14. *City of Pasadena v. City of Alhambra*, 33 Cal. 2d 908, 938 (1949) (Carter, J., dissenting). Justice Carter's expression of dissatisfaction with the doctrine of mutual prescription in that case reached a peak (particularly given the era) when he referred to the doctrine as "based in bureaucratic communism." *Id.* at 940.

15. 141 Cal. 116 (Cal. 1903).

“reasonable use” of the waters in a given aquifer. This meant that overlying landowners shared rights to pump a portion of an aquifer’s safe yield<sup>16</sup> and put it to reasonable use on their land. The court created a second class of potential pumping rights: “appropriative rights,” for uses that are not on overlying lands, such as municipal water supply. If overlying landowners did not pump the entire safe yield, the surplus portion of that safe yield could be pumped for non-overlying uses by appropriators on a first in time, first in right, basis.

*Katz* left many critical questions unanswered, including: how to allocate water among overlying users; the rights of overlying landowners who are not pumping at the time of any allocation, but may wish to pump in the future; the definition of safe yield; and the limitations imposed by the notion of “reasonable” use. It is also worth noting that water use by municipalities, except perhaps for occasional irrigation, constitutes a non-overlying use, and the correlative rights doctrine relegates this highly valued use to the backseat for purposes of pumping priority.

#### B. *City of Pasadena v. City of Alhambra* (1949)

California had to wait over four decades for elaborations on this system from the state’s supreme court. In *City of Pasadena v. City of Alhambra*,<sup>17</sup> the court confronted the adjudication of a basin whose status mirrors that of many basins in California today. The Western Unit of the Raymond Basin had been in almost continuous overdraft since 1913, and pumping exceeded safe yield by more than thirty percent.<sup>18</sup> In addition, a variety of users extracted water from the basin, including for overlying users pumping for irrigation as well as non-overlying municipal users. The basin also saw significant municipal growth leading up to the adjudication.<sup>19</sup>

The parties and the trial court were confronted with a conundrum

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16. Generally, safe yield refers to the amount of water that can be withdrawn from a groundwater basin without causing harmful effects, such as a chronic lowering of groundwater levels. However, adjudications vary in how they define this term. For a review, see K. Rudestam and R. Langridge, *Sustainable Yield in Theory and Practice: Bridging Scientific and Mainstream Vernacular*, U.S. NATIONAL LIBRARY OF MEDICINAL NATIONAL INSTITUTES OF HEALTH, GROUNDWATER, 52: 90–99 (2014).

SGMA specifies six “undesirable results” that must be avoided in order for a basin to be operated within its “sustainable yield.” See CAL. WATER CODE § 10721(v) (w).

17. *City of Pasadena v. City of Alhambra*, 33 Cal. 2d at 938.

18. *Id.* at 922.

19. See LANGRIDGE ET AL., AN EVALUATION OF CALIFORNIA’S ADJUDICATED GROUNDWATER BASINS 51 *et seq.* (2016).

that would become familiar in California. The community of users had become dependent on levels of water use amounting to overdraft. Under strict application of the doctrine of correlative rights first announced by *Katz v. Walkinshaw*, the growing city of Pasadena and surrounding communities, as appropriators, risked losing any share of the safe yield. Even if overlying pumpers did not use the whole safe yield, more recent municipal pumpers risked losing their share of the safe yield under principles of seniority. Due to the extent of overdraft, overlying landowners were at risk of losing their water rights under traditional application of the doctrine of prescription. The leading parties to the case all perceived substantial risk to litigation because of the uncertain and complex system of water rights.<sup>20</sup>

The parties were able to reach a settlement and stipulated judgment, but not by relying on the primacy of overlying landowners or seniority rules for the appropriators. Rather, the parties relied on the simplest possible principle all parties would reduce their production of groundwater by a proportional amount needed to bring the basin to safe yield. The parties justified that approach, and the trial court approved it, based on the theory that all pumpers had acquired rights of “mutual prescription” against each other. Prescriptive rights to groundwater most typically arise where an appropriator uses groundwater in excess of safe yield and “the use is actual, open and notorious, hostile and adverse to the original owner, continuous and uninterrupted for the statutory period of five years, and under claim of right.”<sup>21</sup> If it can prove a prescriptive right, an appropriative pumper can acquire a share of the safe yield even if the basin is overdrafted. Prescription in water rights was not new in California, but the parties and the court took it a step further by holding that extensive, long-term overpumping meant that all users had created rights of mutual prescription against each other, and that as a result “all rights are of equal standing, with none prior or paramount.”<sup>22</sup> This doctrinal innovation justified a settlement formula whereby the reduction in pumping did not fall on any particular class of pumpers, but rather should be proportionate to each water user’s level of pumping that had led to overdraft.<sup>23</sup>

Only one party appealed the trial court’s decision. That party argued that no prescriptive rights accrued, because the overpumping did not in fact restrict any individual pumper’s ability to pump and use the water

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20. BLOMQUIST, *supra* note 1, at 78.

21. *City of Pasadena v. City of Alhambra*, 33 Cal. 2d at 926 27.

22. *Id.* at 928.

23. *Id.* at 933; BLOMQUIST, *supra* note 1, at 79-80.



that they needed. The Court rejected that argument based on the notion that the lowering of the aquifer level, and the diminishment of the overall availability of water in the future, constituted adequate injury to give rise to a prescriptive right:

Each taking of water in excess of the safe yield, whether by subsequent appropriators or by increased use by prior appropriators, was wrongful and was an injury to the then existing owners of water rights, because the overdraft, from its very beginning, operated progressively to reduce the total available supply.<sup>24</sup>

The court's justification for the ultimate result—proportionate reductions in pumping—was not based solely the formal rules of prescriptive rights and its extension of those rules. The court also viewed shared, proportionate, reductions in pumping as a fair and efficient resolution of the problem of extensive overdraft by a variety of water users:

Moreover, it seems probable that the solution adopted by the trial court will promote the best interests of the public, because a pro tanto reduction of the amount of water devoted to each present use would normally be less disruptive than total elimination of some of the uses.<sup>25</sup>

A caustic dissent notwithstanding,<sup>26</sup> the Raymond Basin resolution holds great appeal for exactly the Court's reasons—minimal disruption and a dose of fairness when compared to cutting off some municipal water users in favor of overlying irrigators. Proportional and shared reductions hold great potential as the most efficient means of resolving disputes about an overdrafted groundwater basin. Transaction costs for litigation and settlement are relatively low, as the only questions that remain are the extent of overdraft and the appropriate baseline of pumping from which to measure each pumper's proportionate reduction.<sup>27</sup> Even if the resulting allocation of water includes elements of inefficiency, these can be remedied by a trading mechanism for

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24. *Id.* at 928.

25. *Id.* at 933.

26. Justice Carter dissented on the primary grounds that the “principles of water law were disregarded,” and that the decision below “made a determination based upon the quantity of water available and the requirements of the respective parties, and divided the water accordingly, regardless of prior appropriations, prescriptive rights, or rights of overlying owners.” *Id.* at 939 (Carter, J., dissenting). He also observed that the court's decision added to a “confused state of affairs” that had been created by “the hodge podge of conflicting rules and principles enunciated” by California courts.

27. Proportional reduction is an example of a “focal point” solution to a coordination problem. See T. C. Schelling, *The Strategy of Conflict* (1960); R.H. McAdams, *Beyond the Prisoners' Dilemma: Coordination, Game Theory, and Law*, 82 SOUTHERN CALIFORNIA L. REV. 209 (2009).

potential shifts in pumping allocations and rights. It took some doctrinal choreography, but the parties and courts in *City of Pasadena* effectively framed California groundwater rights law to facilitate resolution of groundwater management disputes and overdraft.<sup>28</sup>

Indeed, in the wake of the *City of Pasadena* decision, mutual prescription, and the formula of proportionate reductions, “was viewed as a convenient device courts could use to reach an acceptable result.”<sup>29</sup> The framework became the basis for resolving many adjudications.<sup>30</sup> The formula allowed litigants to reach agreements, usually incorporating a physical solution, where resolution of appropriative priorities might have been too complex or disruptive.<sup>31</sup>

The *City of Pasadena* decision did not, however, fully eliminate the potential for disputes about property rights or for costly litigation. Prescription requires a five-year period of pumping in excess of safe yield. Lack of monitoring, absence of pumping records, and California’s extreme variation in annual precipitation render proof of five consecutive years of overdraft challenging, time consuming, and prone to dispute. A variety of other issues related to prescription, including the scope of terms like “open and notorious” as well as “hostile and adverse” were not fully litigated in the case, as only one party dissented from the stipulated judgment. In addition, the court’s approach in requiring uniform reductions has shortcomings. It does not address how to handle future demand that might diverge from past pumping, and the decision might create an incentive for each pumper to maximize their use to set a higher baseline for the proportionate reduction.<sup>32</sup>

### C. *City of Los Angeles v. City of San Fernando* (1975)

Many of these issues came to a head twenty-six years later in the

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28. The case also dealt with an issue that remains troublesome to this day, that of unexercised overlying rights. The court held that these rights were lost in effect because existing pumpers had acquired prescriptive rights to the entire safe yield. *City of Pasadena v. City of Alhambra*, 33 Cal. 2d at 931-32.

29. GOVERNOR’S COMMISSION REPORT, *supra* note 7, at 142.

30. *Id.* See generally A. J. Schneider, *Groundwater Rights in California: Background and Issues*, Staff Paper No. 2 to the Governor’s Commission to Review California Water Rights Law at 23-24 (1977) (discussing aftermath of *Pasadena* and citing *Water Service Co. v. Sidebotham & Son*, 224 Cal. App. 2d 715, 37 Cal. Rptr. 1 (1964) (West Basin); *Central and West Basin Water Replenishment Dist. v. Adams*, Civil No. 786656 (L.A. Cty. Super. Ct. October 11, 1965) (Central Basin); and *Upper San Gabriel Valley Municipal Water District v. City of Alhambra*, Civil No. 924128 (L.A. Cty. Super. Ct. January 4, 1973) (San Gabriel Basin).

31. *Id.* at 24.

32. For a discussion of how *City of Pasadena* contributed to a “race to the pump,” see J.H. Krieger and H.O. Banks, *Groundwater Basin Management*, 50 CAL. L. REV. 56, 61-62 (1962).

adjudication of the San Fernando and adjacent basins, together known as the Upper Los Angeles River Area, decided by the California Supreme Court in 1975.<sup>33</sup> This adjudication is a major source of the qualms about groundwater adjudications in California. Los Angeles originally filed the case in 1955. It took thirteen years to get to trial in 1968, another seven years to wind its way to a final decision by the California Supreme Court, and four more years to reach a final judgment in the trial court.<sup>34</sup> Los Angeles filed the case in order to assert its rights to groundwater underlying the upper Los Angeles River in the San Fernando Valley against a backdrop of rapid urbanization of the area and increasing water demand.<sup>35</sup> Although irrigated agriculture had been a prominent user of water in the San Fernando Valley, at the time of the litigation most of the use had shifted to urban, and the primary parties to the adjudication were cities or water agencies serving municipal users.

Los Angeles claimed preeminent rights to all the waters, surface and ground, of the upper Los Angeles River basin. Their claim relied on a number of theories, including pueblo rights dating from the Spanish colonial era that had previously been adjudicated, and rights to capture return flows of water Los Angeles had imported to the area.<sup>36</sup> The trial court was faced with the prospect of disrupting access to groundwater for several municipalities that relied upon it for their water supply, although those risks were significantly mitigated by a new supply of imported water arriving through the State Water Project.<sup>37</sup> To resolve this tension, the trial court essentially followed *Pasadena*, finding mutual prescription on behalf of and against each of the primary parties, setting baseline pumping allocations using each pumper's five highest continuous years of production, and reducing the allocation of each proportionately to bring the basin into safe yield:

The [trial] court found that its determination of mutually prescriptive rights and limitation of extractions of water will result in an equal sharing of burdens and promote the public interest and that a *pro tanto* limitation of water devoted to its present uses would be less disruptive than total elimination of some of the uses.<sup>38</sup>

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33. *City of L.A. v. City of San Fernando*, *supra* note 3, 14 Cal. 3d 199 (1975).

34. *Id.* at 208; LANGRIDGE, *supra* note 19, at 78.

35. *Id.* at 208 10.

36. Pueblo rights have been recognized by the courts as paramount based on municipal water uses first asserted under Spanish and Mexican law. *Id.* at 210.

37. Indeed, Los Angeles made the point that the case was really just about money, because any party losing some of their groundwater supply would simply make up the deficit through purchasing more expensive imported water. *Id.* at 212.

38. *Id.* at 220.

The Supreme Court reversed, agreeing with all of the arguments Los Angeles had made against mutual prescription. Some of the arguments had limited applicability to other cases, or even were unique to that set of parties, but many could be more broadly applicable, and set up future obstacles. The court's holdings included the following:

Los Angeles held valid pueblo rights to the surface water and native groundwater of the San Fernando basin and one other basin.

Los Angeles and other parties had rights to all of the water they had imported which, either through intentional spreading or incidental return flows, contributed to basin recharge.

Cities and other public entities were immune from prescription claims with respect to water rights held for public use.

The term "safe yield" includes pumping that causes aquifer level decline where that decline frees up aquifer storage space to capture temporary water surpluses that occur during wet years. This is relevant both to calculation of available safe yield and assessment of when the basin was in overdraft for purposes of the elements of mutual prescription.

The fact that the basin had gone into overdraft, although sufficient to constitute adversity for purposes of prescription, was not by itself enough to constitute evidence of notice to groundwater rights holders adequate to start the statutory period needed to support a claim of prescription against those rights.

With respect to one of the basins in dispute, that the evidence had not been adequate to show any full five-year period of overdraft needed to create prescriptive rights.

*San Fernando* is sometimes described as limiting prescriptive rights as well as the doctrine of mutual prescription.<sup>39</sup> While that is certainly true with respect to public entities, just as importantly the court made clear that at the trial level, parties and courts could not shortcut the technicalities of prescription and needed to provide evidence of all of the elements of prescription. The decision thus provided a roadmap for any party to litigate the issues of prescription or mutual prescription, should they choose to do so for whatever motivation.<sup>40</sup> The case also dramatically shifted, at least in some cases, the balance between appropriators and overlying users set up by *Katz*. The immunity of

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39. Leahy, *supra* note 7, at 12.

40. Indeed, as we will discuss later, the potential of prescriptive rights to curtail future pumping rights of overlying landowners is one of the primary issues that has been litigated by property rights advocates in adjudications over the last twenty years. See *infra* at 45 (discussing Santa Maria adjudication).

public entities from prescription sets up the possibility of unilateral prescription by those entities against overlying pumpers, creating the risk that overlying rights would be reduced by the amount of prescription, shifting the balance between public water providers and overlying pumpers. The holding may reduce the incentive for those municipal providers to accede to the universal proportional reduction formula used in *City of Pasadena*.

While this roadmap for proving mutual prescription may be the most important doctrinal shift to come out of the *San Fernando* opinion, one of its footnotes ended up having almost as much potential impact. *San Fernando* and the other defendants (opposed in the case to Los Angeles) deployed the argument that mutual prescription represented “a beneficent instrument for conservation and equitable apportionment of water in ground basins which are subjected to extractions in excess of the replenishment supply.”<sup>41</sup> The court agreed that its authority to administer and apportion water rights was beneficial.<sup>42</sup> However, the court compared mutual prescription unfavorably to the more sophisticated, broader approach embodied by the separate doctrine of equitable apportionment:

In the second place, the allocation of water in accordance with prescriptive rights mechanically based on the amounts beneficially used by each party for a continuous five-year period after commencement of the prescriptive period and before the filing of the complaint does not necessarily result in the most equitable apportionment of water according to need. A true equitable apportionment would take into account many more factors.<sup>43</sup>

At the end of this clause, the court added the now much cited “footnote 61,” in which it analyzed the factors used by the United States Supreme Court in applying equitable apportionment in interstate water disputes, and their relation to the priority rules governing water rights:

Priority of appropriation is the guiding principle. But physical and climatic conditions, the consumptive use of water in the several sections of the river, the character and rate of return flows, the extent of established uses, the availability of storage water, the practical effect of wasteful uses on downstream areas, the damage to upstream areas as compared to the benefits to downstream areas if a limitation is imposed on the former—these are all relevant factors. They are merely an illustrative, not an exhaustive catalogue. They indicate the nature of the

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41. *City of L.A. v. City of San Fernando*, *supra* note 3, at 265.

42. *Id.* at 265.

43. *Id.* at 266.

problem of apportionment and the delicate adjustment of interests which must be made.<sup>44</sup>

None of this is directly relevant to any of the court's holdings. The invocation of equitable apportionment might best be read as just an argument to help illustrate the deficiencies of mutual prescription and proportionate reduction, and to call into question one of the arguments in its favor – overall fairness and a rough preservation of existing uses of water.

Nonetheless, it would be hard to blame trial courts and parties to adjudications for seizing on this language as opening the door to a more sensible approach to adjudications, especially if the path to universal mutual prescription and shared reductions is more arduous and risky. Absent equitable apportionment, or something like it, courts hearing adjudications would be faced with a gauntlet of imposingly technical issues subject to difficult means of proof, including:

- drawing basin boundaries;

- calculating safe yield while factoring in the extent of return flows of imported water and any temporary surplus that can be pumped to free up storage space;

- calculating historical overdraft, both on an average basis, and on an annual basis in order to evaluate the five-year statutory period for prescriptive rights;

- assessing the historical pumping of individual users;

- determining what notice various pumpers had of the level of overdraft; and

- how to allocate water between existing uses and potential future uses by overlying rights holders.

Courts would have to do all this in addition to categorizing pumpers as having overlying, appropriative, or prescriptive rights, and prioritizing pumpers by those categories. These courts would have to conduct discovery and trials of these issues in cases, often involving dozens or even hundreds of groundwater pumpers. Courts, and more importantly parties trying to negotiate a solution to a basin in overdraft, would understandably be drawn to principles of equitable apportionment as a more appealing roadmap to settle a case than those priority rules and the effort required to apply them. Indeed, the Governor's Commission to Review California Water Rights, issued three years after *City of San Fernando*, explicitly noted that the decision "suggested that some form of equitable apportionment may be worked out for each

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44. *Id.*, n.61 (quoting *Nebraska v. Wyoming*, 325 U.S. 589, 618 (1945)).

case.”<sup>45</sup>

One immediate impact of the *San Fernando* decision was to make the use of universal mutual prescription and proportional and shared pumping reductions more difficult. This helped put an end to the first attempt to adjudicate the Mojave groundwater basin. Although that adjudication faced a host of problems,<sup>46</sup> at the time of the *San Fernando* decision the parties had negotiated a settlement based on a *Pasadena*-style theory of mutual prescription and proportionate reduction. The challenges posed by *San Fernando* were enough to kill that settlement deal and the adjudication itself. The *San Fernando* decision also clearly shaped the 1978 Chino Basin stipulation and judgment, which placed overlying pumpers and appropriators into separate pools, allocated safe yield between the two first, and then apportioned the appropriate pool's share among the individual appropriators.<sup>47</sup> Finally, it may have influenced delays in the Santa Maria Basin adjudication, which was initially structured to treat overliers and appropriators differently, but ultimately went to trial on, among other issues, that of prescriptive rights.<sup>48</sup> The complexity of post-*San Fernando* adjudications such as Chino and Santa Maria fed skepticism about the adjudication process in general.

The California courts had, in the seventy-two years between *Katz* and *City of San Fernando*, made minimal progress towards establishing clear rules for resolving disputes about groundwater overdraft and the relative priority of different pumping rights. As the Governor's Commission Report put it in 1978:

Overall, groundwater law is at a point of great uncertainty. Mutual prescription probably cannot be imposed in most cases. Application of the correlative and appropriation principles is probably impractical since their application would be exceedingly complex. At this time, a groundwater user in a basin which has not previously been adjudicated can have only a very uncertain idea of what his "right" actually is.<sup>49</sup>

### III. MOJAVE ADJUDICATION AND DECISION.

Adjudication of groundwater rights in the Mojave River area, located in San Bernardino County, stretched the regime outlined above

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45. GOVERNOR'S COMMISSION REPORT, *supra* note 7, 143.

46. BLOMQUIST, *supra* note 1, at 236; Governor's Commission Staff Paper No. 2, *supra* note 30, at 29.

47. BLOMQUIST, *supra* note 1, at 279-281.

48. LANGRIDGE, *supra* note 19, at 237-40.

49. GOVERNOR'S COMMISSION REPORT, *supra* note 29, at 143.

to the breaking point not once, but twice. As indicated above, the restrictions on mutual prescription announced in *San Fernando* contributed to a decision by litigants to abandon in 1976 an initial attempt to adjudicate the basin that had been filed in 1966. Parties filed a second attempt to adjudicate the basin in 1990, and quickly reached a stipulated judgment that included a variety of creative measures to allocate groundwater, share the burdens of pumping reductions, and manage groundwater efficiently for the long-term. Although this settlement was a success on a variety of fronts, its legal foundation, which depended heavily on the doctrine of equitable apportionment, was rejected by appellate courts. The Supreme Court of California ultimately held that the stipulated judgment could not be enforced against non-settling parties, because it did not adequately take into account the priorities of the rights of individual pumpers.

Although doctrinally the Mojave Basin decision<sup>50</sup> is known for reasserting the relative priorities of the three classes of groundwater rights, the adjudication and its settlement in many ways stands for the triumph of common sense and innovation over legal formality. The Mojave adjudication was highly complex, perhaps more so than any of the adjudications that led to the California Supreme Court's prominent groundwater rights decisions. A large number of water users pumped from the aquifer, evidenced by over 1,000 water producers that were served as part of the adjudication (a group that does not include minimal pumpers).<sup>51</sup> The basin was also highly overdrafted. In the decades leading up to the ultimate adjudication, the basin saw both explosive population growth *and* an increase in irrigated agriculture, most prominently the cultivation of alfalfa.<sup>52</sup> This combination drove overdraft to very high levels indeed—for example, in 1981 pumping exceeded 208 thousand acre-feet, while renewable supply may have been as low as forty-five thousand acre-feet.<sup>53</sup> Furthermore, the basin is comprised of five subareas with varying levels of overdraft, making it necessary to resolve the effects of pumping in each individual subarea on the other four. Finally, the case included a dispute about whether water pumped along the Mojave River should be classified as percolating groundwater (not subject to regulation by the state) or water flowing in an underground river (subject to regulation by the state as

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50. *City of Barstow v. Mojave Water Agency*, *supra* note 2.

51. *Mojave Basin Area Adjudication, Judgment After Trial 5* (Cal. Super. Ct. Riverside Cnty. 1996) [hereinafter *Mojave Trial Court Decree*].

52. LANGRIDGE, *supra* note 19, at 189; BLOMQUIST, *supra* note 1, at 222-23.

53. BLOMQUIST, *supra* note 1, at 222 and tbl.10.1.



surface water).<sup>54</sup> As one attorney involved in the case described it:

We were not physically capable of doing a water rights allocation in Mojave. It was impossible, because we had 6,600 wells. Most of them, a lot of them, were almost in the bed of the Mojave River. Many, many of them, thousands of them, were close to the river...[I]t would theoretically have required a hydrologic investigation well by well by well in order to break those up, allocate the water rights, and then try to coordinate the two regimes of California water laws; the administrative regime of stream water running under the surface or percolating groundwater. It was a Gordian knot that couldn't be untied.<sup>55</sup>

The City of Barstow filed the adjudication in 1990. The city, which is positioned at the downstream end of the basin, alleged that the basin was overdrafted and sought a declaration that the lower basin was entitled to a delivery of 30,000 acre feet of water from upper areas of the basin.<sup>56</sup> The Mojave Water Agency (MWA) filed a cross complaint also alleging the basin was in overdraft, seeking a declaration of water rights, and naming several hundred groundwater pumpers as parties to the adjudication.<sup>57</sup> At the time, the general consensus of the parties and their lawyers was that, given the complexities outlined above, adjudication of individual pumpers' rights, categorization of all of those rights as appropriative, prescriptive, or overlying, and assessment of the relative priorities of those rights, would be impossible.<sup>58</sup>

Recognizing these difficulties, the court almost immediately (1991) suspended litigation activities to give the parties an opportunity to settle the case. The parties created a committee of engineers and lawyers representing a cross-section of water users to work on a settlement. After approximately two years of work and the expenditure of "several hundred thousand dollars"<sup>59</sup> (which seems a bargain for solving a Gordian knot!), the committee presented the court with a "stipulated interlocutory order and judgment." A handful of parties declined to sign the stipulation and requested a trial. The court held a trial in 1995 and entered a final judgment in 1996. The sole issue at trial was whether the

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54. See generally JOSEPH. L. SAX, REVIEW OF THE LAWS ESTABLISHING THE SWRCB'S PERMITTING AUTHORITY OVER APPROPRIATIONS OF GROUNDWATER CLASSIFIED AS SUBTERRANEAN STREAMS AND THE SWRCB'S IMPLEMENTATION OF THOSE LAWS, SWRCB No. 0-076 300-0, Final Report (2002).

55. Interview with attorney involved in the Mojave and Santa Maria adjudications (name on file with authors), (August 18, 2016) [hereinafter Interview 1].

56. *Mojave Trial Court Decree*, *supra* note 51, at 1.

57. *Id.* A variety of other parties also filed complaints and cross complaints.

58. Interview 1, *supra* note 55.

59. *Mojave Trial Court Decree*, *supra* note 51, at 5.

terms of the stipulation could be applied against those parties (ultimately termed “the Cardozo parties”). The Cardozo parties alleged that the stipulation violated their rights as overlying landowners and sought to have those rights adjudicated, quantified, and enforced. The trial court enforced the terms of the stipulation against them, enjoined any pumping in the basin not pursuant to the stipulation, and estopped the parties from asserting any “special priorities or preferences.”<sup>60</sup>

Before getting to the legal technicalities, it is worth taking a moment to appreciate the work of the settling parties in the Mojave case, and the creative vision of the settlement. In two years, the parties overcame technical, political, and legal problems that had derailed the previous effort to adjudicate the case expeditious work by the standards of groundwater disputes. The stipulation includes many tools that almost thirty years later are being touted as “innovations,” the adoption of which could be critically important for SGMA’s effective implementation in many groundwater basins.<sup>61</sup> The stipulation gives each pumper covered by the judgment a “Base Annual Production” (BAP) right which represents their percentage share of an initial overall pumping level for their basin subarea. Every year, each party is allocated a “Free Production Allowance” (FPA), which represents the amount, calculated as a percentage of their BAP, that they are allowed to pump each year without incurring pumping charges. The FPAs were initially set at the same level of pumping as the BAPs, but then went down a total of 20 percent over the first five years the stipulation was in effect. The stipulation gives the watermaster (the MWA), under the supervision of the court, the power to further reduce the FPAs if needed to achieve sustainable yield. Any pumper can sell all or a portion of either their BAP (permanently or for a period of years) or their FPA (annually). Pumpers that exceed their FPA in any year pay a fee based

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60. *Id.* at 21.

61. A market system for re allocating groundwater rights, central to the Mojave settlement, is now, more than twenty years later, being touted as key to the successful implementation of SGMA. See M. Young and B. McAteer, *Sharing Groundwater: A Robust Framework and Implementation Roadmap for Sustainable Groundwater Management in California* (Working Paper NI WP 17 02, Duke Nicholas Institute, 2017); Ayres, Andrew B., Eric C. Edwards, and Gary D. Libecap, *How Transaction Costs Obstruct Collective Action: Evidence from California’s Groundwater* (National Bureau of Economic Research Working Paper 22382, 2017). [www.nber.org/papers/w23382](http://www.nber.org/papers/w23382). For a discussion of conditions under which groundwater markets are most likely to be successful, see GREEN NYLEN, NELL, MICHAEL KIPARSKY, KELLY ARCHER, KURT SCHNIER, AND HOLLY DOREMUS. TRADING SUSTAINABLY: CRITICAL CONSIDERATIONS FOR LOCAL GROUNDWATER MARKETS UNDER THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT 90 (Ctr. for L., Energy & the Env’t, UC Berkeley School of Law, Berkeley, CA.).

on the cost of acquiring supplemental water in the amount of their overpumping. Finally, in a step that makes Mojave unique among adjudications, the stipulation made provisions for environmental protection. The stipulation set standards for groundwater levels near the Mojave River in order to maintain riparian habitat. It also created a trust fund, funded by a special assessment on groundwater production, to buy water, drill wells, or implement other projects in the event the standards for groundwater levels were not met.<sup>62</sup>

As noted above, the parties believed that the case was too complex to determine and prioritize overlying, prescriptive, and appropriative water rights for each pumper, and also that enforcement of water rights priorities would be unfair and disrupt the local economy.<sup>63</sup> This conclusion carried forward to the trial court's judgment:

The physical and legal issues of the case as framed by the complaint and cross complaint are extremely complex. Production of more than 1,000 persons producing water in the Basin has been ascertained. In excess of 1,000 persons have been served. The water supply and water rights of the entire Mojave Basin and its hydrologic Subareas extending over 4,000 square miles have been brought into issue. Most types and natures of water rights known to California law are at issue in the case.<sup>64</sup>

The trial court went on to argue that Article X, Section 2 of the California Constitution required "the definition of the individual rights of all producers in the Basin Area in a manner which will equitably allocate the natural water supplies and which will provide for equitable sharing of costs for Supplemental Water."<sup>65</sup> In allocating water and developing the physical solution,<sup>66</sup> the court relied on a combination of equitable apportionment principles and an undefined aspect of the

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62. LANGRIDGE, *supra* note 19, at 192.

63. Interview 1, *supra* note 55.

64. *Mojave Trial Court Decree*, *supra* note 51, at 5.

65. *Id.* at 6.

66. A physical solution is an equitable remedy that a court may enter to resolve a water rights dispute without necessarily adjudicating all rights. Originally, it was a relatively narrow doctrine that allowed the court to order a remedy whereby junior water rights holders accessed water that would otherwise go to senior rights holders, in exchange for funding an alternative water supply for senior rights holders. See *City of Lodi v. East Bay Municipal Utility District*, 7 Cal. 2d 316, 341 (1936). The term has expanded to include broader equitable remedies. As described in the *Seaside* judgment, it is "an equitable remedy designed to alleviate overdrafts and the consequential depletion of water resources in a particular area, consistent with the constitutional mandate to prevent waste and unreasonable water use and to maximize the beneficial use of this state's limited resource." *California American Water v. City of Seaside*, 183 Cal. App. 4th 471, 480 (2010). See also, A. LITTLEWORTH & E. GARNER, CALIFORNIA WATER II 172 *et seq.* (2007) (defining physical solution as "a common sense approach to water rights litigation" and discussing California cases) (citations omitted).

priority of the water rights of producers:

The Declaration of Water Rights that is part of the judgment and the Physical Solution decreed herein takes into consideration the competing priorities which have been asserted in addition to the equitable principles associated with the allocation of water in this situation.<sup>67</sup>

The court identified eight different factors that it relied on in the allocation of rights and physical solution, many of which overlapped with footnote 61 of *San Fernando*, including unfairness that might result from strict application of priority, economic stability, hydrologic conditions, and the availability of storage or other sources of water.<sup>68</sup> The court included in its list of factors the fact that “[n]one of the priorities asserted by any of the Producers is without dispute,” a finding that “[u]nder the complex scheme of California water law, the allocation of water rights mechanically based on the asserted priorities would be extremely difficult, if not impossible, and would not result in the most equitable apportionment of water,” and finally, its conclusion that “[s]uch mechanical allocation [of water rights priorities] would, in fact, impose undue hardship on many Parties.”<sup>69</sup>

Embedded within the Mojave judgment’s stance on equitable apportionment, however, is a certain degree of deference to overlying rights holders. The first attempt to adjudicate the Mojave basin had been undermined by agricultural opposition. In an effort to bring in as many overlying pumpers into the stipulation as possible, the stipulation included a number of attractive provisions for them.<sup>70</sup> The stipulation calculated each overlying pumper’s BAP on the highest level of pumping during the five years preceding the filing of the adjudication. This allowed farmers and ranchers, who rotated their crops and varied their planted acreage, to start with an allocation based on their maximum water use. The decision to use the highest level, rather than the lowest or the average of the five years, benefited irrigators more than cities, whose use did not vary as much from year to year. In addition, the stipulation included the option of selling one’s BAP or FPA, which gave irrigators a financial off ramp if growing crops proved unprofitable, either in a given year or for the long term. The stipulation also allowed overlying users to sell their net pumping, rather than their consumptive use, even though

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67. *Mojave Trial Court Decree*, *supra* note 51, at 19.

68. *Compare Mojave Trial Court Decree*, *supra* note 51, at 20 with *City of L.A. v. City of San Fernando*, *supra* note 3, at 266, n.61.

69. *Id.* at 20.

70. Interview 1, *supra* note 55.

cities had lower consumptive use rates.<sup>71</sup>

The settling parties initiated the focus on equitable apportionment, rather than property rights priorities, as a legal justification for the terms of the stipulation.<sup>72</sup> The trial court fully bought in, however, not just by adopting the stipulation, but by deciding to impose the apportionment on the “Cardozo parties,” who dissented from the stipulation. The focus on equitable apportionment provided the primary grounds for those parties to appeal the case.

At the time, the trial court’s reliance on footnote 61 of the *San Fernando* decision created hope of moving California groundwater law towards a more flexible, less formalistic approach to apportioning groundwater rights.<sup>73</sup> Indeed, the trial court’s approach was consistent with the recommendations of the Governor’s Commission on California Water rights, issued twenty years earlier.<sup>74</sup> Both the California Court of Appeals and the California Supreme Court let the stipulation stand, but overturned the trial court’s decision to apply its terms to the non-stipulating parties. Representatives of the stipulating parties argued that the trial court’s reliance on principles of equitable apportionment was allowed, and indeed mandated by Article X, Section II of the California Constitution, which provides that “the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented.”<sup>75</sup> The stipulating parties argued both that uses in excess of safe yield were unreasonable, but also that strict enforcement of water rights priorities would have resulted in unreasonable uses of water or at least uses less reasonable and less beneficial than equitable apportionment, violating the clause’s mandate to put waters to the “fullest extent” of beneficial use of which “they are capable.”<sup>76</sup>

The Supreme Court rejected this argument. It reasoned that although the Constitution’s mandate of reasonable and beneficial use might limit

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71. *Id.*

72. *Id.* (“What we were trying to do at trial was get the court to adopt it as a permanent judgment, which he did, but by then we knew we had something like 90 to 95 percent of the agricultural production stipulated, because they got all of these concessions”).

73. See E. Gardner and S. Anderson, *The California Supreme Court Reviews the Mojave River Adjudication*, 2 U. DENVER WATER L. REV. 26 (1999); R. Sugerman, *The Mojave Basin Physical Solution: It’s a Good Idea. But Is It Good Law*, 6 HASTINGS W N.W. J. ENVTL. L. & POL’Y 307 (2000).

74. GOVERNOR’S COMMISSION REPORT, *supra* note 29, at 169 (recommending equitable apportionment as method for groundwater allocation).

75. CAL. CONST., art. X, § 2.

76. *City of Barstow v. Mojave Water Agency*, *supra* note 2, at 1237.

the amount of water available to any given user, it did not supplant the priority system of rights:

The constitutional amendment therefore dictates the basic principles defining water rights: that no one can have a protectable interest in the unreasonable use of water, and that holders of water rights must use water reasonably and beneficially. Crucial to our own determination here is the fact that the amendment carefully preserves riparian and overlying rights . . .<sup>77</sup>

The court reaffirmed the priority system of water rights, even in the context of a physical solution:<sup>78</sup>

Thus, water right priority has long been the central principle in California water law. The corollary of this rule is that an equitable physical solution must preserve water right priorities to the extent those priorities do not lead to unreasonable use. In the case of an overdraft, riparian and overlying use is paramount, and the rights of the appropriator must yield to the rights of the riparian or overlying owner.<sup>79</sup>

Although the Supreme Court overturned the decision to apply the principles of equitable apportionment to limit the Cardozo parties' overlying rights, it left considerable equitable wiggle room for future courts. The Supreme Court found the trial court's reliance on *City of San Fernando* misplaced because that case "is not precedent for *wholly* disregarding the priorities of existing water rights in favor of equitable apportionment in this state, where water allocation has been based on an *initial consideration* of owners' legal water rights."<sup>80</sup> The Supreme Court concluded:

Thus, although it is clear that a trial court may impose a physical solution to achieve a practical allocation of water to competing interests, the solution's general purpose cannot *simply ignore* the priority rights of the parties asserting them.<sup>81</sup>

Much as the Supreme Court's decision in *San Fernando* overturned the trial court's reliance on *Pasadena v. Alhambra*'s mutual prescription approach, the Supreme Court's decision in *Mojave* overturned the trial court's reliance on *San Fernando*'s equitable apportionment analogy. In

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77. *Id.* at 1242.

78. The primacy of the priority system of water rights in the context of a physical solution is particularly significant. Historically, a physical solution was a remedy within the equitable power of the courts that served as an alternative to full enforcement of water rights. *See supra* note 66 (discussing sources).

79. *Mojave*, 23 Cal. 4th at 1243.

80. *Id.* at 1247 48 (emphasis added).

81. *Id.* at 1250 (emphasis added).

addition, the *Mojave* decision provided few, if any, clear guidelines for trial courts hearing other adjudications. Neither the opinion nor the court's holding did much to clarify the meaning of to "wholly disregard" or to "simply ignore" priority rights. Although the trial court had not determined the priorities of the various pumpers' rights, it had not wholly disregarded them. The trial court included the priority of the various rights asserted in its list of factors it considered in the declaration of rights and physical solution. The stipulation also gave overlying rights holders the benefit of a baseline of their most intensive water use over the relevant five-year period and more favorable treatment in the market than appropriators. It might have changed the posture of the case, at least slightly, if the trial court had relied on these preferences more heavily in its opinion.

Despite the vagueness of the Supreme Court's language in *Mojave*, the case does seem to include at least two bright line holdings. The first is that equitable apportionment is not the law of California for purposes of determining allocations between different classes of rights holders (although the door is left open for using equitable apportionment in disputes between overlying pumpers). The court made that quite explicit. The second, which can be inferred, but not with much effort, is that trial courts cannot simply decline to classify and prioritize different types of property rights to groundwater in ordering a physical solution.

As referenced earlier, the stipulation did include numerous concessions to overlying landowners. In the words of one of the attorneys involved:

We approached this in a way where, as I argued successfully to the court of appeals, that...to the extent you were an overlying property owner... we would create a judgment that was very, very kind to you in very many ways.<sup>82</sup>

One can infer from the Supreme Court decision that the preferences granted in the judgment did not satisfy the test of "not simply ignoring" property rights priorities, although the trial court decision did not tee this issue up as well as it could have. Another possible way of reading the court's decision is that, in an overdrafted basin, the overlayers are entitled to the entire safe yield, and that a trial court must allocate the safe yield to them absent some finding of prescription. Once that is done, the court has flexibility in terms of allocating rights among overlayers and setting up a system for transfers to appropriators.

As we will see in our discussion of adjudications since *Mojave*,

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82. Interview 1, *supra* note 55.

several of those cases have placed the burden of reductions needed to achieve safe yield either entirely or predominantly on appropriators. This approach favors overlying pumpers in the allocation of rights much more clearly than the preferential treatment in the Mojave settlement. Those settlements go much farther towards meeting the test of not “simply ignoring” priority rights, although they are vulnerable to one critical argument. If pumping by overlayers has either equaled or exceeded safe yield, non-overlying users are not entitled to any water absent a finding that they have prescriptive rights. In a case involving a basin in long-term overdraft and a dispute between overlayers and appropriators, it would be very difficult after *Mojave* for a court to avoid grappling with the difficult issue of prescriptive rights, or to address comparably difficult issues of waste, unreasonable use, and unreasonable allocation.

The Supreme Court’s holding could point to at least two different doctrinal directions. First, the Supreme Court could simply have been reacting to the trial court’s strong reliance on the doctrine of equitable apportionment, and making quite clear that the doctrine was not, under California water law, the primary basis for allocating water. This reading might give trial courts hearing (and parties settling) adjudications a wide degree of flexibility in terms of the precise type of preference and priority they give to the different categories of rights holders. This is the view set out in a recent piece by McGlothlin and Acos, which emphasizes the flexibility of California water rights law. That article argues that the mandate of Article X, Section 2 of the California Constitution, combined with the public trust doctrine, requires an assessment in each case that “seek[s] to maximize water’s social utility through a balancing of social, economic, and environmental interests the ‘triple bottom line.’”<sup>83</sup> The ultimate result of the application of this balancing should result in “optimizing of the net social utility achieved from balancing the costs and benefits of all potential uses of water, including non-consumptive uses.”<sup>84</sup> *Mojave*, however, does impose some limits on this rule by requiring “due regard for common law water right priorities.”<sup>85</sup> The article goes on to argue that this “due regard” requires “harmonizing” optimized beneficial use with the certainty needed by property rights holders, and that this harmonization can be implemented in a variety of ways, including by allocating the burdens of

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83. McGlothlin & Acos, *supra* note 8, at 111.

84. *Id.*

85. *Id.* at 112.



a physical solution pursuant to water rights priorities.<sup>86</sup>

Second, the *Mojave* opinion could be read as reaffirming the need to adjudicate *individual* water rights in groundwater adjudications, where those rights are being asserted, and holding that courts must classify pumpers into the relevant classes of rights and resolve priority disputes between them. This would result in exceedingly complex, expensive, and time-consuming adjudications, particularly in large basins with many groundwater users. In addition to considering the various factors needed to assess overdraft, prescriptive rights, and mutual prescription,<sup>87</sup> the court would have to assess reasonable use by each pumper, arrive at a method for apportioning safe yield among overlying pumpers, devise a mechanism for reducing pumping, and implement any relevant physical solution. Under this approach, in an overdrafted basin nonoverlying users would risk losing their right to pump absent a finding of prescription against overlying users. Under *San Fernando*, if the nonoverlying users are municipalities or other public agencies, those users could acquire prescriptive rights against irrigators, but corresponding mutual rights of prescription would be unavailable for those irrigators. This in turn would disrupt existing pumping patterns in favor of urban users, because, presumably, irrigators would have to reduce their pumping by a greater proportion to reflect the degree of prescription. Each class of pumpers would appear to face the same risk of losing all or a substantial portion of their pumping rights that led to the settlement in *Pasadena v. Alhambra* more than fifty years before *Mojave*.<sup>88</sup>

The reactions to *Mojave* have followed those two tracks. Some have seen it as a victory for formalism that could prolong adjudications that were filed and intimidate the filing of others. Eric Garner, one of the lead attorneys in the *Mojave* adjudication, took this perspective shortly after the case was decided.<sup>89</sup> Other commentators have seen it as more of a reminder to avoid “wholly disregarding” priority of asserted rights, while not completely tying courts’ hands or stifling the creativity of parties working to resolve adjudications and other groundwater disputes.<sup>90</sup>

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86. *Id.* at 117 (“The distribution of burdens of water management is the locus of the *Mojave* Rule, which instructs that the burdens must be imposed consistent with common law water right priorities.”).

87. *San Fernando*, 14 Cal. 3d at 265-67.

88. BLOMQUIST, *supra* note 1, at 78-79.

89. E. Garner, *Right Back Where We Started From: The Last 25 Years of Groundwater Law in California*, 36 MCGEORGE L. REV. 413 (2005).

90. McGlothlin & Acos, *supra* note 8, at 112; see also, J. Miller, *When Equity is Unfair Upholding Long Standing Principles of California Water Law in City of Barstow v.*

Indeed, one could argue that the Supreme Court decision in the *Mojave* adjudication was not momentous for management of the Mojave basin itself, or at least not determinative. The dissenting pumpers made up less than 20 percent of the overall pumping. The innovative management regime, including the transferability of both BAPs and RPAs proceeded without those pumpers, and a good deal of water shifted from agriculture to urban uses through the market.<sup>91</sup> Despite their objections to the stipulation, many of the Cardozo parties ultimately sold their rights as part of the market created by the adjudication.<sup>92</sup> The Mojave Water Agency, acting as watermaster, has continued to tweak the terms of the stipulation, under the supervision of the court. The stipulation has produced one of the most robust markets for groundwater rights in the state.<sup>93</sup> Despite all of this, three of the five basin sub-areas remained in overdraft as of 2014, in part because of the failure to adequately clamp down on pumping, but more importantly because pumping allocations in the judgment were based partly on presumed sources of supplemental water that did not pan out.

The uncertainty associated with the groundwater rights regime, along with the extreme expense of fully litigating all the factual and legal issues needed to establish groundwater rights priorities under the stricter reading of *Mojave*, risks an inefficient allocation of water resources. Beginning in the early 20th century, groundwater began to become scarce in parts of California, particularly the densely populated southern metropolitan areas. That scarcity became more acute and broader late in the century, with groundwater overdraft in parts of the Central Valley, the Central Coast, and elsewhere. Under traditional theory, property rights should become stronger and clearer in this context in order to avoid a “tragedy of the commons.”<sup>94</sup> While the

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*Mojave Water Agency*, 32 MCGEORGE L. REV. 991, 1014-16 (2001) (discussing future viability of equitable apportionment in California).

91. The market in BAPs and FPAs is perhaps one of the most significant achievements of the settlement. Pumpers have engaged in 625 transfers of BAPs totaling 235,481 AF of water and costing \$125 million. *Permanent Transfers of Base Ann. Prod. Rts.* [1994-2017], MOJAVE BASIN AREA WATERMASTER (Nov. 28, 2017), [https://www.mojavewater.org/files/1994\\_2017\\_Permanent.pdf](https://www.mojavewater.org/files/1994_2017_Permanent.pdf) (last visited Apr. 21, 2018). They have also engaged in 4,167 trades of FPAs totaling 785,162 AF of water and costing \$96.6 million. *Temporary Transfers* [1994-2017], MOJAVE BASIN AREA WATERMASTER (Nov. 28, 2017), [https://www.mojavewater.org/files/1994\\_2017\\_Temporary.pdf](https://www.mojavewater.org/files/1994_2017_Temporary.pdf) (last visited April 21, 2018).

92. Interview 1, *supra* note 55; Interview with attorney involved in the Santa Paula and Seaside adjudications (name on file with authors), (Nov. 21, 2016) [hereinafter Interview 7].

93. GREEN NYLEN ET. AL, *supra* note 61, at 47.

94. See C. ROSC, *Energy and Efficiency in the Realignment of Common Law Water Rights*, 19 J. LEGAL STUD. 261, 262-63 (1990).

enforceability of pumping rights priorities in theory strengthens property rights, that inference is undercut by the quirks and nuances of the California system, including the difficulty in enforcing those rights through adjudication, the high cost of quantifying rights, the dual uncertainty associated with prescriptive rights, and the high level of uncertainty associated with litigating all of those issues. The high level of overdraft in the Central Valley took place in the context both of this level of uncertainty associated with property rights, as well as the lack of an overall regulatory framework.

We have evaluated all seven adjudications finalized since the *Mojave* decision to assess how the property rights regime set out above has affected their outcomes, and whether disputes over property rights have driven the complexity and duration of litigation, or whether parties and courts have opted for the more flexible reading of *Mojave* and its predecessors. We have also examined these cases for insights into how the adjudication regime might coexist with the Sustainable Groundwater Management Act. These adjudications demonstrate that, although potential exists for extensive litigation over property rights, in many cases parties have been able to resolve adjudications and adopt creative strategies for managing groundwater. They have done this in part by effectively adopting a clear rule of supremacy of overlying rights, while also setting up a system for reallocating those rights to urban users into the future.

#### IV. POST-MOJAVE ADJUDICATIONS

In examining the adjudications that have been finalized since the *Mojave* decision, it is evident that the internal tensions in that decision and its predecessors have not been resolved. The need to prioritize and quantify rights, and particularly to cope with disputes about prescription, has driven some cases to lengthy and costly litigation. Nonetheless, the opinion appears to have left parties in other cases enough flexibility to develop settlements based on innovative and practical water management tools. However, the importance of property rights has driven the form and strategy of those settlements.

There have been seven adjudications finalized (brought to final judgment in the trial court) since the Supreme Court's decision in *Mojave*: Beaumont (2004), Seaside (2006), Santa Maria Valley (2008), Santa Paula (2010),<sup>95</sup> San Jacinto (2013), Antelope Valley (2015), and

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95. Santa Paula was originally finalized in 1996. We have included it because the trial court amended the judgment significantly in 2010. LANGRIDGE, *supra* note 19, at 212.

Los Osos (2015). As shown in Table 1, two of these were only finalized after extensive, adversarial litigation: Santa Maria (15 years) and Antelope Valley (16 years). The other five were settled fairly quickly (with the exception of Los Osos), and were resolved with relatively little contention by using various approaches to granting overlayers priority.<sup>96</sup> Table 1 also highlights another key distinction between the two groups of cases: the number of parties involved. The two litigated cases involve far larger numbers of individual rights holders and parties. In addition to raising transaction costs of negotiating a settlement, the larger number of parties increases the likelihood that at least some rights holders would want to dispute a settlement in the courts.

**Table 1. Overview of adjudications since the 2000 Mojave California Supreme Court decision.**

Adjudication	Year of final judgment	Length of process <sup>a</sup>	No. of parties <sup>b</sup>	Major groundwater uses (year) <sup>c</sup>
Mojave	1996, appeal decided in 2000	6 years (10 including appeal)	423 named producers, over 1000 served	57% urban, 25% agricultural, 10% wetlands, 8% other (2015)

96. All were resolved in fewer than three years after filing, with the exception of Los Osos, which took 11 years to resolve. However, a portion of those 11 years was consumed with resolving local political conflict, including a recall election of the board of the Los Osos Community Services District, leading to that entity's bankruptcy and ultimately the county taking over the responsibility for building a wastewater treatment plant. Interview with attorney involved in the Los Osos adjudication (name on file with authors), (Oct. 11, 2016) [hereinafter Interview 5]. In 2007, the parties reached an agreement resulting in an interlocutory stipulated judgment, under which they agreed to jointly develop a Basin Management Plan. Finalized in 2015, this plan became the basis for the final judgment. Updated Basin Plan for the Los Osos Groundwater Basin, January 2015, at 3, *Los Osos Community Services District v. Golden State Water Company et al.*, No. CV 040126 (Cal. Super. Ct. for San Luis Obispo County, Sept. 2015). This approach is distinct from Antelope Valley and Santa Maria, where a significant number of years were consumed with adversarial legal procedures.

<b>Group I: Settled Cases</b>	Beaumont	2004	1 year	22	83% overlying, 17% appropriative (2015)
	Seaside	2006 (amended in 2007)	3 years	16	100% urban (2016-17)
	Santa Paula	1996 (amended in 2010)	5 years (to initial judgment)	103 (including 101 members of Santa Paula Basin Pumpers Association)	25% urban, 75% agricultural (2015)
	San Jacinto	2013	1 year	5 (includes “private pumpers group of up to 100 individuals)	54% urban, 32% agricultural, 4% pumped by Soboba tribe (2016)
	Los Osos	2015	11 years, but 4 between complaint and interlocutory judgment	4	63% urban, 37% agricultural (2016)
<b>Group II: Litigated Cases</b>	Santa Maria	2008 (appeal decided in 2012)	11 years (15 with appeal)	1000 (750 stipulated)	15% urban, 83% agricultural, 2% other (2015)
	Antelope Valley	2015	16 years	Over 4,000 (70,000 including non-pumper class)	33% appropriative, 66% overlying, 1% state/federal (2016)

Number of years between complaint and final judgment, except where noted.

At the time of the final or amended judgment.

Data obtained from SGMA-mandated annual reports (available at <http://sgma.water.ca.gov/adjudbasins/report/publicview>), in the years indicated for agricultural and urban uses. These data are not available for Beaumont and Antelope Valley, so reported pumping by overlying and appropriative users is used instead. Appropriative nearly always represents urban uses, and overlying is primarily but not completely agricultural. Source for Beaumont is the 2015 Annual Report, Beaumont Basin Watermaster, Table 3-4 (available at <http://documents.yvwd.dst.ca.us/bbwm/documents/2015AnnualReportFINAL161207.pdf>) and for Antelope Valley, the Final Antelope Valley Watermaster 2016 Annual Report, Appendices E and F (available at: [http://www.avek.org/fileLibrary/file\\_753.pdf](http://www.avek.org/fileLibrary/file_753.pdf)).

The two sets of cases treat property rights very differently, but both demonstrate vitality of those rights in the wake of the Mojave case. The two protracted cases were made contentious by litigants' intent on asserting the rights of overlying owners, and their lengthy resolutions were driven in part by the complexities of resolving disputes between appropriators and overlying pumpers, particularly with respect to prescriptive rights. The other five cases were settled in a far less contentious manner, with the litigants dodging the issues of prioritization of rights and prescription by placing most or all of the burden of pumping reductions on appropriators and creating voluntary market mechanisms to make that that burden more flexible and manageable. In effect, appropriators have reduced the cost of litigating and settling by abstaining from asserting any prescriptive rights and assuming the supremacy of overlayers in order to establish clarity in the system, and then setting up a market system to allow transfers of rights from irrigators to municipalities and other management measures. We discuss each case below, beginning with Group 1, which we refer to as "settled cases." Table 2 summarizes how key water rights issues have been addressed in cases within the two groups.

**Table 2. Approaches to water rights in adjudications since the 2000 Mojave decision.**

Adjudication	Treatment of overlying rights	Role of prescription	Burden of reductions to reach safe yield	Trading allowed?	Exemption for minimal producers	Treatment of unexercised rights	
Group I: Settled cases	Beaumont	Entire safe yield granted to overlyers. Rights are quantified individually and judgment allows for transfers from overlyers to appropriators, who are granted rights to store water.	Not argued	Appropriators were allowed 10 years of surplus pumping but then rights reduced to zero except for any rights transferred from overlyers, or storage of imported water.	Yes	Less than 10 AFY	Not discussed explicitly, but judgment allows for the addition of new parties.
	Seaside	Overlyers can choose from two classes of rights: Alternative, enabling them to avoid reductions but no trading, and Standard, imposing limits but allowing trading.	Judgment found mutual prescription but does not impose equal reduction requirements,	Standard allocation holders must reduce to zero before Alternative producers make any reductions.	Yes	Less than 5 AFY	Not discussed explicitly, but judgment allows for the addition of new parties.
	Santa Paula	Members of pumpers' association have individually	Not argued	The appropriative party (City of Buenaventura) bears the	Yes	Less than 5 AFY	Not explicitly addressed.

Adjudication	Treatment of overlying rights	Role of prescription	Burden of reductions to reach safe yield	Trading allowed?	Exemption for minimal producers	Treatment of unexercised rights
	quantified rights assessed on a 7-year running average, allowing for year-to-year flexibility, with clear rules for trading.		primary burden of reductions.			
San Jacinto	Overlyers have three options: 1) participate under Class A, which avoids reductions but allows no trading, 2) participate under Class B, with generously defined but limited right that allows trading, or 3) do not participate.	Not argued	Appropriators bear entire burden (up to 10% reductions per year for 6 years to reach safe yield).	Yes	Less than 25 AFY	New pumpers may join the judgment, but only as Class A participants.
Los Osos	Overlying rights holders not included as parties to the judgment. Their water use is	Not argued	Appropriators bear the entire burden.	No	Judgment exempts all overlying pumpers	Judgment exempts all overlying rights holders so new overlying



Adjudication	Treatment of overlying rights	Role of prescription	Burden of reductions to reach safe yield	Trading allowed?	Exemption for minimal producers	Treatment of unexercised rights	
	accounted for in three "water entitlement pools" (Agricultural, Private Domestic, and Community), which are not required to reduce pumping.					pumpers would not face restrictions.	
<b>Group II: Litigated cases</b>	Santa Maria	Overlying rights holders are granted the entire safe yield, although safe yield is not quantified. This effectively allows overlying to continue to pump without restriction.	Grants prescriptive rights to two public agencies, but only against non-stipulating parties. Public agencies waived right to claim prescription against future pumping of stipulating parties.	Limits on pumping can only be imposed by the court under narrowly defined conditions of "severe water shortage." Conditions vary across the three Management Areas, but restrictions on overlying would be limited.	No (only of reservoir water in one management area)	No exemption, but judgment does not impose restrictions	Judgment acknowledges unexercised overlying rights as prior and paramount, without placing limits.
	Antelope Valley	Prescriptive rights awarded to public agencies against certain			Identified small pumpers granted 1.2 AFY, but	Establishes a "non-pumper" class. New uses require	

Adjudication	Treatment of overlying rights	Role of prescription	Burden of reductions to reach safe yield	Trading allowed?	Exemption for minimal producers	Treatment of unexercised rights
		parties, including those who defaulted or failed to appear.			may pump up to 3 AFY without paying fees.	watermaster approval and are subject to fees above the de minimus amount. This aspect of the judgment is on appeal.

A. *Group I Settled Cases.*

We have grouped five cases together (*Beaumont*, *Seaside*, *Santa Paula*, *San Jacinto*, and *Los Osos*) not just because they were settled less contentiously, but also because they largely followed the same route to settlement – placing most or all mandatory burdens of pumping reductions on non-overlying water users and opting out of disputation of any prescription claims. Although the exact treatment of overlying and appropriative rights differs somewhat between the cases, all avoided any potential disputes about prescriptive rights or other priority issues between the two classes of rights holders by placing limited or no burdens on overlying pumpers. Most of settlements also included a trading mechanism to create at least the possibility of the purchase by municipalities of water and pumping rights used by overlying irrigators. Although these cases are of limited precedential value (unlike the litigated cases that rise up through the appellate courts), it does appear that the adjudications borrow from each other presumably because their terms are well known in the water law community in California.

1. *Beaumont*

The Beaumont basin is in Riverside County in the Inland Empire area east of Los Angeles. The stipulated judgment in the Beaumont

basin adjudication is similar to the four other stipulations discussed below in that it places the burden of reductions on appropriative pumpers. However, it does so for a different purpose in a different context. The stipulation allocates the entire safe yield to the seventeen principal overlying pumpers in the basin, but also allowed appropriators to pump for ten years under a so-called “temporary surplus” so as to draw down the aquifer and free up storage space.<sup>97</sup> This allowed municipal growth to continue and created space for municipalities and water agencies to store imported water, carryover rights, and other developed water.

a. *Context*

During the late 1990s, municipalities in the Beaumont Basin experienced very rapid growth.<sup>98</sup> Although the basin was not in overdraft, the rate of municipal growth created water management challenges. The municipalities hoped to meet growing water demand from a number of sources, including imported water. They lacked both space to store that water from year to year, and a legal framework for doing so. A group of municipalities began to negotiate a water management plan in 2002 and filed a collaborative adjudication in 2003. The court entered a stipulated judgment in 2004, a remarkably rapid resolution.<sup>99</sup> The settlement included seventeen overlying pumpers and five appropriative users (two cities, two water districts, and one water company).

b. *Water rights*

The stipulation granted the entire safe yield, initially calculated at 8,650 AFY, to overlying pumpers. Each pumper’s allocation was based on their maximum production during the 1997-2001 time-frame. A pumper is allowed to pump five times their allocation in any five-year period, allowing significant flexibility from year to year.<sup>100</sup> The penalty for exceeding that limit is a replenishment assessment. Overlying owners can sell their allocations to other overlying owners or to

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97. The pumping of a so called “temporary surplus” in order to free up storage space for future use can be considered pumping within the safe yield even though it draws down aquifer levels. *San Fernando*, 14 Cal. 3d at 280.

98. LANGRIDGE, *supra* note 19, at 173-74.

99. *Id.* at 174.

100. BEAUMONT BASIN WATERMASTER, First ANN. REP. OF THE BEAUMONT BASIN WATERMASTER 1, 5 (2004).

appropriators.<sup>101</sup> Indeed, the allocations were established so that overlying rights could be easily converted to appropriative rights as land was developed.<sup>102</sup>

The judgment allocated none of the safe yield to appropriative pumpers. Rather, the judgment created a 160,000 AF “temporary surplus,” and allocated it to the appropriators to draw down over the nine-year period following the judgment.<sup>103</sup>

Due to the absence of overdraft, prescription and its related complexities were not really at issue in the case. The municipal water suppliers made the decision to deal with water supply stress in advance of a crisis. Given the relatively low level of pumping compared to safe yield, it appears there was surplus available for appropriation, and those suppliers did give up their potential claims to that surplus in order to facilitate their preferred physical solution. Under *Katz* however, those claims would have evaporated once the basin went into overdraft. The key to the stipulation and physical solution is the use of groundwater storage to stabilize the short-term fluctuations in the availability of surface water. Since the judgment was issued in 2004, the total amount of water stored by appropriators in the basin has increased from about 4,000 AF to nearly 100,000 AF in 2015.<sup>104</sup> Although this strategy has considerable benefits for groundwater levels and storage, it is vulnerable to potential long-term declines in the availability of imported surface water on which the appropriators have relied while reducing their pumping.<sup>105</sup>

## 2. Seaside Basin

The Seaside basin is on the Monterey Peninsula and faces the threat of saltwater intrusion driven by pumping by both municipalities and irrigators. The case took a bit less than three years to resolve through a stipulated judgment entered by the trial court in 2006. This was followed by an appeal by two parties, which was completed a year later in 2007.<sup>106</sup> The resolution of this difficult dispute involved several innovative management tools, and its treatment of property rights

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101. *Id.* at 3 8.

102. Interview 1, *supra* note 55.

103. LANGRIDGE, *supra* note 19, at 176.

104. BEAUMONT BASIN WATERMASTER, 2015 ANN. REP. DRFT. 1 1, tbl.3-9, 3 46 (2016).

105. Debra Perrone & Melissa Merri Rohde, *Benefits and Economic Costs of Managed Aquifer Recharge in California*, 14 S.F. ESTUARY & WATERSHED SCI. 1, 1 (2016).

106. The order proposed by stipulating parties was opposed by two other parties. The trial court adopted the stipulation in part after a trial in the case. LANGRIDGE, *supra* note 19, at 227.

sidestepped the litigation difficulties set up by *Mojave* and its predecessors.

a. *Context*

The Seaside adjudication took place against a backdrop of severe water shortages on the Monterey Peninsula, including overdraft of the Seaside basin. The region faced an ongoing shortfall due to a State Water Resources Control Board ruling in 1995 regarding surface water rights in the Carmel River.<sup>107</sup> Overdraft of the Seaside basin created a risk of seawater intrusion, and pumping reductions were needed in order to protect the basin from that risk. Because of the basin's limited yield, the degree of overdraft had grown acute even though the number of pumpers and their total production were small.<sup>108</sup> The region had no access to imported water or other surface water, increasing the pressure on the groundwater basin and limiting management options. At the time of the adjudication, the community was developing several new sources of water, including aggressive conservation, desalination, aquifer recharge, and wastewater recycling. Water use in the basin is primarily urban, and the total number of parties, 16, was relatively small. The key parties got together to negotiate before filing an adjudication, and essentially developed the settlement before filing the case.<sup>109</sup> The purpose of filing was to improve legal resilience by establishing a clear and transparent set of rules and a governance structure that all parties could agree on for moving forward.<sup>110</sup>

b. *Water rights*

The strategy of the parties was not to start with the legal framework for water rights, but rather to find a practical management approach that would work to get the basin to safe yield and that all users would agree to, and then to fit that approach into the legal framework. The basic approach, in the words of one attorney involved, was to first assess the amount of water available, and then find the best tools for sharing that

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107. California State Water Resources Control Board Order 95 10 (1995). Cal. Am. Water Co., CAL. WATER RES. CONTROL BD., Order No. WR 95 10 (July 6, 1995).

108. LANGRIDGE, *supra* note 19, at 228.

109. See generally *id.* at 226; *California American Water v. Seaside et al.*, (Monterey Co. Superior Ct., Case No. M66343, February 9, 2007). Cal. Am. Water v. Seaside et al., No. M66343 (Cal. Dist. Ct. App. Apr. 1, 2010).

110. Interview with attorney involved in the Seaside and Santa Paula adjudications (name on file with authors), (Aug. 22, 2016) [hereinafter Interview 2].

water.<sup>111</sup>

In the end, the case was settled by giving overlying pumpers priority despite potential claims of prescription. The judgment made a broad brush finding of mutual prescription, gave each pumper an initial allocation based on its historic pumping, and created two categories of pumping allocations.<sup>112</sup> Overlying pumpers were given an “Alternative Production Allocation” (APA). Holders of APAs have a quantified right, but have no obligation to reduce their pumping unless other pumpers (as discussed below) reduce their pumping to zero and safe yield has still not been met. However, APA holders do not enjoy some other benefits, such as the right to transfer their APA, to use it on another property, or to use it to establish carryover credits or storage rights. Appropriators were given Standard Production Allowances (SPAs). In contrast to the overlying pumpers, these producers are subject to a step-down requirement to reduce pumping over time in order to bring overall production within safe yield.<sup>113</sup> Only if these pumpers reduce their production to zero, and if these reductions are not adequate to achieve safe yield, do the overlying holders of APAs have to begin to reduce their pumping.<sup>114</sup> Holders of SPAs, however, do benefit from the ability to manage their rights more flexibly by accumulating carryover credits, changing the place of use, owning and using storage rights, and transferring their allocations.<sup>115</sup> Overlying pumpers, including holders of APAs, were given the option of converting their APAs into SPAs, the primary benefit of which would be to give them the opportunity to sell their allocations.

The judgment thus finessed several aspects of the black letter of groundwater rights announced in *City of Pasadena*, *City of San Fernando*, and *Mojave*. First, it used mutual prescription to set initial allowances, but did not take the doctrine’s next step by making reduction requirements uniform. Indeed, it gave overlying pumpers priority access to the full safe yield over appropriators, a situation that the deployment of mutual prescription had been used by courts and settling parties to avoid. The stipulation thus gave overlying owners much more advantageous treatment than they would have received had

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111. *Id.*

112. LANGRIDGE, *supra* note 19, at 229.

113. The reductions are quite steep (ten percent a year, starting three years after the judgement), as are the penalties for exceeding an SPA (\$2,872 per acre/foot in 2017). *Cal. Am. Water v. Seaside et al.*, No. M66343 (Cal. Dist. Ct. App. Apr. 1, 2010); SEASIDE BASIN WATERMASTER, SEASIDE BASIN WATERMASTER ANN. REP. 7 (2017).

114. *Cal. Am. Water*, No. M66343, at 20.

115. *Id.* at 5.

the urban water providers successfully litigated any prescription claims or had the case been settled using the pre-*San Fernando* method of universal mutual prescription. They also received better treatment than they would have using the equitable apportionment theory of the *Mojave* settlement. The appropriators, primarily urban water providers, were willing to accept this as a pathway to implementing a water management strategy that worked for them. Among other management tools, the settlement set up a market with clear rules, rules that favored the overlying pumpers, while allowing all parties to avoid the high transaction costs that would have been necessary to assert any prescriptive rights.

The terms of the judgment have not been sufficient to foster much of a market in water rights in the basin. Only an insignificant quantity of APAs have been converted to SPAs, and trading has been minimal.<sup>116</sup> For the time being, community efforts have focused on developing additional water supplies, primarily through water recycling and desalination.

### 3. *Santa Paula*

The Santa Paula Basin is located in Ventura County, north of Los Angeles. The trial court initially entered a judgment in the Santa Paula basin adjudication in 1996, and then amended its judgment in 2010. Although the original judgment predates *Mojave*, we have included the case here because the currently operative judgment postdates it. The Santa Paula judgment adopted similar approach to water rights and allocations as Seaside in giving every pumper a quantified allocation, but it saddles appropriators with most of the burden for ramping down use to achieve safe yield.

#### a. *Context*

The Santa Paula Basin was ripe for potential water disputes. It faced conflicting demands from municipal and agricultural users. In addition, parties faced a great deal of uncertainty about the basin, including estimates of safe yield. Although they were not sure the basin was in overdraft, overlying landowners brought the adjudication in 1991 in order to cut off any potential prescription claims by the City of San Buenaventura, the only significant appropriative user.<sup>117</sup> This initial

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SEASIDE BASIN WATERMASTER, *supra* note 113, at 5.

117. The City of Santa Paula is also a party to the judgment, but as a member of the Santa Paula Basin Pumpers Association. The judgment does not specify whether as a city, Santa Paula is

filing was brought to judgment in 1996. The parties went back to the court in 2010 to seek an amendment to the judgment that would clarify pumping rights in order to spark more trading of groundwater rights.

b. *Water rights*

The 2010 judgment, by its own terms, states that it “is not a determination of water rights.” Legally, the remedy in the judgment constitutes a physical solution rather than a determination of such rights.<sup>118</sup> Under *Mojave*, such physical solutions cannot, however, “wholly disregard” or “simply ignore” property rights priorities. The judgment in Santa Paula adds some practical specificity to that standard.

The judgment gives overlying pumpers considerable preference, certainly more preference than their brethren in the Mojave basin. However, this preference is not as absolute as that given overlying pumpers by the Seaside adjudication. The overlying pumpers that were part of the judgment all became members of the Santa Paula Basin Pumpers Association (SPBPA). The SPBPA was allocated the overlying pumpers’ share of the safe yield. In turn, each SPBPA member holds an Individual Pumping Allocation (IPA), which is their portion of that overall share. Each IPA administered by the SPBPA is evaluated on a 7-year running average. So, each member must remain within his/her allocation on average, but has flexibility to vary their pumping from year to year. According to one lawyer, one key to the settlement was the SPBPA’s role in holding the overall overlying allocation in trust and then divvying it up among individual pumpers based on historical use. The fact that farmers had to share with each other how much water they were using created big incentives for efficiency. “The farmers had to prove up their rights...not to the city, but to each other. The drive for efficiency that occurred in this area is remarkable...you’re talking about 90% efficiency in irrigation.”<sup>119</sup> The incentive to maximize estimates to pumping to increase one’s share was apparently balanced by the desire not to appear wasteful.

The City of San Buenaventura, as the sole appropriator, was allocated three thousand acre/feet per year (slightly more than ten percent of overall pumping in the basin). While the judgment does not explicitly hold this right to be junior to the SPBPA rights, it creates a

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an appropriative user. However, as a member of the Association, its obligations to cut back pumping are the same as overlying landowners. See *United Water Conservation Dist. v. City of San Buenaventura*, No. S226036, 7 22 (Cal. App. Dep’t Super. Ct. Dec. 4, 2017).

118. *Id.* at 5.

119. Interview 2, *supra* note 110.



much more severe ramp down schedule at the point San Buenaventura must reduce its pumping to zero, SPBPA members must only reduce by ten percent.<sup>120</sup> This disparity in treatment is not as great as it might seem, because the three-thousand acre foot number greatly exceeds the city's historical pumping.<sup>121</sup> The judgment thus gives the city considerable cushion; because of this cushion, the ramp down provisions have yet to kick in.<sup>122</sup>

The judgment sets up a very streamlined system for trading which had contributed to the establishment of a "very definite, identifiable water market" in the basin.<sup>123</sup> SPBPA members may transfer their IPA, either annually or permanently. The only approval process is a 30-day notice to the watermaster to assess potential injury to the basin.<sup>124</sup> In the wake of the 2010 judgment, trading in the basin among SPBPA members, and between SPBPA members and the city, has increased.

We can draw several important lessons from the Santa Paula adjudication. First, the judgment provides at least one roadmap for implementing *Mojave*. The parties and the court created a physical solution that avoided litigating any form of prescription or definitively determining the water rights of each party. The judgment placed burdens on both classes of pumpers. Although, if shortages became acute, the burden on the appropriator would be greater, that impact is mitigating by the relatively generous allocation and the potential to buy allocations from SPBPA members. Although we do not know how appellate courts might rule on this specific issue, it is an example of a physical solution that does not "simply ignore" priorities. Second, the adjudication demonstrates the importance of individually quantified allocations. The uncertainty about compliance with allocations by SPBA members had stalled trading. The market only began to play a role in water management once mandatory compliance with those allocations was

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120. *United Water Conservation District v. City of San Buenaventura*, No. CV11561, at 12-13.

121. The judgment determined historical use to be 1,141 AFY, but in 2013 and 2014 the city only pumped 901 and 791 AF, respectively. *Id.*

122. SANTA PAULA BASIN TECH. ADVISORY COMM., UNITED WATER CONSERVATION DIST., 2015 SANTA PAULA BASIN ANNUAL REPORT 43 (2015).

123. One of the key reasons for the 2010 judgment amendment was that the initial judgment did not make clear that SPBPA members had to stay within their individual allocations; the amendment helped facilitate trading. See Motion to Amend and Restate the Santa Paula Basin Judgment, Points and Authorities in Support Thereof at 5-6, *United Water Conservation Dist. v. City of San Buenaventura*, No. CV115611. See also *id.* at 201-04.

124. *United Water Conservation District v. City of San Buenaventura*, *supra* note 120, at 17.

clarified in 2010.<sup>125</sup>

#### 4. *San Jacinto*

The San Jacinto Basin is located in Riverside County in southern California, bounded by mountains on the north and east. The court entered a stipulated judgment for the San Jacinto basin adjudication in 2013. This settlement represents another example of appropriators assuming the entire burden of pumping reductions in order to facilitate a settlement. The judgment also sets up a market that overlying pumpers may opt into.

##### a. *Context*

The San Jacinto basin had faced decades of conflict over both groundwater and surface water. Pumpers in the San Jacinto Basin, including irrigators, two municipal water districts, two cities, and an Indian Tribe, engaged in intensive efforts in the 20 years leading up to the stipulated judgment to develop a groundwater management plan to end long-term over pumping and clarify the tribe's water rights.<sup>126</sup> Safe yield was estimated at 40-45 thousand AFY, with an overdraft of approximately 10-15 thousand AFY.<sup>127</sup>

Pumping in the basin is overwhelmingly by appropriators. In 2014, private landowners pumped just under 13,000 AF for overlying uses, and the Soboba tribe pumped 1,690 AF. The remainder of pumping was for non-overlying use by the four water agencies (the Eastern Municipal Water District, the Lake Hemet Municipal Water District, the City of San Jacinto, and the City of Hemet).<sup>128</sup> Water users in the basin have access to both State Water Project water (9,169 AF in 2014) and recycled water (12,196 AF in the same year).<sup>129</sup>

##### b. *Water rights*

Again, this stipulated judgment places all of the burden of reductions on appropriative pumpers. This was both because the parties recognized the priority of overlying pumpers and appropriators were in large part responsible for the overdraft. In addition, the parties wanted to reach a fast settlement, and the best way of doing that was to leave the overlying

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125. Interview 7, *supra* note 92.

126. LANGRIDGE, *supra* note 19, at 166-67.

127. *Id.* at 171.

128. *Id.*

129. *Id.* at 170.

pumpers alone.<sup>130</sup>

The judgment provides private pumpers with options by creating multiple classes of overlying rights:

Non-participants in the judgment can continue pumping as before, under state law, but cannot enter the judgment later. The Watermaster estimates their groundwater production for purposes of calculating safe yield and overdraft, but they are under no pumping limits pursuant to the judgment.

Class A pumpers grant permission to install meters and monitor production. They have no limit on production. They cannot sell their water right. They have three years to decide whether to switch to Class B.

Class B pumpers agree to generous pumping limits and to have meters installed to monitor production. They can sell their water rights, to each other or to appropriators.<sup>131</sup>

The judgment does not apply to “de minimus” producers of less than twenty-five AFY, a quite generous threshold. This seemingly includes landowners who have not previously pumped and hold unexercised overlying rights.<sup>132</sup>

The allocations for the four appropriators were based on their average pumping during the 1995-1999 period.<sup>133</sup> The judgment requires them to reduce pumping by ten percent during the first year of the judgment, and then by up to ten percent each year after that, as determined by the Watermaster. The goal of the ramp-down schedule is to achieve safe yield within six years of the judgment.<sup>134</sup> After the initial ten percent cutback, the Watermaster required seven percent reductions in years two and three. Only one more seven percent reduction beyond that is needed to achieve safe yield.<sup>135</sup>

In the interest of expediency, and to avoid the quagmire of water rights priorities, the four appropriators in the San Jacinto adjudication decided to cede full priority to overlying holders. Several factors made this decision comparatively manageable. First, those pumpers controlled most of the production, making safe yield achievable with reductions

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130. Interview with staff of San Jacinto Watermaster, (name on file with authors), (Aug. 25, 2016) [hereinafter Interview 4].

131. *E. Mun. Water Dist. v. City of Hemet*, No. RIC1207274, at 17 20 (Riverside Cty. Super. Ct. Apr. 18, 2013) (stipulated judgment).

132. *Id.* at 10.

133. *Id.* at 13.

134. *Id.* at 14.

135. Interview 4, *supra* note 130.

only by them. Second, the level of overdraft was fairly manageable (10-15 thousand AFY, with a safe yield of approximately 40-45 thousand AFY). Third, the appropriators were able to reduce demand through conservation and had readier access to alternative sources such as treated wastewater and imported supplies. Finally, the judgment set up a water market to create more flexibility for all parties, although recent annual reports do not reveal that any trades have yet taken place.<sup>136</sup>

### 5. *Los Osos*

The Los Osos basin is a small coastal aquifer in San Luis Obispo county, and serves as the sole water supply for the unincorporated community of Los Osos.<sup>137</sup> In the Los Osos basin, groundwater production was predominantly 60% appropriative pumping by municipal water purveyors. The adjudication ultimately settled in 2015 because those appropriators were willing to forgo any claims of prescription and allow overlying pumping to continue without regulation or any demand management. The appropriators were able to achieve safe yield by aggressive urban water conservation, including a waste water recycling plant.

#### a. *Context*

Seawater intrusion and water quality problems due to septic system discharges have been a concern in the basin since the 1970s; the state imposed a prohibition against new septic system discharges in 1988, resulting, in effect, in a building moratorium.<sup>138</sup> Continued pumping of the lower aquifer created a significant risk of seawater intrusion. An adjudication was filed in 2004 and settled with a stipulated judgment in 2015.<sup>139</sup> Three municipal water purveyors constituted 60% of the water pumping. Those pumpers were faced with a decision whether to attempt to assert a claim of prescription against the overlying pumpers. Ultimately, they concluded that they could reduce their own water use enough through an aggressive efficiency program that included a water

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136. EASTERN MUNICIPAL WATER DISTRICT, HEMET/SAN JACINTO GROUNDWATER MANAGEMENT AREA 2015 ANNUAL REPORT (2016).

137. LOS OSOS CMTY. SERVICES DIST. ET AL., UPDATED BASIN PLAN FOR THE LOS OSOS GROUNDWATER BASIN 1 (2015).

138. *Id.* at 81-82.

139. We have included it in the group of cases that settled “quickly” because most of that time was not spent in active litigation. Rather, the case was stalled for a significant period of time due to political disputes within one of the water agencies, and to develop a basin management plan after an interlocutory judgment. We could have put this case in either group, but ultimately it shared far more in common with the other four cases that settled much more quickly.

recycling plant, and that they would need additional tax revenue to accomplish that from all the landowners in the basin.<sup>140</sup> They decided that they could achieve their goals without a traditional water rights determination.

b. *Water rights*

As with our previous four cases, a key aspect of the settlement was that the appropriators took on the burden of all reductions needed to achieve safe yield. The judgment found that “those with overlying rights take precedence in the absence of prescription.”<sup>141</sup> The judgment did not quantify overlying rights at all or place any restrictions on them. Rather it merely accounted for their water use in three of the four “water entitlement pools” created in the judgment. The judgment allocated forty percent of the basin’s safe yield to the “Agricultural,” “Private Domestic,” and “Community” pools, and determined that absent some future court action, users in those pools would be “unaffected by this Stipulated Judgment.”<sup>142</sup> These users do not have to reduce pumping or meter their wells. Their use is estimated through aerial photographs and land use changes.<sup>143</sup>

The remaining 60% of the safe yield was allocated to the three appropriators in the “Purveyor Pool.” Under the judgment, the three appropriators in the “Purveyor Pool” must achieve all reductions needed to reach safe yield, but with a different approach than in the other cases we have analyzed. The judgment does not allocate specific quantities to each pumper. Rather, the three purveyors must ensure that they achieve a per capita water use target of 50 gallons per day.<sup>144</sup> A key strategy for achieving this goal is the construction of a water recycling plant. These pumpers must report their groundwater production annually to the Basin Management Committee.<sup>145</sup>

The *Los Osos* judgment is different from the previous four we have examined in a variety of respects. For example, it does not allocate specific quantities even to the individual appropriators, and it does not create the conditions for trading. However, it shares the characteristic

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140. Interview 5, *supra* note 96.

141. *Los Osos Cmty. Services Dist. v. Golden State Water Co.*, No. CV 040126, at 7 (San Luis Obispo Cty. Super. Ct. Oct. 14 2015) (stipulated judgment).

142. *Id.* at 16 17.

143. CLEATH HARRIS GEOLOGISTS & WALLACE GROUP, LOS OSOS BASIN PLAN GROUNDWATER MONITORING PROGRAM 2015 ANNUAL MONITORING REPORT 9 (2016).

144. *Los Osos*, No. CV 040126, at 12.

145. *Id.* at 16.

that the municipal providers chose to avoid litigating prescriptive rights and to implement their chosen water management strategy through a physical solution instead. They complied with *Mojave* and its predecessors by placing no burdens at all on overlying pumpers.

It is not clear whether the stipulated judgment will be durable. The purveyors have built their recycling plant and have stayed within the amount allocated to their pool.<sup>146</sup> However, water is not metered for the other three pools, and the estimates for pumping are exactly the same for each year, except for a small variation for the agricultural pool (made based on changes in land use observed through aerial photographs). This water—non-metered and produced by entities that are not parties to the judgment—is now 50% of the water in the basin.<sup>147</sup> At some point in the future, increased water demand could put a strain on the structure of the judgment.

### B. *Group II: Litigated Adjudications*

Two of the adjudications finalized after *Mojave* only reached final judgment after extensive litigation: Santa Maria (judgment in 2008 after fifteen years of litigation, including a failed appeal) and Antelope Valley (judgment in 2015 after sixteen years of litigation). Both involved far more parties than the five cases discussed above, and significant disputation about prescription and other aspects of prioritization and quantification of pumping rights. The two cases demonstrate the difficulty in efficiently concluding groundwater disputes in complex settings while litigating under the *Mojave* framework.

#### 1. *Santa Maria*

*Santa Maria* is as responsible as any other case for giving California groundwater adjudications a bad name. The Santa Maria basin is a large coastal basin in southern San Luis Obispo County and northern Santa Barbara County. The case took fifteen years to reach judgment (eleven years of active litigation, another four for pursuit of a failed appeal). It involved 1,000 parties and cost over \$11 million.<sup>148</sup> Despite this effort, in the end the judgment did not determine safe yield, resolve most claims of prescription, or quantify rights (with a few small exceptions).

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146. Interview 5, *supra* note 96; CLEATH HARRIS GEOLOGISTS, *supra* note 143, at 35, 73; *Los Osos*, No. CV 040126, at 15.

147. *Id.* at 1.

148. LANGRIDGE, *supra* note 19, at 238.

a. *Context*

Water use in Santa Maria basin includes extensive agricultural production and a number of cities. The basin experienced significant overdraft through much of the 20th century, but the rate of overdraft declined significantly during the 1960s once area water users began importing water from the State Water Project and storing it in two reservoirs (Twitchell and Lopez).<sup>149</sup> Since then, groundwater levels in the basin have remained relatively stable.<sup>150</sup> Much of the dispute regarding overdraft was driven by overlying parties aggressively resisting claims of prescription by municipal water purveyors and seeking to have the quantity and priority of their rights confirmed.<sup>151</sup> The Santa Maria Water Conservation District originally filed the case in 1997 to adjudicate rights in the basin not because it was in overdraft, but out of concerns of future shortages caused by a combination of aging storage infrastructure and growth in demand.<sup>152</sup> Ultimately, more than 1,000 parties were served. The public water purveyors reached a settlement with most of the overlying landowners and filed a stipulation in 2005. The stipulation did not quantify water rights, but did include a physical solution that resolved disputes about rights to basin storage, imported water return flows, repairs to Twitchell, and other issues. Approximately seventy overlying pumpers did not sign the stipulation, and the court tried their claims beginning in 2005. According to one attorney involved in the case, the overlying pumpers were “vigilant in guarding against prescriptive rights,” and sought to have the appropriators “turn off their pumps before [the overlying pumpers] have to reduce one iota.”<sup>153</sup>

One of the primary issues in dispute throughout the case was the extent, timing, and knowledge of overdraft, in order to resolve prescription claims by the purveyors against overlying landowners under the criteria set out in the *San Fernando* decision. The trial court entered a judgment approving the stipulation in 2008. The trial court generally ruled for the public agencies with respect to rights to imported water return flows and recharge due to Twitchell. The trial court also held that the public agencies had acquired prescriptive rights during the period of overdraft, that those rights had not been extinguished by the passage of time, and that those rights should be enforced against the litigating

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149. *City of Santa Maria v. Adam*, 211 Cal. App. 4th 266, 276, 280 282 (2012).

150. *Id.* at 281; LANGRIDGE, *supra* note 19, at 237.

151. Interview 1, *supra* note 55.

152. *City of Santa Maria*, 211 Cal. App. 4th at 276.

153. Interview 1, *supra* note 55.

landowners, but not the stipulating ones. The objecting landowners appealed the judgment, and in 2012, the Court of Appeals affirmed the judgment.<sup>154</sup>

b. *Water rights*

As noted above, the stipulation did not quantify individual water rights. However, it did include a finding that overlying rights were “prior and paramount,” and allocated all of the safe yield to overlying rights holders.<sup>155</sup> This was possible largely because the public purveyors’ needs were satisfied by the other elements of the physical solution, including an agreement for maintenance on Twitchell reservoir that would free up more imported water for use. The stipulation places very few burdens on overlying owners, such as monitoring of groundwater elevations (but not well metering). The stipulation does allow for some cutbacks in pumping by all stipulating parties in the event of a declaration of a “severe water shortage,” but the conditions for this are narrowly defined.<sup>156</sup> The purveyors waived past and future prescription claims against the settling overlying owners.<sup>157</sup>

Once the case went to trial, the stipulating parties were acutely aware that the objecting parties were likely to appeal.<sup>158</sup> As a result, the public purveyors sought to prove every potential element of their stipulation claims against the objecting parties to avoid a similar reversal experienced in *Mojave*. The trial court had to resolve three significant disputes between the purveyors and the nonsettling landowners: first, whether the purveyors had acquired prescriptive rights against some of the landowners during a past period of overdraft, even in the absence of evidence of permanent overdraft; second, whether the court had power to order a physical solution in the absence of evidence of current overdraft; and third, who had rights to return flows and recharge attributable to imported and developed water.<sup>159</sup>

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154. *City of Santa Maria*, 211 Cal. App. 4th at 277.

155. *Santa Maria Valley Water Conservation Dist. v. City of Santa Maria*, Nos. 990738 and 990739, at 7 (San Luis Obispo Cty. Super. Ct. June 30, 2005) (stipulation).

156. These conditions vary across the three management areas established in this adjudication. For example, in the Santa Maria Valley Management Area, conditions include a chronic decline in groundwater levels over at least five years, monitoring wells being below historic levels, and evidence that the decline is due to increased pumping rather than drought. *Id.* at 16.

157. *Santa Maria Valley Water Conservation Dist.*, *supra* note 155, at 7.

158. Interview with attorney involved in the Mojave, Santa Maria, and Antelope Valley adjudications (name on file with authors), (Aug. 23, 2016) [hereinafter Interview 3].

159. LANGRIDGE, *supra* note 19, at 240; *City of Santa Maria*, 211 Cal. App. 4th at 277.



The trial court, affirmed by the court of appeals, ruled for the purveyors on all of these issues, including granting them prescriptive rights against certain landowners.<sup>160</sup> With respect to water rights, however, the most significant lesson from the case is how the *Mojave* framework drove significant, expensive, and time-consuming litigation over relatively small amounts of water. The appropriative rights holders, all municipal water purveyors, were essentially willing to give priority to overlying pumpers and waive their prescriptive rights if they could resolve a variety of other water management issues, including reduced capacity in Twitchell reservoir, rights to storage, and rights to return flows.<sup>161</sup> The complexity of the context, however, made that avenue for settlement (which would have been consistent with Seaside, San Jacinto, Santa Paula, Beaumont, and Los Osos) far more difficult, and drove up transaction costs for a settlement. The need to litigate was in part driven by a community of landowners who were willing to fight to foreclose any possibility of a prescriptive right or limitations on their pumping rights.<sup>162</sup> The purveyors concluded that the only way to make the settlement hold up was to fully litigate the issues related to prescription and priority, in large part because of the Supreme Court's holding in *Mojave*:

The result of *Mojave* is you think it's got to hold up under strict court appeal scrutiny . . . There were people who did not want us to put on the full blown water rights case . . . [we said] we are absolutely putting on the full-blown case, because this is going up on appeal. It's a big deal to tell an overlying pumper you have to pay to pump, or you might not be able to pump. We're going to show all the elements of prescription were met and what the pumping numbers were . . . we wouldn't be going through all that if it wasn't for the *Mojave* decision.<sup>163</sup>

Both attorneys interviewed in connection with the Santa Maria adjudication expressed the view that the expensive litigation strategy was driven by the view that *Mojave* required quantification of overlying rights and of overdraft before a court could rule on prescriptive rights.<sup>164</sup>

The difficulties with both litigation and dispute resolution related to the more complex nature of water use in the basin, the number of

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160. LANGRIDGE, *supra* note 19, at 240.

161. Interview 1, *supra* note 55.

162. Interview 1, *supra* note 55.

163. Interview 3, *supra* note 158. See also Interview 1, *supra* note 55 (noting "vigilance" of non settling parties in "guarding against" prescriptive rights).

164. Interview 1, *supra* note 55; Interview 3, *supra* note 158.

pumpers, and the property rights regime; this combination of factors led not only to expensive and lengthy litigation, but also a resolution of questionable durability. A great deal of uncertainty surrounds the future of the Santa Maria basin. Overlying landowners can continue to pump, without metering and without restriction under normal circumstances.<sup>165</sup> Their pumping is limited only in the event of a “severe water shortage,” and then only mildly. For example, in the Nipomo Mesa Management Area, overlying owners could be restricted to “110% of the highest pooled amount previously collectively used by those Stipulating Parties in a Year.”<sup>166</sup> Even these restrictions leave open the question of how these requirements would be imposed on a pool of users, when there is no metering or quantification of rights for individual users. The failure to quantify individual rights also makes it extremely difficult to transfer rights from overlying pumpers to appropriators as demand shifts to municipal use. Presumably, parties to such a transaction would have to do the technical work needed to quantify the right at that point. Finally, the security of the water supply of the purveyors/appropriators depends heavily on imported water. That supply is likely to be more uncertain in the future. The sustainability of water supply in the basin generally, and of management of the aquifer, would be jeopardized by increasing demand and a prolonged drought.

The adjudication both incurred high transaction costs and set up a framework where transaction costs would still be high if any meaningful adjustment in water allocation or management is needed due to increased demand, decreased surface water availability, or other changed circumstances. This problematic resolution was driven by at least three factors: the *Mojave* decision, the complexity of the basin, and the litigious approach of some of the parties. In some ways, this may be a more meaningful revelation of implications of *Mojave*. The parties in the five cases discussed in the previous section essentially bypassed the *Mojave* framework by giving up their prescriptive rights and set up a system that would make future reallocations of water more efficient. That option was not available to the parties in the Santa Maria basin, both because of the extent of overlying use and the approach of the litigants. The result was an expensive case that may have put off a variety of difficult issues for the future.

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165. *Santa Maria Valley Water Conservation Dist.*, *supra* note 155, at 8-11; Interview 1, *supra* note 55.

166. *Santa Maria Valley Water Conservation Dist.*, *supra* note 155, at 25-26.

## 2. *Antelope Valley*

The Antelope Valley basin underlies more than a thousand square miles of the western Mojave Desert in portions of Los Angeles, San Bernardino, and Kern counties. The Antelope Valley basin adjudication was first filed in 1999 and did not reach final judgment until 2015. That judgment is currently on appeal. Antelope Valley has been described as the largest groundwater adjudication in California's history, and potentially in United States history, involving over 70,000 parties when the non-pumper class is included.<sup>167</sup> In addition to its size, the presence of significant agricultural and municipal water uses made it ripe for litigation.

### a. *Context*

The Antelope Valley basin is subject to pumping by a variety of municipal water providers and agricultural producers. 4,000 specific pumpers were named in the adjudication. An additional 70,000 non-pumping landowners and more than 3,000 small pumpers were added via a class action.<sup>168</sup> Many of the agricultural pumpers are corporate producers with significant financial resources.<sup>169</sup> As an additional complicating factor, the basin is home to Edwards Air Force Base, and the United States government is a significant pumper. The United States waived its sovereign immunity to participate in the litigation, but its participation meant that the adjudication had to be comprehensive to comply with the terms of the McCarran Amendment.<sup>170</sup>

Groundwater use in the basin is primarily for irrigated agriculture. Of the adjusted native safe yield of 70,686 AFY (which excludes rights allocated to small pumpers, the federal government, and the state of California), the judgment allocated a total of 58,322 AFY to 104 overlying producers, virtually all of whom were irrigators.

Although some parties disputed the extent of overdraft,<sup>171</sup> the court

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167. *Antelope Valley Groundwater Adjudication Settles*, BEST, BEST, AND KRIEGER (Jan. 21, 2016), [https://www.bbklaw.com/news-events/news-room/2016 \(1\)/client-successes/01/antelope valley groundwater adjudication settles](https://www.bbklaw.com/news-events/news-room/2016%20(1)/client-successes/01/antelope-valley-groundwater-adjudication-settles).

168. *Id.*

169. For example, the case was initially brought by Diamond Farming Company, a large almond producer. In 2001, the case was joined by Bolthouse Farms, a large carrot farming company.

170. 43 U.S.C. § 666. Under the McCarran Amendment, a case must be a comprehensive adjudication of all claims to a given source of water in order to effect jurisdiction over the United States in state court. Statement of Decision at 2, *Antelope Valley Groundwater Cases*, (L.A. Cty. Sup. Ct. Dec. 23, 2015).

171. Statement of Decision Phase III Trial at 3, *Antelope Valley Groundwater Cases*, (L.A.

found that “[r]eliable estimates of the long-term extractions from the Basin have exceeded reliable estimates of the Basin’s recharge by significant margins, and empirical evidence of overdraft in the Basin corroborates that conclusion. Portions of the aquifer have sustained a significant loss of Groundwater storage since 1951.”<sup>172</sup> Indeed, the basin has seen considerable land subsidence causing, among other impacts, cracks in the runway at Edwards Air Force Base, a factor which added urgency to the case.<sup>173</sup>

b. *Water rights*

The judgment’s treatment of water rights shares some elements with that in *Mojave*. The Antelope Valley judgment mandates a physical solution that “is a fair and reasonable allocation of Groundwater rights in the Basin after giving due consideration to water rights priorities and the mandate of Article X, section 2 of the California Constitution . . . and . . . is a remedy that gives due consideration to applicable common law rights and priorities to use basin water and storage space without substantially impairing such rights.”<sup>174</sup> On the other hand, the judgment also states that “all of the Production Rights established by this Judgment are of equal priority, except the Federal Reserved Water Right.”<sup>175</sup> The assertion of prescriptive rights by appropriators, combined with federal involvement and the need to comply with the McCarran Amendment, meant that all rights had to be quantified.

The judgment quantified the rights of 104 overlying pumpers and eleven appropriators and allocated transferable “Production Rights” to them. All of these pumpers must reduce their pumping pursuant to the same seventeen-year ramp down schedule.<sup>176</sup> In addition to those eleven appropriators and 104 overlying pumpers with quantified, transferable rights subject to ramp-down, the judgment gave the numerous members of the “Small Pumper Class” non-transferable rights to pump 1.2 acre-feet per year each, exempt from the ramp-down schedule.

Perhaps the most controversial aspect of the case, and one of the issues raised in the pending appeal, was the judgment’s treatment of

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Cty. Sup. Ct., July 13, 2011).

172. Judgment, Exhibit A at 15, *Antelope Valley Groundwater Cases* (L.A. Cty. Sup. Ct. Dec. 23, 2015).

173. Interview 3, *supra* note 158.

174. Judgment at 7, *Antelope Valley Groundwater Cases* (L.A. Cty. Sup. Ct. Dec. 23, 2015).

175. *Id.* at 15.

176. Parties are not strictly forbidden from exceeding their allocation, but must pay a replenishment fee if they do so.

unexercised pumping rights. The “nonpumper” class consisted of 70,000 landowners, certified as a class, that had not yet exercised their overlying pumping rights. The judgment forbids them from pumping unless they pay a replenishment fee.<sup>177</sup> The appeals court ruling in this case could help shed light on an important issue in groundwater law and management—the extent to which unexercised overlying rights can be restricted or extinguished.

The length of the Antelope Valley adjudication cannot be blamed on litigation over prescription to the same extent as in the Santa Maria case. A great deal of the delay, rather, can be attributed to the need to join all pumpers and landowners, either individually or as a class, in order to make the adjudication comprehensive.

One possible explanation for the settlement in Antelope Valley is the relative dominance of overlying pumpers. Appropriative pumping was a small enough portion of the overall pumping that it would have been impossible to achieve safe yield without cutbacks by the overlying pumpers. Indeed, reducing the appropriators to zero would not have significantly reduced the burden on the overlying pumpers. Allowing appropriators the same ramp down schedule, with the potential for buying and selling allocations, may have ultimately benefited many of the overlying pumpers.

Of all of the seven post-*Mojave* adjudications, Antelope Valley most resembles the large basins in the San Joaquin Valley that will need significant changes in groundwater management under the Sustainable Groundwater Management Act (SGMA).<sup>178</sup> Antelope Valley is a large basin, with predominantly agricultural pumpers and a high level of overdraft, with land subsidence as one of the primary “undesirable results”<sup>179</sup> of the over pumping. The adjudication provides both good and bad news for these basins. The ultimate resolution of the case in the judgment was relatively simple (proportional drawdowns by all but very minor pumpers), although it was not easy to achieve. The case did not get hung up on litigation of prescriptive rights, but it did experience significant delays. Although some of the delays were due to the procedural complexity of the case, a great deal of time was spent litigating the calculation of both safe yield, and the degree of overdraft.

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177. Judgment at 34, *Antelope Valley Groundwater Cases* (L.A. Cty. Sup. Ct. Dec. 23, 2015).

178. The San Joaquin Valley is overdrafted by an estimated 1.8 million acre feet per year. See Hanak et al., *Water Stress and a Changing San Joaquin Valley*, PUBLIC POLICY INSTITUTE OF CALIFORNIA, 2017, at 16.

179. SGMA identifies six “undesirable results,” which must be avoided in order to demonstrate sustainable management. See CAL. WATER CODE § 10720(u) and (w).

Unfortunately, the sixteen years of litigation allowed many major pumpers to continue to pump at unabated or increasing levels, further exacerbating the overdraft. Interview evidence even suggests that arguments over the magnitude of safe yield were prolonged by some parties to enable them to keep pumping:

. . . the dispute about safe yield is really driven by [large producers]. It was really, I believe, simply about being able to pump . . . There [were] settlement negotiations before I was involved for like six or seven years. Then they filed the lawsuit and kept pumping, pumping, pumping, pumping. If you can argue about safe yield for ten years, you can pump for lift costs for ten years.<sup>180</sup>

The case does, however, point to a potential path forward for large, overdrafted basins parallel to the resolutions reached in the more easily settled cases. In *Antelope Valley*, it was clear that the primary burden of reducing overdraft would fall on the overlying irrigators—even severe cuts to the appropriators would not spare the overlying pumpers that burden. Under these circumstances, it may have been relatively painless to allocate production rights to the appropriators with proportional reductions that tracked those of the overlying pumpers. This reasoning in some ways parallels the five settled cases, but with the incentives flipped. In those cases, the municipal pumpers realized that the benefits of asserting prescriptive rights in an effort to shift some of the burden to the irrigators were simply not worth the cost, and instead they found a path for assuming the bulk of that burden. In *Antelope Valley*, appropriators did not have this option; instead, arguing for prescription was to their advantage, despite the risk of prompting a prolonged legal battle.

The widely shared, proportional reductions deployed in *Antelope Valley*, of course, harken back to the settlement in *Pasadena* and those in adjudications settled during the time period between that case and *San Fernando*.<sup>181</sup> A significant question for appellate courts in California will be whether the slightly tweaked rationale for that approach, along with a dense and detailed record, makes that approach more legally durable.

## V. THE FUTURE OF ADJUDICATIONS IN CALIFORNIA

Currently, groundwater management activities in California are dominated by the Sustainable Groundwater Management Act of 2014.

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180. Interview 3, *supra* note 158.

181. See GOVERNOR'S COMMISSION REPORT, *supra* note 29.

The California legislature passed SGMA in 2014, during the third year of a drought that lasted from 2012 through 2016, in the context of rapidly accelerating groundwater overdraft.<sup>182</sup> It created a mandatory framework for sustainable groundwater management in California, the last western state to do so.<sup>183</sup> However, the statute by its own terms made clear that it was not disturbing the system of groundwater pumping rights in the state. Because the statutory scheme lies alongside the state's water rights law, SGMA does not foreclose the holders of groundwater rights from filing adjudications or other actions to enforce them. The interaction between SGMA and those property rights will be a critical factor in the new statute's success. In this section, we provide a brief summary of SGMA and assess the potential implications of related legislation seeking to streamline the adjudication process. We then apply lessons drawn from the seven post-*Mojave* adjudications to explore whether conditions in unadjudicated basins now working to comply with SGMA lend themselves to some of the innovative strategies employed in the five "settled cases" in Group I, or whether SGMA's implementation in certain basins could get bogged down in lengthy legal battles, similar to our two "adversarial cases" in Group II.

#### A. Sustainable Groundwater Management Act (SGMA)

SGMA creates a basic framework for groundwater management, setting the goal of achieving "sustainable management" of the state's most significant groundwater basins. This goal is somewhat different

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182. The Act consisted of three separate bills passed in August of 2014: Senate Bill 1168, Senate Bill 1319, and Assembly Bill 1739. For an account of SGMA's passage and its context, see T. C. Leahy, *Desperate Times Call for Sensible Measures: The Making of the California Sustainable Groundwater Management Act*, 9 GOLDEN GATE U. ENVTL. L. J. 5 (2015).

183. The short account of the bill in this paper does not do justice to SGMA's significance or to the blizzard of activity that has come with its implementation. Local agencies have engaged in a two year dance of musical chairs to decide which agencies, and how many of them, should be GSAs in each basin. See generally E. Conrad et al., *To consolidate or coordinate? Status of the formation of groundwater sustainability agencies in California*, STANFORD WATER IN THE WEST PROGRAM (2016); E. Conrad et al., *Diverse stakeholders create collaborative multilevel basin governance for groundwater sustainability*, 72 CALIFORNIA AGRIC. 1 (2018). DWR has engaged in a long sprint to meet various deadlines for regulations, Best Management Practices, and other guidelines required by SGMA. Agriculture producers have fretted over potential fallowing due to reduced groundwater availability under the new law. See, e.g., Chris Austin, *Panel Discussion: Implications of SGMA Implementation: Growers' Perspectives*, MAVEN'S NOTEBOOK (Apr. 13, 2017), <https://mavensnotbook.com/2017/04/13/implications-of-sgma-implementation-growers-perspectives/>; see also A. Mettler, *Reducing Overdraft and Respecting Water Rights Under California's 2014 Sustainable Groundwater Management Act: A View From the Kern County Farming Sector*, 9 GOLDEN GATE U. ENVTL. L. J. 239 (2016) (assessing burdens SGMA may impose on irrigators in the southern San Joaquin valley).

than the “safe yield” standard used by courts in adjudications. SGMA defines sustainable management as the avoidance of six different “undesirable results:”

“Chronic lowering of groundwater levels;”

“Significant and unreasonable reduction of groundwater storage;”

“Significant and unreasonable seawater intrusion;”

“Significant and unreasonable degraded water quality;”

“Significant and unreasonable land subsidence that substantially interferes with surface land uses;” and

“Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.”<sup>184</sup>

The statute’s main provisions apply to groundwater basins that the California Department of Water Resources (DWR) has designated as either high or medium priority,<sup>185</sup> except for areas of these basins that have been previously adjudicated (as well as three areas where adjudication proceedings were underway in 2014, including Los Osos and Antelope Valley).<sup>186</sup>

SGMA grants most of the authority and responsibility for reaching sustainable management to local agencies, with some state oversight and the risk of imposition of state authority if the work of local agencies does not comply with the law. It requires the designation of one or more Groundwater Sustainability Agencies (GSA) for unadjudicated areas of high and medium priority basins by June 30, 2017.<sup>187</sup> SGMA gives those agencies a variety of powers, including to assess pumping fees, to

184. CAL. WATER CODE § 10721(w)(1)-(6).

185. CAL. WATER CODE § 10722.4. DWR accomplishes the designations in a document known as “Bulletin 118,” which both delineates the boundaries of California groundwater basins and reports on their status. As of 2014, DWR had classified 127 groundwater basins in the state as high or medium priority, accounting for an estimated 96% of annual groundwater use in the state. See CAL. DEP’T OF WATER RES., CALIFORNIA’S GROUNDWATER, WORKING TOWARD SUSTAINABILITY, Bulletin 118 Interim Update (2016); CAL. DEP’T OF WATER RES., CALIFORNIA GROUNDWATER ELEVATION MONITORING BASIN PRIORITIZATION PROCESS 4 (2014).

186. CAL. WATER CODE § 10720.8. However, an important wrinkle is that many adjudicated areas do not exactly match the boundaries of designated high and medium priority basins. Areas in these basins that are not part of the adjudication are still required to comply with SGMA’s requirements to form GSAs and develop and implement GSPs, as described here. See CAL. WATER CODE § 5202(a).

187. CAL. WATER CODE § 10735.2(a)(1). Existing entities, such as local governments and water agencies, may serve as GSAs, as can new entities, just as joint powers authorities. The number and type of GSAs varies considerably from basin to basin, but more than 250 GSAs have been designated in 113 basins (the remaining high and medium priority basins are covered by adjudications or alternative plans). See E. Conrad et al., *Diverse stakeholders create collaborative multilevel basin governance for groundwater sustainability*, *supra* note 183, at 5.



regulate groundwater extractions, and to bring enforcement actions.<sup>188</sup> GSAs must, by 2020 for basins designated as critically overdrafted and 2022 for the remaining basins, prepare and submit to DWR a groundwater sustainability plan (GSP) that brings the basin into sustainable management within twenty years. If DWR deems that GSAs in a basin have not demonstrated compliance, the State Water Resources Control Board (SWRCB) may step in to develop and impose a basin plan, charging fees to do so.<sup>189</sup>

Although SGMA grants GSAs relatively extensive powers to regulate groundwater, SGMA also explicitly states that neither the statute, nor actions taken by GSAs or state agencies pursuant to the statute, change or determine water rights or their priorities.<sup>190</sup> As noted by one attorney deeply involved in adjudications and in SGMA implementation, this may seem contradictory. After all, if a GSA imposes new pumping limits or charges fees for extracting groundwater, this would seem to amount to a change in water rights, at least in a practical sense. The implication, however, is that in negotiating the terms of a GSP, GSAs and relevant stakeholders will be assessing how their access to groundwater under the GSP will compare to the confirmed rights they might be able to obtain by pursuing an adjudication.<sup>191</sup> This makes the question of how adjudications will work

188. CAL. WATER CODE §§ 10735.2(a) and 10730.2.

189. See CAL. WATER CODE §§ 10735.2(a) (criteria for declaration of a basin as “probationary”) and 10735.8(a) (c) (SWRCB’s authority to adopt and implement an “interim plan” for probationary basins).

190. CAL. WATER CODE § 10720.5(b) states that “[n]othing in this part, or in any groundwater management plan adopted pursuant to this part, determines or alters . . . groundwater rights under common law . . .” To dispel any residual uncertainty, the statute repeats this admonition with respect to a variety of specific actions under SGMA. See CAL. WATER CODE §§ 10726.4(a)(2) (limitations on groundwater extractions imposed by GSA “shall not be construed to be a final determination of rights to extract groundwater from the basin or any portion of the basin”); 10726.8(b) (SGMA does not authorize local agencies to determine water rights); 10735.8(i) (SWRCB authority to impose interim plan “does not alter the law establishing water rights priorities . . .”).

191. See R. McGlothlin, *Will your basin adjudicate, and if so, how will that relate to basin management under SGMA?*, CURRENT TRENDS IN WATER L. & POL’Y (November 16, 2017), <http://water.bhfs.com/will-your-basin-adjudicate-and-how-will-that-relate-to-basin-management-under-sgma/>. As a further comparison, we note that in some California basins that are managed by special districts, groundwater users have been requested by those districts to reduce extractions in order to arrest declines in groundwater levels or to slow and attempt to reverse seawater intrusion, sometimes with the prospect of fees assessed on pumping in excess of the requested amounts. These kinds of temporary reductions in pumping to address basin conditions have been implemented by some special districts without triggering challenges regarding pumping rights, such as in the case of Orange County Water District. See BLOMQUIST, *supra* note 1, at 245 *et seq.* This logic and practice may extend to basins that will be managed under SGMA, where an approved GSP might call for pumping reductions in all or part of a basin in order to avoid or

after SGMA's passage a particularly critical one.

As originally passed, SGMA was silent as to how its requirements should interact with the judicial branch in the event of adjudications of basins in the midst of SGMA implementation. Indeed, SGMA could be quite vulnerable to adjudications or other litigation over property rights. Pumpers required by a GSP to reduce pumping could argue that such reductions would violate their property rights to pump. They could deploy a wide variety of arguments to support that claim, all of which have potential to gum up administration of SGMA. First, they could claim that determination of pumping rights requires a determination of safe yield, which could delay, add to, or preempt GSA efforts to assess "undesirable results." Second, they could argue that the GSP's reduction formula does not adequately integrate relative priorities of overlying and appropriative pumpers by, among other possibilities, allowing appropriators to continue pumping some share of the safe yield. Finally, landowners who do not currently pump could argue that they have some future right to pump. These claims could be asserted in an adjudication that somehow parallels the SGMA process, or in a suit claiming that a GSP violates property rights to pump groundwater.

### *B. Legislation to Streamline Adjudications*

The California legislature recognized this weakness, and only a year after passage of SGMA enacted two bills intended both to streamline adjudications and, to the extent possible, to harmonize them with the SGMA process. SB-226 and AB-1390, which amended the Water Code and the Code of Civil Procedure, included a range of procedural tweaks designed to streamline the adjudication process, particularly with respect to the process for serving, otherwise providing notice to, and joining all affected landowners in order to make conducting a comprehensive adjudication easier.<sup>192</sup> The bills also sought to limit the extent to which adjudications might conflict with the SGMA process, and to require courts to make their judgments consistent with GSPs to the extent the law of groundwater rights allowed. The heart of the intent of the legislation can be found at Water Code § 10737.2, which provides:

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mitigate the statutorily defined undesirable results or impose a fee on pumping above a certain amount without necessarily altering the status of the legal right possessed by well owners. However, in some jurisdictions efforts to reduce pumping have triggered litigation over property rights. See R. Sabalow, *Tensions, threats, as new California groundwater law takes shape*, SACRAMENTO BEE, November 21, 2015, <http://www.sacbee.com/news/state/california/water-and-drought/article45802360.html> (describing litigation over ordinance in San Luis Obispo County to limit groundwater pumping).

192. See CAL. CODE OF CIV. PROC. § 836.

In an adjudication action for a basin required to have a groundwater sustainability plan under [SGMA], the court shall manage the proceedings in a manner that minimizes interference with the timely completion and implementation of a groundwater sustainability plan, avoids redundancy and unnecessary costs in the development of technical information and a physical solution, and is consistent with the attainment of sustainable groundwater management within the timeframes established by [SGMA].

This is bolstered by the substantive mandate that

[t]he court shall not approve entry of judgment in an adjudication action for a basin required to have a groundwater sustainability plan under this part unless the court finds that the judgment will not substantially impair the ability of a groundwater sustainability agency, the board, or the department to comply with [SGMA] and to achieve sustainable groundwater management.<sup>193</sup>

The bills echoed SGMA in disavowing any alteration or determination of “groundwater rights under common law.”<sup>194</sup> AB-1390, however, did indicate that courts, given the new procedures for making adjudications comprehensive, “may consider applying the principles established in *In re Waters of Long Valley Creek Stream System (1979)* 25 Cal.3d 339,”<sup>195</sup> presumably in order to limit unexercised overlying pumping rights.

All of this leaves in place the property rights system analyzed in the first two sections of this article, including all the criteria for prescription claims and their accompanying uncertainty and expense. However, AB-1390 specifically does include a new procedure for adjudications that could profoundly affect their path to settlement. New § 850(a) of the Code of Civil Procedure gives the trial court in an adjudication authority to enter a stipulated judgment if the judgment meets three criteria: it is consistent with Section 2, Article X of the California Constitution, it is “consistent with the water rights priorities of all non-stipulating parties,”

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193. CAL. WATER CODE § 10737.8. The bills included a wide range of other provisions designed to make adjudication more consistent with rational and sustainable groundwater management, including that no pumping in a SGMA covered basin between 2015 and the finalization of a GSP can support a claim of prescription (CAL. WATER CODE § 10720.5(b)), that the court has the power to enter a preliminary injunction to limit pumping while the adjudication is pending (CAL. CODE OF CIV. PROC. § 847), that the court has the power to stay the adjudication while the GSP development process is ongoing (CAL. CODE OF CIV. PROC. § 848), and that any suits challenging a GSP must be coordinated or consolidated with any adjudication in the basin (CAL. CODE OF CIV. PROC. § 838(d)).

194. CAL. WATER CODE § 10720.5(b). *See also*, CAL. CODE OF CIV. PROC. § 830(b)(7).

195. CAL. CODE OF CIV. PROC. § 830(b)(7).

and it treats objecting parties “equitably as compared to the stipulating parties.”<sup>196</sup> Subsection (b) goes on to indicate that if the stipulating parties make up 50 percent of the pumpers in the basin *and* 75 percent of the volume of groundwater pumped, the court may impose the judgment on an objecting party if the objecting party fails “to demonstrate, by a preponderance of evidence, that the proposed stipulated judgment does not satisfy one or more criteria described in subdivision (a) or that it substantially violates the water rights of the objecting party.”<sup>197</sup>

This language seems directly targeted at claimants such as the Cardozo parties who objected to the stipulated judgment in *Mojave* and aspires to make it more difficult for objecting parties to derail settlements or exempt themselves from terms of settlements. This provision raises a string of questions that courts will have to answer before its true implications are known. The first is whether there is a difference between the Supreme Court’s *Mojave* language, which refused to apply a stipulation to objecting parties noting that a physical solution cannot “simply ignore” or “wholly disregard” water rights priorities, and the language in the new law that a stipulation cannot be imposed on objecting parties if it “substantially violates” their property rights. In addition, the statute does not illuminate the difference between a mere violation and a “substantial” violation of property rights, or how to reconcile the language with the various provisions of SGMA that insist the legislation does not “alter” or “determine” property rights.

AB-1390 and SB-226 accomplish important goals to both shorten adjudications and limit sources of disputation. For example, the legislation streamlines the process for making adjudications truly comprehensive, thereby empowering the court to deal with the problem of unexercised rights, potentially by subordinating them to currently exercised rights, pursuant to the fashion in which *Long Valley Stream* dealt with unexercised riparian rights to surface water. In addition, the provision of AB-1390 discussed above may provide some additional incentive to settle for parties who might otherwise contest an adjudication. Facing a stipulation joined by a majority of groundwater pumpers, and a supermajority of water use, such a pumper might prefer to negotiate for some concessions rather than have a less palatable stipulation imposed by the court. The extent to which this section provides a true lever to promote settlement will depend in part on how courts resolve the questions outlined above.

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196. CAL. WATER CODE § 850(a)(1) (3).

197. CAL. WATER CODE § 850(b).

### C. *Lessons From Recent Adjudications in Light of SGMA*

What does all of this mean for groundwater users in unadjudicated basins, who are now faced with the challenge of complying with SGMA? As we have described, SGMA provides an opportunity for GSAs and interested parties to negotiate and agree upon a path to sustainability in the form of a GSP. The threat of state intervention if a GSP is not completed or is deemed inadequate provides an important incentive for working toward an agreement. However, SGMA and the subsequent legislation do not change the fundamental property rights system. If some parties remain unsatisfied with the GSP and believe they can obtain a better outcome through the courts, adjudication remains an alternative. The adjudications we analyzed in section III above provide some sense of the potential balance of incentives to litigate or to settle future cases. Do the experiences of these seven cases suggest that if adjudication is pursued, it is likely to be a long and drawn-out affair with high transaction costs? Which parties would be most likely to benefit from seeking an adjudication, and under what conditions?

Neither SGMA nor the subsequent adjudication streamlining legislation eliminates one of the main causes of litigation-driven delay in adjudications. By disclaiming any determination or alteration of property rights to pump groundwater, the new laws leave the door open for parties to fully litigate the thorny issue of prescription. As one pair of commentators (both of whom have been deeply involved in both SGMA implementation and a number of adjudications) noted, even though a judgment that tiered reductions in pumping or pumping fees in a way that tracked, even roughly, property rights priorities, would certainly satisfy *Mojave*, disputes “about whether prescriptive rights have developed . . . may persist among groundwater users or between the GSA and certain groundwater users.”<sup>198</sup>

One general lesson from the seven cases is relative simple and unsurprising cases with small numbers of parties settle more quickly. One important reason for this is that very complex litigation involving large numbers of parties is often slowed by logistics, such as those involved in serving notices and handling interventions. The provisions in AB-1390 will help with this cause of delay. Another potential reason is that the greater the number of parties at the table, the greater the odds that some of them will attempt to litigate prescription (for whatever motivation). As we have shown in our analysis of the two litigated cases (Santa Maria and Antelope Valley), arguments for prescription have

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198. See McGlothlin and Acos, *supra* note 8, at 125.

been an important factor in slowing down proceedings. SGMA and the new streamlining legislation will not change this dynamic.

This brings us to a second set of lessons from the seven recent adjudications, regarding the incentives of pumpers to litigate prescription and how those incentives might be managed. Six of the seven recent cases (all but Santa Maria) ultimately resolved claims of prescription. In four of the five cases that settled quickly (omitting Beaumont, which was really about storage space and imported water) the municipal providers agreed to give up any claim of prescription and assume all (or nearly all) of the burden of reductions to achieve safe yield. In all four basins, municipal use was a significant portion of groundwater pumping, meaning a significant portion of the burden of achieving safe yield would fall on them in any event. In addition, those municipal providers had avenues available to achieve reductions, including increased conservation and water recycling. Finally, three of the four stipulated judgments (omitting Los Osos) included market mechanisms allowing municipal providers to purchase pumping rights in the event their needs exceed their available limits. This suggests that market mechanisms to shift water use as required reductions increase may be an important component of the path to settlement.

However, our analysis indicates that parties determined to litigate prescription can continue to delay adjudications, even when fighting over relatively modest amounts of water. This is precisely what happened in Santa Maria. Although Antelope Valley ultimately settled without litigating prescription, the issues underlying prescription (primarily the extent and timing of overdraft) delayed the case. The streamlining legislation may reduce the economic incentive to delay, through the court's power to enter an injunction limiting pumping and the provision "freezing" the timeline for prescription after 2015. On the other hand, it may not reduce the ideological or longer-term incentives to litigate prescription. Our interviews with several lawyers indicated that a certain class of landowners are extremely motivated to litigate against claims of prescription by municipal pumpers<sup>199</sup> That motivation could be viewed in a variety of ways. From an economic perspective, those landowners may wish to maintain the flexibility to pump as much as they want, when they want, including to increase their pumping in the future should they plant crops that need more water or should their surface water supplies become less consistent. They may also wish to maximize the value of their water rights in order to sell them to

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199. Interview 1, *supra* note 55; Interview 5, *supra* note 96.

municipal providers in the context of water demand shifting from agricultural to municipal uses. From a more ideological perspective, they may simply wish to protect irrigators' rights during a time when agricultural uses of water are perceived to be under pressure from drought, urban growth, and increased government regulation.

A closer look at these seven cases suggests that in basins dominated either by agricultural or by municipal uses, the incentives of overlying pumpers and of municipal pumpers to litigate prescription are diminished, especially in the post-*Mojave* environment. This is evident in Antelope Valley, where, despite the extensive litigation delays, the stipulation ultimately avoided prescription claims. Groundwater production in the basin was primarily agricultural irrigation on overlying lands. Irrigators could not avoid bearing the substantial burden of reductions, even if they defeated prescription claims by appropriators. They thus had no incentive not to enter into a stipulation with universal proportional reductions that mirrored the mutual prescription result of *City of Pasadena*, albeit only among the municipal parties. They chose to accept those reductions rather than litigating for the advantage they might gain by prevailing on prescription claims against the overlying pumpers.

Finally, at least two of the cases (Beaumont with a final stipulation, Santa Maria with a stipulation that was litigated) settled based on expectations of imported water to satisfy future water demand. Given that climate change is likely to make droughts more severe, the future availability and reliability of imported water is in question.<sup>200</sup> This places even more pressure on groundwater users to make hard choices about reducing overall water use as they negotiate a path to sustainable management, and increases the potential for conflict.

#### D. SGMA Implementation in the Post-Mojave Environment

Overall, our analysis suggests that two factors play a particularly key role in determining the potential for extended conflict: the number of parties involved, and the likelihood that claims of prescription will hold up the process. The number of parties is likely to be highest in basins that cover a large land area, since there would tend to be a higher number of individual landowners (except in basins where the federal government has significant land holdings). As noted above, prescription claims are most likely to be an issue when municipal and agricultural

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200. See A. Schwarz, *California Central Valley Water Rights in a Changing Climate*, 13 *San Francisco Estuary and Watershed Science* (2015) at 1.

uses of groundwater are both important in an overdrafted basin.

The conditions of the more than a hundred basins in the process of complying with SGMA are diverse, making it difficult to comprehensively assess how these two factors play out across the state. However, Table 3 provides some indication for the twenty-one “critically overdrafted” basins, where GSAs are required to develop GSPs by 2020 instead of 2022, and where GSAs will face the most difficult choices. With the exception of Los Osos (which is already adjudicated) and Santa Cruz Mid-County, agricultural production in these basins is significant with heavy reliance on groundwater, particularly across the Central Valley and Central Coast.<sup>201</sup> At the same time municipalities in many of these basins also depend substantially on groundwater. In fifteen of the twenty basins listed that are not yet adjudicated (leaving out Los Osos), cities rely on groundwater for at least two-thirds of their supply. The need to maintain these supplies, combined with the fact that these basins are in overdraft, means that prescription claims are a possibility. In addition, many of these basins are quite large in size; the land area of twelve out of the twenty unadjudicated basins exceeds 500 square miles. Ten of these are in the Central Valley, where agricultural production is extensive and there are likely to be numerous individual landowners. Any adjudications pursued in these basins could potentially involve large numbers of parties.

The implementation of SGMA would be challenging under any circumstances. The post-*Mojave* legal environment heightens the challenge and uncertainty across those hundred-plus basins throughout the state. As we have seen, the property rights system that serves as a backdrop to SGMA is both unclear and prone to disputation and delays in order to resolve the priority of pumping rights, primarily through adjudication of prescription claims. Although the recent streamlining legislation provides a sound framework for harmonizing adjudications that parallel SGMA efforts, it does not change this fundamental dynamic. Nevertheless, since *Mojave*, water users and their attorneys have in a number of cases been able to expeditiously reach settlements that achieve locally-desired results while staying within the contours of California water rights law. These basins provide a good roadmap for navigating SGMA in a way that complies with property rights priorities and minimizes adjudication delays. Doing this successfully will test the navigational skills of water users, attorneys, local officials, and state

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201. See CAL. DEP'T OF WATER RES., CALIFORNIA'S GROUNDWATER UPDATE 2013, HYDROLOGIC REGION REPORTS FOR THE CENTRAL COAST, SAN JOAQUIN RIVER, AND TULARE LAKE (2015).



regulators, and will provide an unfolding and undoubtedly fascinating response to the question posed in the title of this paper.

**Table 3. California's critically overdrafted basins:<sup>a</sup> Comparing size and urban dependence on groundwater as indicators of potential for conflict.**

<b>Basin name</b>	<b>Population (2010)<sup>b</sup></b>	<b>Land Area (sq. mi)<sup>c</sup></b>	<b>Estimated % of municipal water use supplied by groundwater (2015)<sup>d</sup></b>
Pajaro Valley	114,282	117	100
180/400 Foot Aquifer	55,740	140	100
Los Osos Valley <sup>e</sup>	13,948	11	100
Santa Cruz Mid-County <sup>f</sup>	~52,000	56	~100
Cuyama Valley	1,236	378	100
Merced	173,731	801	100
Chowchilla	15,820	228	100
Madera	116,919	543	100
Indian Wells Valley	34,837	596	100
Borrego Springs	3,853	98	100
Delta-Mendota	107,879	1194	100
Kaweah	271,700	689	86
Tulare Lake	125,701	837	79
Tule	108,660	746	78
Kern County	700,323	2834	71
Kings	906,544	1536	66
Eastern San Joaquin	582,662	1207	43
Pleasant Valley	69,362	31	42
Westside	27,285	972	42
Paso Robles Area	56,077	902	40
Oxnard	235,973	90	35

These 21 basins have been identified by the California Department of Water Resources as in "critical overdraft," based on an analysis of groundwater trends over a ten-year assessment period and the presence

of adverse impacts of overdraft. See CAL. DEP'T OF WATER RES., CALIFORNIA'S GROUNDWATER: WORKING TOWARD SUSTAINABILITY 10, Bulletin 118 Interim Update (2016).

CAL. DEP'T OF WATER RES., CALIFORNIA'S GROUNDWATER UPDATE 2013, HYDROLOGIC REGION REPORTS (2015). Except for Santa Cruz-Mid County (see note f below), these data are based on 2003 groundwater basin boundaries, some of which were revised in 2016.

Cal. Dep't of Water Res., 2016 Groundwater Basin Boundaries Shapefile.

Percentages represent a population-weighted average of percent reliance on groundwater for water suppliers in each basin that submitted 2015 Urban Groundwater Management Plans. These plans are submitted only by suppliers with 3,000 connections or more, so small communities are not represented, nor are a few cities that failed to submit plans. UWMPs were not available for Cuyama and Westside basins. The Westside basin's percentage is based on estimates in the Department of Water Resources CALIFORNIA'S GROUNDWATER UPDATE 2013, TULARE LAKE HYDROLOGIC REGION 26 (2015). Cuyama basin's sole reliance on groundwater is documented in the Cuyama Valley Groundwater Sustainability Agency's 2017 application to DWR's Sustainable Groundwater Planning Grant Program, Attachment 3, Category 2 Project Justification at 3.

This basin is already adjudicated (and analyzed in this paper).

The boundaries of the Santa Cruz Mid-County were changed substantially in 2016, so the population and municipal groundwater dependence data are approximate. The population estimate is based on the 2007 *Soquel Creek Water District and Central Water District Groundwater Management Plan* at 10, whose boundaries most closely resemble those of the current basin. For municipal dependence on groundwater, this estimate is based on the Soquel Creek Water District's 2015 UWMP, but does not reflect the portion of the City of Santa Cruz that falls within the basin and relies primarily upon local surface water.