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COUNTIES WRESTING CONTROL: LOCAL RESPONSES TO CALIFORNIA'S STATEWIDE WATER MARKET

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I. INTRODUCTION

Like many western states, California has looked to water marketing as a tool for stretching this scarce resource in an era when the building of new dams meets considerable financial and environmental obstacles.[1] Unlike many of its neighbors, however, California does not have a comprehensive legal code governing water resources. The State's "modern" water code, established in 1914, applies mainly to surface water. Groundwater, which constitutes about one-third of the water used in "normal" rainfall years and more in dry years,[2] remains

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1. For discussions of water marketing policy in western states, *see generally* NAT'L RESEARCH COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT (1992); WESTERN WATER POLICY ADVISORY COMM'N, WATER IN THE WEST: THE CHALLENGE FOR THE NEXT CENTURY, FINAL REPORT (1998), http://www.den.doi.gov/wwprac/reports/final.htm.

2. CAL. DEP'T OF WATER RES., CALIFORNIA WATER PLAN UPDATE BULLETIN 160-98, at ES3-5 (1998).

largely unregulated at the State level. This distinction has direct implications for the functioning of the water market. State laws governing water transfers provide explicit "no injury" protections for other legal surface water users as well as fish and wildlife.[3] But because the State does not have jurisdiction over most groundwater-related transfers,[4] these third-party protections do not fully extend to groundwater users.[5] Under such conditions, the introduction of a market brings with it the inherent risk of harm to groundwater users in the source regions, if pumping for sale affects the availability or quality of the resource locally.

The rapid growth of the market in the early 1990s, prompted in part by a state-run drought water bank, generated local concerns over the lack of third-party protections.[6] Bolstered by an appellate court ruling in 1994 that upheld counties' right to exercise police powers over groundwater,[7] twenty-two of the California's fifty-eight counties– all located in the inland rural regions – have adopted ordinances with a section regulating the "export" of groundwater.[8] Following an overview of the genesis of this rural movement to assert control over the water market, this article examines the movement's implications from the legal, economic and institutional perspectives. The manifest

3. CAL. WATER CODE §§ 1725, 1735-1737 (Deering 2003); George A. Gould, *Water Rights Transfers and Third-Party Effects*, 23 LAND & WATER L. REV. 1, 13, 19 (1988).

4. The State Water Resources Control Board ("SWRCB") oversees all transfers involving a change in purpose or place of use of surface water held in post-1914 right. *See* CAL. WATER CODE §§ 102, 174. The California Department of Water Resources ("CDWR") needs to approve any transfers of surface or groundwater by parties using its conveyance facilities, such as the California Aqueduct. *Id.* § 123. Transfers of groundwater and of surface water held in pre-1914 rights that do not require the use of a state-owned conveyance facility are not subject to state review.

5. Legally, groundwater users are not protected by the no-injury provisions of the water transfer code because of the lack of state jurisdiction over this resource. The fact that the state does not actually get to review many such transfers makes it difficult for these two agencies to protect groundwater users under the spirit of the law as well. Interview with Andrew Sawyer, Gen. Counsel's Office, SWRCB, in Sacramento, Cal. (Sept. 27, 2002); Interview with Jerry Johns, Chief of the Water Transfers' Office, CDWR, in Sacramento, Cal. (Dec. 2, 2002).

6. *See* Harold O. Carter & Henry J. Vaux, Jr., *Third-Party Effects: The Research Challenge, in* SHARING SCARCITY: GAINERS AND LOSERS IN WATER MARKETING 54-55, 97 (Harold O. Carter et al. eds., 1994) [hereinafter SHARING SCARCITY].

7. Baldwin v. County of Tehama, 36 Cal. Rptr. 2d 886, 889 (Cal. Ct. App. 1994).

8. Counties with export clauses include: BUTTE COUNTY, CAL., CODE § 33-1 (1999); CALAVERAS COUNTY, CAL., CODE § 17.85.050 (2002); COLUSA COUNTY, CAL., CODE § 43-1(p) (1998); FRESNO COUNTY, CAL., CODE § 14.03(o) (2002); GLENN COUNTY, CAL., CODE § 20.04.410 (2002); IMPERIAL COUNTY, CAL., CODE §§ 92203.00 to .05 (2003); INYO COUNTY, CAL., CODE §§ 18.77.000(I) to (J) (2000); KERN COUNTY, CAL., CODE § 19.118 (2002); LAKE COUNTY, CAL., CODE § 28-1 (2001); LASSEN COUNTY, CAL., CODE § 17.01 (1999); MADERA COUNTY, CAL., CODE § 13.100 (2001); MODOC COUNTY, CAL., CODE § 20.04 (2001); MONO COUNTY, CAL., CODE § 20.01 (2002); SACRAMENTO COUNTY, CAL., WATER AGENCY CODE § 3.40.090 (2002); SAN BENITO COUNTY, CAL., CODE § 7C (2002); SAN JOAQUIN COUNTY, CAL., CODE § 5-8100(m) (2000); SHASTA COUNTY, CAL., CODE § 18.08.010(I) (1998); SIERRA COUNTY, CAL., CODE § 8.17.050 (2000); SISKIYOU COUNTY, CAL., CODE § 3-13.101(i) (2001); TEHAMA COUNTY, CAL., CODE § 9.40 (1994); TUOLUMNE COUNTY, CAL., CODE § 13.20.040 (2001); YOLO COUNTY, CAL., CODE § 10-7.101(j) (2001) [collectively hereinafter Counties with Export Clauses].

issue is whether or not this local control mechanism appropriately fills the pre-existing legal void, given an incomplete set of state-level protections for water users from market-related injury. But the ordinance movement also raises larger questions about the appropriate forms of groundwater management within the State: What levels of jurisdiction are most suited to managing the resource, and with what kinds of regulatory controls?

II. THE RISE OF THE MARKET AND THE MOBILIZATION OF RURAL COUNTIES

California's foray into active promotion of water marketing began during a year of severe drought, 1977. Two reports commissioned at that time, one by the Governor[9] and one by the Legislature,[10] strongly endorsed water marketing as a component of the State's future water policy. The governor's commission also advocated a number of changes in the water code to facilitate transfers, notably provisions to ensure the security of water rights for transferring parties and their access to the use of conveyance facilities.[11] Although many of the commission's recommendations were accomplished in the years that followed,[12] the 1980s saw little uptake in market activity. Annual trades hovered in the range of 100,000 to 200,000 acre-feet, less than half of one percent of the State's combined municipal, industrial and agricultural uses.[13]

It was the next significant drought, beginning in 1988 and lasting for six of the following seven years, which occasioned the market's veritable jumpstart.[14] From the outset, the State's Department of Water Resources ("CDWR") began making dry-year purchases from a handful of Sacramento Valley water districts, for the purpose of supplying certain contractors and wildlife refuges. In 1991, when the dry-year market was opened up to any willing buyers and sellers, CDWR purchased 820,000 acre-feet of water for resale, bringing the overall market volume to over 1.1 million acre-feet. Water banks and other dry-year purchases were also operated in 1992 and 1994, with state as well as federal involvement. On average, the 1988-1994 drought saw annual trades at over 600,000 acre-feet.[15]

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9. GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA'S WATER RIGHTS LAW, FINAL REPORT 63-64 (1978) [hereinafter FINAL REPORT].

10. CHARLES PHELPS ET AL., EFFICIENT WATER USE IN CALIFORNIA: WATER RIGHTS, WATER DISTRICTS AND WATER TRANSFERS 49 (1978).

11. FINAL REPORT, *supra* note 9, at 62-69.

12. Notably, the legislature adopted a flurry of the recommended code sections in 1980, with a few subsequently amended or renumbered. The recommended code sections included, among others, CAL. WATER CODE §§ 100.5, 109, 1011, 1244, 1725-1731 (Deering 2003).

13. ELLEN HANAK, CALIFORNIA'S WATER MARKET, BY THE NUMBERS 7 fig.7 (2002) [hereinafter BY THE NUMBERS]. This study reports original data on the water market, developed by the author from multiple sources. Transfer data reported here include both short and long-term leasing of water use rights.

14. *Id.* at 7.

15. *Id.* at 7-8.

Both state and federal policy changes continued to facilitate market development in the wake of the drought. This included modifications in the operating rules of the federally run Central Valley Project ("CVP") and the State Water Project ("SWP") to enhance contractors' ability to trade amongst one another.[16] Perhaps more significantly, it also included the introduction of explicit environmental restoration goals that would have direct and indirect consequences for the market. In 1992, federal legislation mandated a reduction in project deliveries to CVP contractors in favor of endangered wildlife and introduced an environmental water purchase program. [17] A joint federal and State effort, known as CALFED, augmented direct purchases for the environment in 2000.[18] Water for the environment has been a major factor in sustaining market development since 1995; by the end of the decade, environmental water has accounted for one-quarter to one-third of total purchases in a market that regularly attained or exceeded the million acre-feet mark. The other major source of market growth has been increased purchases from San Joaquin Valley farmers whose supplies were curtailed by the new environmental restrictions. [19]

Given the distribution of surface water rights within the State, which heavily favors many of the inland agricultural regions,[20] economists analyzing the potential for a water market have assumed that agriculture would be the principal supplier.[21] The economic reasoning behind this proposition is that farmers whose operations generate a relatively low profit per incremental unit of water used will stand to gain by selling some of their water to those willing to pay more—cities, other farmers with junior rights and higher value crops, and the public stewards of environmental programs. The patterns of sales have reflected this assumption, with agricultural districts in the Central Valley and the desert valleys to the south (Imperial and eastern Riverside Counties) consistently providing over ninety percent of market supplies.[22]

Economists have also recognized that water market transactions can generate costs to others, even though both buyer and seller

16. For the CVP, *see* Central Valley Project Improvement Act, 43 U.S.C. §§ 3406-3411 (1992). For the SWP, the modifications were introduced as part of the "Monterey Agreement." Planning & Conservation League v. Dep't of Water Res., 100 Cal. Rptr. 2d 173, 178-79 (Cal. Ct. App. 2000).

17. 43 U.S.C. §§ 3406-3407.

18. ELIZABETH G. HILL, ENVIRONMENTAL WATER ACCOUNT: NEED FOR LEGISLATIVE DEFINITION AND OVERSIGHT 3-5 (2001).

19. BY THE NUMBERS, *supra* note 13, at 11-12.

20. *See, e.g.*, STATE WATER RES. CONTROL BD., FINAL ENVIRONMENTAL IMPACT REPORT FOR IMPLEMENTATION OF THE 1995 BAY/DELTA WATER QUALITY CONTROL PLAN, at III7 to III26 (1998).

21. PHELPS ET AL., *supra* note 10, at 45-46; *see also* Henry J. Vaux, Jr. & Richard E. Howitt, *Managing Water Scarcity: An Evaluation of Interregional Transfers*, 20 WATER RESOURCES RES. 785, 788 (1984).

22. BY THE NUMBERS, *supra* note 13, at 13-15.

benefit from the trade.[23] These "third-party" impacts are of two distinct types.[24] When sellers make water available for the market by reducing their agricultural activity, this may negatively impact the local economy if employment and revenues are reduced as a consequence. Such impacts are sometimes referred to as "pecuniary externalities." By contrast, a "non-pecuniary" or "technical" externality occurs if the water sale materially affects the quantity or quality of the physical resource available to other users.[25]

The advent of the water market generated concerns on both fronts in rural California. The State's water bank was a major source of controversy, given both the volume of purchases and the fact that the primary means of water acquisition–land fallowing and additional pumping of native groundwater to free up surface water supplies (a process known as "groundwater exchange")–were prone to generating third-party impacts.[26] The fallowing controversy came to a head over the operations of 1991 water bank, for which over half the water was acquired through this method. Officials in Yolo County, where fallowing activity was fairly high (thirteen percent of total farm acreage),[27] requested the State to reimburse the increased costs of social welfare programs that it attributed to unemployment created by the water sales.[28] Challenging both the legality of the claim and the facts on which it was premised, the State declined the county's request, but it also cut the fallowing program short.[29] During the 1992 and 1994 water banks, the State purchased water entirely from groundwater exchange and from the handful of suppliers in a position to sell excess water held in surface reservoirs.[30]

There was also a well-publicized grievance over the bank's groundwater exchange purchases in 1994 in Butte County, where the water sales were linked to neighboring wells going dry.[31] But the

23. Bonnie Colby, *Regulation, Imperfect Markets, and Transaction Costs: The Elusive Quest for Efficiency in Water Allocation, in* HANDBOOK OF ENVIRONMENTAL ECONOMICS 475, 475-76 (Daniel Bromley ed., 1995) [hereinafter HANDBOOK]; *see also* Charles W. Howe, *Protecting Public Values in a Water Market Setting: Improving Water Markets to Increase Economic Efficiency and Equity*, 3 U. DENV. WATER L. REV. 357, 364 (2000); NAT'L RESEARCH COUNCIL, *supra* note 1, at 38-69.

24. For a detailed discussion, *see* Richard E. Howitt, *Effects of Water Marketing on the Farm Economy, in* SHARING SCARCITY, *supra* note 6, at 100; *see also* ELLEN HANAK, WHO SHOULD BE ALLOWED TO SELL WATER IN CALIFORNIA? THIRD PARTY ISSUES AND THE WATER MARKET 80 (forthcoming July 2003) [hereinafter THIRD PARTY ISSUES].

25. Howitt, *supra* note 24, at 100.

26. *See generally* Brian E. Gray, *The Role of Laws and Institutions in California's 1991 Water Bank, in* SHARING SCARCITY, *supra* note 6, at 178 (in-depth discussion of the controversies generated by the state's water bank).

27. Calculation by the authors based on data presented in Carter & Vaux, Jr., *supra* note 6, at 41, 44-51.

28. Gray, *supra* note 26, at 133, 174-77.

29. *Id.* at 174 n.116.

30. THIRD PARTY ISSUES, *supra* note 24, at 71-72.

31. Gregory Thomas provides a detailed case study of this incident. GREGORY THOMAS, DESIGNING SUCCESSFUL GROUNDWATER BANKING PROGRAMS IN THE CENTRAL VALLEY: LESSONS FROM EXPERIENCE 28-38 (2001).

State's foray into groundwater purchases generated a much wider controversy in rural California, even where no evidence of harm appeared or where no sales actually took place. Local concerns over groundwater-based transfers were longstanding in California's northern and mountain counties, as reflected in legislation adopted in the early 1980s to restrict direct groundwater exports out of the watershed.[32] In effect, under the largely unregulated conditions of access to groundwater, many Californians feared that a water market could lead to groundwater being "mined," with potentially dire consequences for local water users. The large-scale export of groundwater from the Owens Valley to Los Angeles that began in the 1920s set a notorious precedent, shutting down the local agricultural economy and effecting significant environmental damage.[33]

Given the clear signal from the state and federal agencies that the water market was open for business, the question that arose in the rural source regions was how to protect third parties from harm. At the state level, the only clear third-party protections were for other surface water users, under the "no injury" provisions of the water code.[34] The failure of the State code to protect those harmed by land fallowing–a pecuniary impact–is not an omission; there is no clear legal tradition for protecting individuals from the economic impacts of business decisions in California or elsewhere in the country. Selling water instead of using it to farm crops does not take that water away from other legal users. However, the lack of protection for groundwater users could be seen as an omission of the "no injury" code, occurring precisely because the State's regulatory reach does not extend to groundwater. This very omission provided rural counties with the justification for putting in place their own restrictions on transfers, by invoking police powers to protect the public health, safety and welfare in an area not fully occupied by the state.

The antecedents of the movement to restrict water transfers through county-level ordinances relate to the 1977 drought, the point when the State first began promoting water marketing as a policy goal. In that year, three northern counties (Glenn, Butte, Sierra) adopted urgency ordinances prohibiting the "mining" of groundwater.[35]

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32. CAL. WATER CODE §§ 1215-1222 (Deering 2003).

33. *See* NORRIS H. HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER, A HISTORY 144-66, 347-60 (2001). As one analyst of the state's water market has noted, "when water people get to talking, the very name *Owens Valley* stands by itself as a complete sentence." BRENT M. HADDAD, RIVERS OF GOLD: DESIGNING MARKETS TO ALLOCATE WATER IN CALIFORNIA, at XV (2000).

34. CAL. WATER CODE §§ 1725, 1735.

35. The urgency ordinances prohibited water "mining," "in order to use it or sell it outside the area in which said pumping affects the natural available water supply without first obtaining a permit." Butte County, Cal., Ordinance 1859 § 31-4 (Aug. 23, 1977); *see also* Glenn County, Cal., Ordinance 672 § 20.04.400 (Sept. 6, 1977); Sierra County, Cal., Ordinance 516 § 8.17.020 (Dec. 20, 1977). Weber asserts that Imperial had the original groundwater export ordinance adopted in 1972 and amended in 1978. Gregory S. Weber, *Twenty Years of Local Groundwater Export Legislation in California: Lessons from a Patchwork Quilt*, 34 NAT. RESOURCES J. 657, 703 (1994)

Modoc County followed in early 1978 with an ordinance restricting transfers outside the groundwater basin.[36] In the following years, one Sacramento Valley county (Sacramento) and two mountain counties (Inyo, Nevada) introduced regular ordinances with explicit restrictions on "exports."[37] Both Inyo's and Nevada's ordinances underwent legal challenges and the trial courts invalidated the ordinances, on the grounds that the State preempted the field.[38] Neither county chose to appeal the ruling. In Inyo County's case, where the ordinance related to a broader set of grievances between the county and the City of Los Angeles, plaintiff, over the consequences of Los Angeles' pumping of the Owens Valley aquifer, the county chose instead to pursue a negotiated settlement.[39] Nevada County simply rescinded its ordinance following the trial court's ruling and did not pursue the matter through any other channels.[40]

Given the successful legal challenges to county authority over groundwater transfers, it should not come as a surprise that other counties were slow to use this tool when the market really got underway during the 1988-94 drought. Apart from one mountain county, Mono, which introduced an urgency ordinance restricting groundwater exports in 1988,[41] and one of the "precursor" counties, Glenn, which adopted a regular ordinance in 1990,[42] Tehama was the only county to take action during the drought years.

The Tehama County supervisors adopted an ordinance in 1992 requiring county review of groundwater exports in response to the plans of two private farmers to send groundwater south via the

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[hereinafter *Local Groundwater Export Legislation*]. However, Imperial's ordinance can be distinguished from the mining ordinances because it governs "appropriated" groundwater pumped from a well that is used or sold outside of the area of influence, effectively imposing a conditional use permitting process for the county wells. Imperial County, Cal., Ordinance 432 (Nov. 21, 1972); Imperial County, Cal., Ordinance 669 (Nov. 21, 1978).

36. Modoc County, Cal., Ordinance 255 § 3 (Mar. 6, 1978).

37. Sacramento County, Cal., Ordinance 410 § 2 (1980); Inyo County, Cal., Owens Valley Groundwater Management Referendum Measure A (1980); Nevada County, Cal., Ordinance 1370 § L-X6.3 (Jan. 27, 1986).

38. Ruling on Motion for Summary Judgment and Judgment on the Pleadings, City of Los Angeles v. County of Inyo, No. 12908, slip op. at 4 (Super. Ct. Inyo County, Cal., July 13, 1983); Rulings on Motions for Summary Judgment, Truckee-Donner Pub. Util. Dist. v. Bd. of Supervisors, No. 35920 (Super. Ct. Nevada County, Cal., filed June 21, 1989), *cited in* Gregory S. Weber, *Forging a More Coherent Groundwater Policy in California: State and Federal Constitutional Law Challenges to Local Groundwater Export Restrictions*, 34 SANTA CLARA L. REV. 373, 387-88 n.73, 74 (1994) [hereinafter *Challenges to Local Groundwater Export Restrictions*].

39. *See generally* AGREEMENT BETWEEN THE COUNTY OF INYO AND THE CITY OF LOS ANGELES AND ITS DEPARTMENT OF WATER AND POWER ON A LONG TERM GROUNDWATER MANAGEMENT PLAN FOR OWENS VALLEY AND INYO COUNTY (1989), http://www.inyowater.org/water_Resources/water_agreement/default.html; Telephone interview with Greg James, Dir., Inyo County Water Dep't (Aug. 22, 2002).

40. Interview with Antonio Rossmann, Special Counsel, Imperial County, in San Francisco, Cal. (Oct. 22, 2002); Telephone interview with Nelson Buck, Tehama County, Cal. Counsel (Sept. 6, 2002).

41. Mono County, Cal., Ordinance 88-530 (May 17, 1988).

42. Glenn County, Cal., Ordinance 971 (Aug. 21, 1990).

Tehama-Colusa canal to properties in Colusa County.[43] The landowners, Baldwin and Myers, took the county to court and won at the trial court stage, with a ruling similar to that of the Inyo and Nevada cases.[44] However, Tehama County appealed the decision, and won an appellate court victory in late December 1994, upholding its authority to regulate groundwater.[45] Several months later, the California Supreme Court refused to hear the plaintiff's challenge to this appeal, and the appellate holding has governed this issue since.[46]

The *Baldwin* decision, widely publicized in water law and county government circles,[47] opened the proverbial floodgates for county regulation of groundwater exports. From 1995 to 2002, nineteen counties introduced or regularized ordinances restricting exports, bringing the total number of counties to twenty-two.[48] Geographically, the group is concentrated in the mountain counties to the north and east, the Sacramento and San Joaquin Valleys in the center of the State, and Imperial County to the south. By and large, these counties are traditionally considered as "source" regions for the State's water supply, or counties that have relied heavily on groundwater for agriculture.[49] With the exception of the mountain counties where

43. Tehama County, Cal., Ordinance 1553 (Feb. 18, 1992). Telephone interview with Lee Mercer, Tehama County Dep't of Envtl Health (Sept. 6, 2002). *See also Local Groundwater Export Legislation, supra* note 35, at 662-63.

44. Myers v. County of Tehama, Nos. 34147 & 34446 (Super. Ct. Tehama County, Cal., filed Aug. 11, 1993), *cited in Challenges to Local Groundwater Export Restrictions, supra* note 35, at 373, n.82.

45. *See* Baldwin v. County of Tehama, 36 Cal. Rptr. 2d 886, 889 (Cal. Ct. App. 1994).

46. Baldwin v. County of Tehama, No. S044774, 1995 Cal. LEXIS 2006 (Cal. Mar. 17, 1995) (denying certiorari).

47. *See* Janet K. Goldsmith, *Counties, Cities may Regulate Groundwater, Appellate Court Rules*, 5 CAL. WATER LAW & POL'Y 42 (1995); Janet K. Goldsmith, *It's Official–Counties can Regulate Groundwater*, 5 CAL. WATER LAW & POL'Y 163 (1995); Thomas S. Bunn III, *Counties Have a Stake in Managing Groundwater*, CAL. COUNTY, July-Aug. 1997, at 10.

48. Counties introducing ordinances for the first time include: Calaveras County, Cal., Ordinance 2681 (Jan. 22, 2002); Colusa County, Cal., Ordinance 615 (1998); Fresno County, Cal., Code § 14.03 (2000); Kern County, Cal., Ordinance G-6502 § 2 (part) (1998); Lake County, Cal., Ordinance 2457 § 1 (Feb. 9, 1999); Lassen County, Cal., Ordinance 539 § 1 (part) (Mar. 1999); Madera County, Cal., Ordinance 573 (Mar. 23, 1999); San Benito County, Cal., Ordinance 664 § 1 (Aug. 1, 1995); San Joaquin County, Cal., Ordinance 3879 § 4 (part) (1996); Shasta County, Cal., Ordinance 97-6 (1997); Siskiyou County, Cal., Ordinance 98-15 (July 14, 1998); Tuolumne County, Cal., Ordinance 2429 (Nov. 20, 2001); Yolo County, Cal., Ordinance 1195 § 1 (Dec. 26, 1996). Counties regularizing urgency ordinances include Butte County, Cal., Ordinance 3303-A (Dec. 10, 1996); Sierra County, Cal., Ordinance 865 (Mar. 17, 1998); Modoc County, Cal., Ordinance 322 (part) (2000); Mono County, Cal., Ordinance 98-02 § 1 (part) (1998). Inyo County, whose 1980 ordinance had been invalidated by the trial court ruling, re-introduced an ordinance in 1998. *See* INYO COUNTY, CAL., CODE § 18.77 (1998). Imperial County, which had been operating with an ordinance requiring conditional use permits for certain within-county uses since the 1970s, *see supra* note 35, introduced an ordinance with explicit out-of-county export restrictions in 1996. *See* Imperial County, Cal., Ordinance 1172 (Aug. 6, 1996).

49. Recognition of many of these counties as "source" regions has led to the enactment of the various areas of origin protections in the California Water Code. *See*

there is little agricultural activity, these regions have been the major source of water for the market.[50]

III. AN OVERVIEW OF THE EXPORT ORDINANCES

A basic export ordinance consists of findings, definitions, language restricting groundwater transfer, legal justification to do so through police power, and description of the permitting process as well as entities or circumstances automatically or conditionally exempted. [51] Although the specific language of the ordinances varies, the common thread is their focus on the regulation of "exports," as distinct from on-site groundwater uses. In most ordinances, exports are defined as shipments of water beyond the county's administrative boundaries.[52] Although several counties apply instead an "out-of-basin" definition of exports,[53] or "off-parcel" definition,[54] a review of the actual permitting behavior suggests that these non-administrative boundaries reflect an intent to protect the ordinance against potential legal challenges, rather than to regulate groundwater use within the county.[55] Only three counties within the group–San Benito, Sierra and Imperial–have enforced a permitting process for within-county uses.[56]

HUNDLEY, *supra* note 33, at 171, 195, 245-46, 313, 531-33.

50. BY THE NUMBERS, *supra* note 13, at 13-15.

51. Unless otherwise specified, the discussion of the content of the ordinances refers to the most recent revision. *See* Counties with Export Clauses, *supra* note 8.

52. *Id.*

53. The most recently revised versions of ordinances apply an "out-of-basin" definition in the following counties: Inyo, Kern, Mono, and Siskiyou. INYO COUNTY, CAL., CODE §§ 18.77.010; KERN COUNTY, CAL., CODE § 19.118.030 (2002); MONO COUNTY, CAL., CODE § 20.01.030 (2002); SISKIYOU COUNTY, CAL., CODE § 3-13.301 (2001)

54. *See* SAN BENITO COUNTY, CAL., CODE § 7C-1.30 (2002); SIERRA COUNTY, CAL., CODE § 8.17.030(C) (2000); TEHAMA COUNTY, CAL., CODE § 9.40.030 (2001). *See also* IMPERIAL COUNTY, CAL., CODE §§ 92203.01 to 92203.02 (2003).

55. From August through December 2002, we interviewed county officials and water users in thirty-nine counties. The sample included all counties with groundwater protection ordinances (including those with on-parcel use restrictions, to be discussed in Section VI below) except Siskiyou and Monterey. Questions focused on the record on permitting and other information relating to ordinance adoption and implementation.

56. Sierra County granted one permit for a within-county transfer between different private property owners for the transfer of treated wastewater from an industrial property to adjacent property in agricultural use. Telephone interview with Julie Griffith, Sierra County Planning Dep't (Dec. 3, 2002). In San Benito County, there were five applications for minor subdivisions (four units or less), of which three were approved and two withdrawn. Telephone interview, San Benito County Planning Dep't (Aug. 14, 2002). Imperial County granted nineteen conditional use permits since 1994 under its well-permitting process instituted in 1972. Imperial County's export ordinance adopted in 1996 has never been employed. Telephone interview with Joanne Yeager, Assistant County Counsel, Imperial County Counsel's Office (Feb. 18, 2003). The only permit application treated in Tehama County was for an export of water beyond county boundaries, for use on an orchard owned by the proposed exporter. Telephone interview with Lee Mercer, *supra* note 43.

All twenty-two ordinances restrict the direct export of groundwater.[57] All but two of the nineteen counties that introduced or regularized ordinances following the *Baldwin* decision also implicitly restrict exports of surface water, by regulating the extraction of groundwater used to replace exported surface supplies.[58] Sacramento's ordinance explicitly restricts surface water exports of any kind.[59] A handful of counties, mainly within the San Joaquin Valley, have introduced specific restrictions on the use of county groundwater basins as storage sites for groundwater banking projects.[60] In San Joaquin County, officials have incorporated restrictions on the location of above-ground storage as well.[61]

The restricted activities generally require a county permit, which invokes a review under the California Environmental Quality Act ("CEQA").[62] Permit applicants are expected to conduct from one to several studies; applications go through a multi-layered review by county departments and commissions,[63] with the final decision most often in the hands of a political body (the Board of Supervisors itself or a body appointed by the Board).[64] If approved, permit duration is generally from one to three years.[65] However, some jurisdictions may

57. *See* Counties with Export Clauses, *supra* note 8.

58. There are two exceptions in which the ordinances only restrict direct groundwater transfers. MONO COUNTY, CAL., CODE § 20.01.050; SAN BENITO COUNTY, CAL., CODE § 7C-1.40.

59. SACRAMENTO COUNTY, CAL., WATER AGENCY CODE § 3.40.090 (2002).

60. FRESNO COUNTY, CAL., CODE § 14.03.05 (2002); KERN COUNTY, CAL., CODE § 19.118.020 (2002); IMPERIAL COUNTY, CAL., CODE § 92202.00 (2003); MADERA COUNTY, CAL., CODE § 13.100.050 (2001).

61. The supervisors passed an interim measure requiring a county permit for large surface storage projects in November 2001 and approved a permanent ordinance in May of the following year (SAN JOAQUIN COUNTY, CAL., CODE § 9-115.582 (2002).

62. California Environmental Quality Act, CAL. PUB. RES. CODE §§ 21000-21177 (Deering 2003).

63. On average, five distinct entities must review a permit prior to approval, with a range from one to nine. SACRAMENTO COUNTY, CAL., WATER AGENCY CODE § 3.40.090; MADERA COUNTY, CAL., CODE § 13.100.060.

64. The exception is Fresno County, where the Director of the Planning Department makes the decision. FRESNO COUNTY, CAL., CODE § 14.03.08; telephone interview with Phil Desitov, Fresno County Planning & Res. Mgmt. Dep't (Sept. 10, 2002).

65. The Imperial, Inyo and Kern ordinances provide for a case-by-case determination of permit duration. IMPERIAL COUNTY, CAL., CODE § 92202.03; INYO COUNTY, CAL., CODE § 18.77.050; KERN COUNTY, CAL., CODE § 19.118.070. Mono and Sacramento's ordinances do not specify duration. MONO COUNTY, CAL., CODE § 20.01.040 (2002); SACRAMENTO COUNTY, CAL., WATER AGENCY CODE § 3.40.090. Counties granting one year permits with an annual review include Tehama, Sierra, San Benito and Glenn. GLENN COUNTY, CAL., CODE § 20.04.450 (2002); SAN BENITO COUNTY, CAL., CODE § 7C-2.10 (2002); SIERRA COUNTY, CAL., CODE § 8.17.090 (2000); TEHAMA COUNTY, CAL., CODE § 9.40.080 (1994). Permits not to exceed three-years were envisaged in Butte, Calaveras, Colusa, Lassen, Modoc, San Joaquin, Shasta, Siskiyou, Tuolumne and Yolo. BUTTE COUNTY, CAL., CODE § 33-14 (1999); CALAVERAS COUNTY, CAL., CODE § 17.85.120 (2002); COLUSA COUNTY, CAL., CODE § 43-14 (1998); LASSEN COUNTY, CAL., CODE § 17.01.037 (1999); MODOC COUNTY, CAL., CODE § 20.04.030(I) (2001); SAN JOAQUIN COUNTY, CAL., CODE § 5-8380; SHASTA COUNTY, CAL., CODE § 18.08.130 (1998); SISKIYOU COUNTY, CAL., CODE § 3-13.308 (2001);

grant permits for a longer period.[66]

Most ordinances provide certain categorical and conditional exemptions to the permitting process. Fresno, the county with the longest permit duration of ten years, is the only one to explicitly exempt short-term transfers and exchanges.[67] Water districts or landowners with service areas or land holdings overlying adjacent counties typically do not need permits for water use on those lands, as long as quantities remain within historical use levels.[68] Many counties provide blanket exemptions to permitting for historical use levels more generally.[69] Although, it is likely that a change of use patterns involving exports of water historically used within the county would not qualify for such an exemption.[70] A number of the mountain counties exempt bottlers of spring water, as long as the bottling is done within the county.[71] Finally, various counties exempt specific types of local entities from permitting altogether, such as incorporated cities or water districts, because either the counties have assurances that the entity in question is already engaging in sound groundwater management practices, or there are questions of regulatory authority and an interest in avoiding jurisdictional conflicts.[72] These blanket

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TUOLUMNE COUNTY, CAL., CODE § 13.20.130 (2001); YOLO COUNTY, CAL., CODE § 10-7.309 (2001)

66. Lake and Madera provide for five-year permits, and Fresno for ten years. FRESNO COUNTY, CAL., CODE § 14.03.12; LAKE COUNTY, CAL., CODE § 28-11 (2001); MADERA COUNTY, CAL., CODE § 13.100.060(O) (2001).

67. FRESNO COUNTY, CAL., CODE § 14.03.05.

68. Inter-jurisdictional exemptions apply in Butte, Colusa, Fresno, Lake, Lassen, Modoc, Sacramento, San Joaquin, Siskiyou, and Yolo counties. *See* BUTTE COUNTY, CAL., CODE § 33-5; COLUSA COUNTY, CAL., CODE § 43-4; FRESNO COUNTY, CAL., CODE § 14.03.05; LAKE COUNTY, CAL., CODE § 28-3.1(3); LASSEN COUNTY, CAL., CODE § 17.01.030(3); MODOC COUNTY, CAL., CODE § 20.04.030(3); SACRAMENTO COUNTY, CAL., WATER AGENCY CODE § 3.40.090; SAN JOAQUIN COUNTY, CAL., CODE § 5-8380(3); SISKIYOU COUNTY, CAL., CODE § 3-13.301(1); YOLO COUNTY, CAL. CODE § 10-7.301(3).

69. Counties without exemptions for inter-jurisdictional entities, but with historical use exemptions, include Calaveras, Imperial, Inyo, Kern, Mono, Shasta, and Tuolumne. *See* CALAVERAS COUNTY, CAL., CODE § 17.85.050(b); IMPERIAL COUNTY, CAL., CODE § 92202.01; INYO COUNTY, CAL., CODE § 18.77.010(B); KERN COUNTY, CAL., CODE § 19.118.030; MONO COUNTY, CAL., CODE § 20.01.050; SHASTA COUNTY, CAL., CODE § 18.08.040; TUOLUMNE COUNTY, CAL., CODE § 13.20.060 (2001).

70. This is, for instance, the interpretation of the Calaveras County official responsible for oversight of ordinance implementation. Telephone interview with Brian Moss, Calaveras County Dep't of Envt'l Health (Aug. 8, 2002).

71. This includes Calaveras, Inyo, Kern, Siskiyou, and Tuolumne. CALAVERAS COUNTY, CAL., CODE § 17.85.050(b)(2); INYO COUNTY, CAL., CODE § 18.77.010(B)(3); KERN COUNTY, CAL., CODE § 19.118.030(C); SISKIYOU COUNTY, CAL., CODE § 3-13.301(3); TUOLUMNE COUNTY, CAL., CODE § 13.20.060.

72. Calaveras, Imperial, Inyo, Madera, Mono, San Benito, Sierra, and Tehama County Codes provide blanket exemptions for some or all local entities, such as water agencies and cities. *See* CALAVERAS COUNTY, CAL., CODE § 17.85.050(b)(3); IMPERIAL COUNTY, CAL., CODE § 92202.01; INYO COUNTY, CAL., CODE § 18.77.010(B); MADERA COUNTY, CAL., CODE § 13.100.050; MONO COUNTY, CAL., CODE § 20.01.050; SAN BENITO COUNTY, CAL., CODE § 7C-1.30; SIERRA COUNTY, CAL., CODE § 8.17.050; TEHAMA COUNTY, CAL., CODE § 9.40.030. Interviews with county officials and water users revealed both types of motives for the exemptions. Madera County provides an example of the exemption based on responsible groundwater management, where

exemptions apply to entire geographic regions in two counties.[73]

IV. LEGAL ISSUES RAISED BY THE ORDINANCES

A. STATE PREEMPTION OF GROUNDWATER AUTHORITY

To date, ordinance challengers have questioned the counties' jurisdictional authority to regulate groundwater. The county groundwater protection ordinances have been justified through the municipal police power to protect the public welfare in a field that the State has not explicitly or impliedly and substantively "occupied."[74] In all three lawsuits challenging the groundwater ordinances, plaintiffs asserted that the State had preempted the field, despite its lack of a comprehensive legal code governing groundwater.[75] As noted, trial court rulings in each case sustained this argument, although the appeals court in *Baldwin v. County of Tehama* overturned the trial court and held in favor of the county.[76]

Without belaboring the specifics of each trial, it is instructive to examine some of the main arguments made regarding state oversight of groundwater, as they may have bearing on future legal challenges to the ordinances. In all three cases, the preemption argument hinged on a combination of general constitutional and water code provisions applying to groundwater, as well as case law or specific legislation,

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specific water agencies that have long-established conjunctive use practices are exempted. MADERA COUNTY, CAL., CODE § 13.100.050(B); Telephone interview with Denis Prosperi, Chair of the County Water Comm'n (Sept. 8, 2002). Calaveras and Imperial Counties provide examples of counties where the exemptions were intended to avoid jurisdictional conflict. Telephone interview with Jim Cornelius, Calaveras County Water Dist. (Aug. 12, 2002); Telephone interview with Brian Moss, *supra* note 70; Telephone interview with Joanne Yeager, Imperial County Assistant Counsel (Aug. 19, 2002). For a discussion of the process of ordinance drafting in Fresno, which involved over two dozen iterations and which resulted in the introduction of many exemptions, *see* Christopher L. Campbell, Address to the Association of California Water Agencies Lawyers Meeting, County Groundwater Regulation: A Case Study of Fresno and Madera Counties 4-5 (Oct. 2000) (on file with author).

73. Kern's ordinance applies only to the southeast portion of the county within the Lahontan hydrologic region, and excludes the San Joaquin Valley portion of the county. *See* KERN COUNTY, CAL., CODE § 19.118.020. Conversely, Madera's ordinance applies only to the San Joaquin Valley portion of the county but not to the Sierra foothills. *See* MADERA COUNTY, CAL., CODE § 13.100.040.

74. All the counties except Tehama and Sacramento explicitly cite the use of police powers among the justifications for ordinance adoption. *See generally* Counties with Export Clauses, *supra* note 8. According to interpretations of In re *Maas*, 27 P.2d 373, 374 (Cal. 1933), counties have the police power to regulate groundwater extraction. *See Challenges to Local Groundwater Export Restrictions*, *supra* note 35, at 408-11 (citing Antonio Rossmann & Michael J. Steel, *Forging the New Water Law: Public Regulation of "Proprietary" Groundwater Rights*, 33 HASTINGS L. J. 903, 933-35 (1982)).

75. Baldwin v. County of Tehama, 36 Cal. Rptr. 2d 886 (Cal. Ct. App. 1994); Rulings on Motions for Summary Judgment, Truckee-Donner Pub. Util. Dist. v. Bd. of Supervisors, No. 35920 (Super. Ct. Nevada County, Cal., filed June 21, 1989); Ruling on Motion for Summary Judgment and Judgment on the Pleadings, City of Los Angeles v. County of Inyo, No. 12908, slip op. at 4 (Super. Ct. Inyo County, Cal., July 13, 1983).

76. 36 Cal. Rptr. 2d at 897.

which coalesced in a comprehensive scheme to regulate the resource.[77] Adopted in 1928, Article X, Section 2 of the California Constitution reaches groundwater through the mandate that "the water resources of the state be put to beneficial use to the fullest extent of which they are capable."[78] The general provisions in the California Water Code are found in an introductory chapter on general state policy, which echoes the notion of beneficial use for both surface and groundwater and provides general policy authority to the State for conducting statewide water planning.[79] Plaintiffs in all three cases made reference to these code sections.

In addition to the comprehensive scheme, the City of Los Angeles, in *County of Inyo v. City of Los Angeles*, used a novel preemption argument based on case law. Citing a recent holding from *Nat'l Audubon Soc'y v. Superior Court*,[80] the plaintiff invoked the public trust doctrine as an additional argument in favor of State preemption, to enable water to move to the places with greatest need.[81] The plaintiffs in *Baldwin* provided the most comprehensive set of references to specific legislation relating to groundwater, citing: (i) the enabling legislation for specially enacted groundwater management districts;[82] (ii) the 1984 California Water Code sections 1215 through 1222, and particularly section 1220, restricting the direct export of groundwater out of the combined Sacramento and Delta-Central Sierra Basins; and (iii) a set of recently enacted provisions authorizing existing water agencies to adopt groundwater management plans.[83]

Prior to *Baldwin*, it could be argued that the courts' decisions to hold in favor of preemption were based on a philosophy of avoiding "balkanization" of water policy rather than a demonstration that the State had actually occupied the field through specific actions.[84] Legal

77. *See Challenges to Local Groundwater Export Restrictions, supra* note 35, at 387-90.

78. CAL. CONST. art. X, § 2.

79. CAL. WATER CODE §§ 104-105 (Deering 2003). Specifically, these sections give the state the authority to "determine what water . . . surface and underground, can be converted to public use or controlled for public protection" *Id.* § 104. "[I]n what way the water . . . should be developed for the greatest public benefit." *Id.* § 105.

80. 658 P.2d 708 (Cal. 1983).

81. Ironically, the plaintiffs supported their argument for taking more water from the Owens Valley basin to service the City of Los Angeles by citing a holding that provided the justification for reducing some of Los Angeles' water exports from that basin in order to restore water levels to Mono Lake. *See* Ruling on Motion for Summary Judgment and Judgment on the Pleadings, City of Los Angeles v. County of Inyo, No. 12908, slip op. at 4 (Super. Ct. Inyo County, Cal., July 13, 1983).

82. This includes special water districts with authority to regulate groundwater and special groundwater management districts, the first of which was authorized in 1978. *See* Cal. Dep't of Water Res., *Groundwater Management Districts or Agencies in California*, WATER FACTS, Jan. 1996 [hereinafter 1996 WATER FACTS]. *See generally* Ella Foley-Gannon, *Institutional Arrangements for Conjunctive Water Management in California and Analysis of Legal Reform Alternatives*, 6 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 273 (2000) for a thorough discussion of the legislative empowerment in these entities.

83. CAL. WATER CODE §§ 10750-10753.9 (Deering 2003).

84. Weber uses the term "balkanization" in arguing that the courts did not want smaller sections of the state to control the state's water. *See Challenges to Local Groundwater Export Restrictions, supra* note 35, at 389-90.

scholars who have argued on either side of the preemption issue have agreed that the intent of California Water Code sections 104 through 105 is to express a broad policy for public, not proprietary, control of water resources, rather than to exercise specific control over groundwater.[85] Indeed, the holding in the *Inyo* case patently reflects the popular views of the time that water resources should be allocated according to the demands of the economy and the population (located in Southern California and not rural Inyo County). The court provides no further justification of preemption beyond the view that "the needs of the state as a whole are paramount."[86]

Baldwin occurred at a point when the State had taken additional steps to regulate groundwater, both through the restrictions on exports of groundwater from the northern California basins adopted in 1984 and the legislation enabling local districts to engage in groundwater management adopted in 1992. Accordingly, the trial court's holding of preemption went beyond generalities, stating that the State had provided a clear path for local entities to follow in groundwater management.[87] Significantly, the appellate court's reversal of this holding expressly reversed this interpretation of the new statutes. The court stated instead that the statutes giving local agencies the power to adopt groundwater management plans "manifest a purpose to induce local water agencies to address groundwater management."[88] Further, "there is a common thread in these statutes which suggests that problems of groundwater management should be addressed on the local level."[89] The fact that the State itself filed an *amicus curiae* brief siding with the county[90] lends further credence to this view of local management prerogatives for groundwater.

As noted, there have been no subsequent legal challenges to the ordinance in the wake of the *Baldwin* appellate decision. In light of that court's holdings, a new preemption challenge with respect to groundwater is unlikely without a significant change in the direction of State actions on groundwater regulation. Nothing in the eight years since the *Baldwin* decision suggests such a change. Subsequent legislation has focused on shoring up the requirements for local groundwater management and groundwater use planning.[91] These

85. *See* Rossmann & Steel, *supra* note 74, at 940. Rossman filed an *amicus* brief for the county in the Baldwin case, and Weber for the plaintiffs and respondents. *See* Baldwin v. County of Tehama, 36 Cal. Rptr. 2d 886, 888-89 (Cal. Ct. App. 1994). For a more comprehensive discussion of the evolution of the case law interpreting these code sections, see *Challenges to Local Groundwater Export Restrictions*, *supra* note 35, at 391-96.

86. Ruling on Motion for Summary Judgment and Judgment on the Pleadings, City of Los Angeles v. County of Inyo, No. 12908, slip op. at 4 (Super. Ct. Inyo County, Cal., July 13, 1983).

87. *See Challenges to Local Groundwater Export Restrictions*, *supra* note 35, at 390.

88. *See Baldwin*, 36 Cal. Rptr. 2d at 895.

89. *Id.* at 895-96.

90. *Id.* at 889.

91. Notably, the legislature adopted various changes in the groundwater

new laws essentially provide additional guidance (and financial incentives) to local level managers, but do not assume substantive State management obligations. To be sure, the debate on the role of the State on groundwater management continues. Notably, the State Water Resources Control Board ("SWRCB") recently commissioned a report on the incorporation of groundwater classified as subterranean streams into its permitting jurisdiction, based on the hydrologic connections between surface and groundwater.[92] The report met with such resounding opposition from local water management entities during the public hearing phase[93] that the SWRCB chairman announced soon afterwards that the Board would not adopt its recommendations.[94]

B. STATE PREEMPTION OF SURFACE WATER AUTHORITY

Even if the preemption issue is closed for the time being with respect to groundwater, many of the ordinances may be subject to legal challenge on another preemption issue, which the courts have yet to address. We refer to the provisions of the Water Code governing surface water transfers, an area where it would be difficult to argue that the State has not occupied the field. Sacramento's ordinance, which openly restricts any surface water exports, would suffer under such a legal challenge. A more subtle form of the same control, the common ordinance provision to restrict the practice of additional groundwater pumping to sell surface water, may also conflict with the State's authority in this area.

As noted earlier, most counties' ordinances now contain these indirect restrictions, although none of the three cases examined in court did so. In their favor, counties could argue that the restrictions are merely extending no injury protections to groundwater users, since groundwater exchange transfers could generate as much harm to other users as direct exports of groundwater. The State's own actions as a participant of the water market suggest that it would agree with such a position. In recent announcements of intent to purchase water, CDWR stressed the importance of local parties' putting in place "strategies to monitor developing conditions and actions to prevent

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management plan statutes through A.B. 3030 in 1992 and S.B. 1938 in 2002. CAL. WATER CODE § 10750 (Deering 2003). It also modified the urban water management planning act to incorporate groundwater through S.B. 610 in 2001. *Id.* § 10610.

92. *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 NO. 0-076-300-0 (2002).

93. *See, e.g.*, STATE WATER RES. CONTROL BD., PUBLIC WORKSHOP REGARDING JOSEPH SAX'S REPORT ON THE LEGAL CLASSIFICATION OF GROUNDWATER (Apr. 10-11, 2002).

94. Chairman Baggett announced that the SWRBC would not adopt the recommendations at the meeting of the Association of California Water Agencies in early May 2002. *See* Stuart Leavenworth, *State's Groundwater Debate Unquenched: A State Panel Rejects Regulations, but the Issue Remains hot*, SACRAMENTO BEE, May 12, 2002, at A1. The Board has yet to make an official announcement regarding its decision.

injury to water users."[95] Officials at both state agencies involved in overseeing water transfers have argued that the State takes steps to protect groundwater users in the spirit of the no injury laws whenever possible, despite their lack of coverage under the letter of the law.[96]

Nevertheless, some have viewed this as an issue inviting litigation.[97] To some extent, this relates to the perception that in some counties the ordinances are intended not only to protect local groundwater users from harm, but also to give preferential treatment to locals in the market for surface water. For instance, in Fresno County, several small irrigation districts in an area suffering from drainage problems have attempted to sell their surface water contracts to out-of-county buyers. County opposition to past sales proposals prevented one permanent sale altogether and led to accommodations involving some water staying in the county in another case.[98] The most recent proposal for a permanent out-of-county transfer of surface water has already generated county opposition.[99] In such situations, the costs of litigation–in time, money, and political ill will–may be more important considerations than the strict legality of the case. As the manager of the agency intending to purchase the water announced, "legally, we could probably make this deal work without Fresno County, but practically, we do need Fresno County to support this. . . . We're prepared to make this work." [100] Options being examined to accommodate the county's concerns include taking less water out of the county and keeping at least some of the land in production.

C. *HOARDING WATER* AND EXCEDENCE OF POLICE POWERS

Another area of potential legal challenge relates to the question of whether counties are over-protecting the groundwater resource through the ordinances. There are two distinct legal issues, although both rest on whether or not the ordinances exceed their legal reach. The first is whether the ordinances conform to the "beneficial use"

95. Press Release, Cal. Dep't of Water Res., DWR Announces 2003 Dry Year Water Purchase Program (Nov. 15, 2002).

96. Interview with Andrew Sawyer, *supra* note 5; interview with Jerry Johns, *supra* note 5.

97. Campbell, *supra* note 72, at 7.

98. The sale of the surface water allocation of the Widren Water District to a municipal agency in San Joaquin County was effectively blocked, and the water continues to be used within Fresno County by other agricultural districts. The permanent sale of the surface water allocation from Mercy Springs Water District to users in Santa Clara and Monterey Counties has been arranged to permit the continued use of a part of the entitlement by farmers in Fresno County. *See* Campbell, *supra* note 72, at 4-5; Telephone interview with Buddy Smith, Tracy Area Office, U.S. Bureau of Reclamation (Sept. 17, 2002); THIRD PARTY ISSUES, *supra* note 24, at 54-55.

99. Mark Grossi, *$25 Million Water Deal in Works: Watsonville Farmers Want Permanent Transfer From Valley*, FRESNO BEE, Feb. 7, 2003, at A1. The proposed transaction is a sale of the Broadview Water District to the Pajaro Valley Water Management Agency, located in Monterey County.

100. *Id.* The article quotes Charles McNiesh, General Manager of the Pajaro Valley Water Management Agency, and concerns the proposed purchase of the Broadview Water District.

requirements of Article X, Section 2 in California's Constitution. Counties may unconstitutionally "hoard water" if they are preventing outsiders from using in-county groundwater, despite a lack of immediate local need. Second, and by the same token, an overly protective position may exceed the police power, which relates to current threats to public health, safety and welfare.[101]

As we have seen, all three legal challenges to the ordinances cited Article X, Section 2 as part of the preemption argument. While each trial court accepted this article as an element of potential preemption, only one–the court ruling in the Nevada County case–found the ordinance to be in direct contradiction with the constitutional requirement to use water beneficially.[102] The *Baldwin* court chose not to address the constitutional issue of water hoarding, although it noted in a footnote that the issue was "not so simple as [the] plaintiffs' cursory argument supposes."[103] Given the lack of definitive rulings on this issue, one can consider that counties are still potentially open to this constitutional challenge.[104]

The extent of the ordinances' susceptibility to charges of either water hoarding or exceeding police powers relates to the nature of the groundwater problem. In counties where it is possible to demonstrate an already significant problem of groundwater overdraft, both issues are arguably moot. In such a situation, it would be difficult to make the case for water hoarding. Moreover, imposing export restrictions is a classic use of police power, as it protects residents' ability to exercise their property rights. Few of the counties are in a position to provide this justification, however. Only a third declare current overdraft as a motivation for the ordinance, including several for which there is no official determination of such a problem at the state level.[105]

Most counties rely instead on a justification based on protection of water resources for their residents' future needs.[106] While such

101. CAL. CONST. art. XI, § 7. Telephone interview with Christopher Campbell, Attorney, Baker, Manock & Jensen Law Offices (Jan. 28, 2003).

102. *See Challenges to Local Groundwater Export Restrictions, supra* note 35, at 388.

103. Baldwin v. County of Tehama, 36 Cal. Rptr. 2d 886, 896 n.14 (Cal. Ct. App. 1994).

104. This conclusion is shared by a recent workgroup of water attorneys and other water experts. *See* WATER TRANSFER WORKGROUP, WATER TRANSFER ISSUES IN CALIFORNIA, FINAL REPORT 36 n.67 (2002).

105. Counties declaring overdraft as a motive for the ordinance include Colusa, Fresno, Lake, Madera, San Joaquin, Siskiyou, and Yolo. *See* COLUSA COUNTY, CAL., CODE § 43-1 (1998); FRESNO COUNTY, CAL., CODE § 14.03.01 (2002); LAKE COUNTY, CAL., CODE § 28-1(1.3) (2001); MADERA COUNTY, CAL., CODE § 13.100.010 (2001); SAN JOAQUIN COUNTY, CAL., CODE § 5-8100(c) (2000); SISKIYOU COUNTY, CAL., CODE § 3-13.101(c) (2001); YOLO COUNTY, CAL., CODE § 10-7.101(c) (2001). Of these, only Madera and San Joaquin have groundwater basins designated by the state to be in critical overdraft or having special problems. CAL. DEP'T OF WATER RES., GROUND WATER BASINS IN CALIFORNIA, BULLETIN 118-80, at 1-5 (1980). This was the last time the state made official designations of overdraft. Interview with Carl Hauge, Chief Hydrologist, CDWR, in Sacramento, Cal. (July 2, 2002).

106. All the counties except Tehama list future water needs as a motivation for the ordinance. *See* Counties With Export Clauses, *supra* note 8.

foresight may seem eminently sensible from a planning perspective, it leaves the counties open to charges of water hoarding, since applying such restrictions could bar present (beneficial) use somewhere in the state to preserve future use in the areas of origin. It may exceed the police power as well, since the protection is against an anticipated future threat, rather than a current nuisance. Such a challenge could be bolstered by the ordinances' widespread exemptions for historical use levels, which arguably acknowledge that there is no immediate threat to public health, welfare and safety from the current patterns of groundwater use.

While a constitutional challenge would hinge on a ruling that the beneficial use doctrine has been violated, a charge of exceeding police powers would involve the demonstration of a taking. Over-regulation or regulation without a nexus has long been an issue in the field of land use law, particularly through zoning.[107] If the analogy between land use and groundwater regulation can be made, it may be argued that the counties are protecting their residents against a threat of overdraft that they do not yet face, and are effectively reaching only certain landowners, particularly in the counties where there are exemptions for historic use levels. The situation is analogous to the *Lucas* case, and the ordinances could be subject to a takings challenge.

As Eric Garner has argued, however, it may be difficult to assert a takings suit with water in general—not just groundwater, —because "water rights have traditionally less protections than most other property rights," given their usufructuary nature and the deference given to the public domain (public trust doctrine, etc.), as well as the fact that the definition of reasonable and best use is especially malleable.[108] The definition is so malleable in fact, that "[w]hen uses

107. *Lucas, Dolan* and *Nollan* are seminal takings cases in which the United States Supreme Court found that local governments had over-regulated a property and affected a taking. In *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825 (1987), the Court instituted the nexus requirement, holding that if there is a physical taking, there must be a nexus between the governmental condition and the impact the condition is trying to ameliorate. *Id.* at 831-37. The Court also held that ownership of property includes the right to exclude others from private property, and when that is "taken," the owner must be compensated. *Id.* at 838-92. *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992), followed *Nollan* five years later. The South Carolina Beachfront Management Act restricted building on sensitive areas, but every other owner in the protected area had constructed structures before the enactment, so the effect of the regulation reached only a single property owner. The Court held that disproportionate impacts on certain landowners constitute a taking when the owner is left with no economic value. *Id.* at 1014-19. In *Dolan v. City of Tigard*, 512 U.S. 374 (1994), the Court found that there was a legitimate state interest for the City's ordinance and that the condition did not deny all economically viable use, *Id.* at 386-88, but the *Agins* regulations were legislative and affected the whole community. *See* Agins v. City of Tiburon, 447 U.S. 255, 260 (1980). Here, the condition was parcel-specific, with a quasi-adjudicatory effect. The court again affirmed the fact that the right to exclude is an inherent element of ownership and established a "rough proportionality" test, in which directness is needed ir. the nexus between the regulation imposed and the impacts it tries to address. *Dolan*, 512 U.S. at 388-91.

108. Eric L. Garner, *How States in the United States Have Handled the Transition from Common Law to Permitting, in* ISSUES IN WATER LAW REFORM 149 (1999).

cease to be seen as beneficial and reasonable, however longstanding, they have often been repudiated in favor of modern conceptions of beneficiality and reasonableness."[109] His review of case law illustrates that "the regulation of water rights has often changed the way in which they can be exercised, yet rarely if ever, has it been considered a taking. . . . Furthermore, California has radically redefined rights of water use without ever receiving a successful takings challenge."[110] By this reasoning, the greater potential challenge to the ordinances lies in the courts' current conception of beneficial and reasonable use as required by the California Constitution. Arguably, the State's increasing emphasis on encouraging local entities to engage in long-term water resource planning could be interpreted as a firm sign that reserving water for future needs is a beneficial use.[111]

D. DORMANT COMMERCE CLAUSE VIOLATIONS

In a different vein, there is some debate over whether the ordinances could be subject to a Federal Commerce Clause challenge.[112] As noted above, the language in most of the ordinances is jurisdictionally based, restricting exports beyond the administrative boundaries of counties, rather than hydrologic basins or some other distinction that reflects the physical links between groundwater extraction and harm to adjacent users.[113] This raises the potential for a challenge of discrimination based on arbitrary distinctions. The case law precedent is *Sporhase v. Nebraska* ex rel. *Douglas*,[114] in which the United States Supreme Court held groundwater is an article of commerce, and accordingly discriminatory groundwater export

109. *Id.*

110. *Id.* at 150.

111. This includes increasing legislative requirements for long-term water planning through the Urban Water Management Planning Act. CAL. WATER CODE § 10610 (Deering 2003) (introduced in 1983 and amended numerous times since 1990, notably with changes in 2001 making state funding contingent on submission of a complete plan). Since the early 1990s, the legislature has also passed several bills to encourage the linkage of water supply and land-use planning. In 1991, the legislature amended CAL. GOV'T CODE § 65352(1)(b) to require planning agencies to refer proposed general plan amendments to water suppliers. Senate Bill 901, enacted in 1995, required cities and counties to reference urban water management plans in their general plans and to discuss and evaluate water supply and demand information. Act of Oct. 13, 1995, ch. 881, 1995 Cal. Laws 90 (codified as amended at CAL. GOV'T CODE § 65302; CAL. PUB. RES. CODE § 21104). In 2001, Senate Bills 610 and 221 added further requirements for local agencies to assure water supplies for future development. Act of Oct. 9, 2001, ch. 642, 2001 Cal. Laws 88; Act of Oct. 9, 2001, ch. 643, 2001 Cal. Laws 94. For a review of the various pieces of legislation, see MCCORMICK ET AL., WATER SUPPLY AND DEVELOPMENT: A USER'S GUIDE TO CALIFORNIA STATUTES INCLUDING SB221 & SB610 (2002). In addition to these legislative requirements, in 2002 the Governor's Office of Policy Research introduced revised draft guidelines for general planning including an optional water element. BRIAN GRATTIDGE, PRELIMINARY DRAFT: STATE OF CALIFORNIA GENERAL PLAN GUIDELINES 99-103 (2002), http://www.opr.ca.gov/planning/PDFs/GPG_2002.pdf.

112. WATER TRANSFER WORKGROUP, *supra* note 104, at 36 n.67.

113. *Id.* at 36.

114. 458 U.S. 941, 953 (1982).

regulation interferes with interstate commerce.[115] A direct application to the interstate commerce issue could potentially affect counties that border neighboring states,[116] although more broadly such a challenge could reach any restriction of inter-county commerce within California as well. Although this issue has not been raised in any of the court challenges to date, it has been of some concern for ordinance drafters in several counties, as reflected in the move to an "out-of-basin" or "off-parcel" permitting system.[117]

E. IMPORTED BANKED GROUNDWATER

The ordinances generally do not distinguish between native groundwater and imported surface water banked underground, providing a final legal concern. As a result, even ordinances that do not directly address groundwater-banking projects do so implicitly by introducing ambiguity in the extent to which the county might restrict the re-export of water brought into the county for temporary storage. This raises questions of overlapping and potentially conflicting jurisdictions, since the State, through the SWRCB, possesses permitting authority over surface water brought into the county for underground banking, while counties may seek to govern its re-export.[118] In at least one case, a county used the permitting process to block the re-export of imported banked water.[119] The legal ambiguities on this issue are compounded by the fact that there is little or no hydrologic process that would distinguish the banked surface water from native groundwater. A county's defense of pumping restrictions might be strongest for overdrafted basins, on grounds of immediate harm. Such basins are typically the most suitable places for groundwater banking projects, precisely because there is surplus underground storage space.

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115. DAVID H. GETCHES, WATER LAW IN A NUTSHELL 416 (3d ed. 1997) (citing Sporhase v. Nebraska *ex rel.* Douglas, 458 U.S. 941 (1982)).

116. Of the border counties with export restrictions, Modoc and Lassen use county boundaries, while Siskiyou, Inyo and Mono require permits for use outside of the basin and Sierra off-parcel. LASSEN COUNTY, CAL., CODE § 17.01.030 (1999); MODOC COUNTY, CAL., CODE § 20.04.030(A) (2001); INYO COUNTY, CAL., CODE § 18.77.010(3) (2000); MONO COUNTY, CAL., CODE § 20.01.030 (2002); SISKIYOU COUNTY, CAL., CODE § 3-13.301 (2001).

117. Counties that moved from a county to a basin restriction include Inyo, Mono, and Siskiyou. INYO COUNTY, CAL., CODE § 18.77.010(3); MONO COUNTY, CAL.. CODE § 20.01.030; SISKIYOU COUNTY, CAL., CODE § 3-13.301. Discussions with officials in Inyo and Mono revealed that compliance with the Commerce Clause was a factor in this decision. Telephone interview with Greg James, *supra* note 39. Telephone interview with Scott Burns, Mono County Planning Dep't (Aug. 16, 2002). Kern County drafted its ordinance with basin restrictions for similar reasons, following discussions with Inyo County officials. Telephone interviews with Bruce Divelbiss, Kern County Counsel (Aug. 6, 2002 & Sept. 26, 2002). Constitutionality issues were also a factor in the drafting of the Tehama County ordinance, which restricts use off-parcel rather than out-of-county. Interview with Antonio Rossmann, *supra* note 40.

118. WATER TRANSFER WORKGROUP, *supra* note 104, at 33-37.

119. This occurred in San Joaquin County, where the County denied a re-export permit to East-Bay Municipal Utilities District. *See* THOMAS, *supra* note 31, at 49-55.

To facilitate conditions for groundwater banking in the State, the Water Transfer Workgroup, convened by the SWRCB in 2000, underscored the need to "develop principles and guidelines for resolving the critical legal uncertainties . . . . as either a precursor to, or a substitute for, clarifying legislation or judicial rulings."[120] The Workgroup recommended constraining the ordinance authority, limiting local ability to restrict recovery, and re-export of "foreign" water imported into local groundwater basins, except as necessary to prevent injury to other legal users of the basin.[121]

V. ECONOMIC JUSTIFICATIONS AND LIMITATIONS OF LOCAL EXPORT RESTRICTIONS

In fundamental ways, the legal considerations regarding the appropriateness of county export restrictions reflect the underlying economic problem of groundwater management in California. Groundwater is by nature a collective, or "common pool" resource, with many parties typically sharing an aquifer. Collective resources are inherently prone to overexploitation under conditions of unregulated access, since individual users do not bear the full costs of resource depletion. Instead individual users share the costs with their neighbors.[122] For groundwater, the negative physical externalities of an unmanaged basin might result in increased pumping costs associated with a lower water table, increased risk of shortages in low rainfall years, reduced water quality, and elevated infrastructure replacement costs in the event of land subsidence.[123] Of course, overdraft and related problems may result strictly from extracting too much water for local uses.[124] However, the introduction of a water market raises the potential for generating negative externalities, because it expands the pool of potential water users. An economically efficient outcome, ensuring sustainable use of the aquifer, requires the imposition of management rules that eliminate these externalities by forcing water users to take into account the full costs of their actions.[125]

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120. WATER TRANSFER WORKGROUP, *supra* note 104, at 41.

121. *Id.*

122. *See generally* Gardner M. Brown, *Renewable Natural Resource Management and use Without Markets*, 38 J. ECON. LITERATURE 875 (2000) (reviewing the economic literature on this issue).

123. *See generally* Bill Provencher & Oscar Burt, *The Externalities Associated with the Common Property Exploitation of Groundwater*, 24 J. ENVTL. ECON. & MGMT. 139 (1993) (discussing pumping and risk externalities);CAL. DEP'T OF WATER RES., CALIFORNIA'S GROUND WATER, BULLETIN 118, at 118-19 (1975) (reviewing subsidence); THOMAS, *supra* note 31, at 67 (discussing the water quality issues).

124. Indeed, most basins in the San Joaquin Valley were considered in a state of critical overdraft in 1980, well before the onset of the water market. CAL. DEP'T OF WATER RES. BULLETIN 118-80, *supra* note 105, at 1-5.

125. This is the standard economic policy prescription for the resolution of market failures due to externalities. As it applies to groundwater management, *see generally* Bill Provencher, *Issues in the Conjunctive Use of Surface Water and Groundwater*, *in* HANDBOOK, *supra* note 23, at 514-17.

Given the open access rules for groundwater that prevailed in rural California and the lack of state protections, the local movement to restrict exports through the exercise of county police powers may be viewed as a rational economic response to the threat of uncontrolled mining of the aquifers.[126] In effect, the county police powers substitute for the lack of coverage by the State's no injury laws, as a means of protecting local groundwater users from harm. From an economic standpoint, such protections are necessary in order to prevent unsustainable levels of pumping, whether for direct exports of groundwater or for substitution with exported surface supplies.

An economic perspective also provides insights into the legal questions regarding the extent to which the ordinances may be over-regulating, by extending protections beyond the necessary levels. If long-term sustainability of the aquifer's yield is retained as the guiding principle for basin management,[127] it is straightforward to justify regulation in order to protect the aquifer from overexploitation not only in the present, but also into the future. However, the ordinances may effectively become barriers to trade, interfering with efficiency, if the limits imposed on exploitation of the resource exceed the sustainability criterion. Such protectionism is the economic counterpart to the legal notion of hoarding water.

Drawing such a conclusion about either the intent or the outcome of county behavior is not straightforward, even for the many counties that do not claim current overdraft problems as a reason for adopting the export restrictions. When there is uncertainty about the basic characteristics of the groundwater basin—size and depth of the aquifer, recharge rates, direction of flows, etc.—restricting exports could be a reasonable precautionary measure. In many parts of the state, the level of knowledge of these basic characteristics is rudimentary, including the speed with which exports might generate problems for local users.[128]

Even if a defensive strategy restricting exports might be a sensible first step in groundwater protection, it is sub-optimal from the

126. For a detailed discussion of this issue, *see generally* THIRD PARTY ISSUES, *supra* note 24, at 97-115.

127. Note that this long-term concept allows for annual fluctuations in the level of the water table, to take advantage of the substitutability of surface and groundwater. It can, for instance, be optimal to draw down the aquifer in dry years and recharge in wetter years when surface supplies are more abundant. *See* Provencher, *supra* note 125, at 514-17.

128. This view is shared by CDWR's Chief Hydrologist, Carl Hauge and the Head of the Groundwater Analysis Unit of CDWR's Northern Area Office. Interviews with Carl Hauge, Chief Hydrologist, CDWR, in Sacramento, Cal. (Sept. 27 & Dec. 2, 2002); Interview with Toccoy Dudley, Head of the Groundwater Analysis Unit, CDWR Northern Area Office, in Willows, Cal. (Aug. 27, 2002). Telephone interview with Toccoy Dudley, Head of the Groundwater Analysis Unit, CDWR Northern Area Office (Feb. 13, 2003). As an illustration, prior to the late 1990s, there were only three regional investigations of the aquifer systems in the Sacramento Valley in the past eighty years, and none since the mid-1970s. *See* Allan Fulton et al., *Seeking an Understanding of the Groundwater Aquifer Systems in the Northern Sacramento Valley*, UNIV. OF CAL. DEP'T OF AGRIC. & NAT. RESOURCES NEWSLETTER, Feb. 2003, at 1.

standpoint of local as well as statewide groundwater management interests. A policy limited to exports does little to stabilize the aquifer in places already subject to overdraft because of local use patterns. It also makes it difficult, if not impossible, to make economic use of the underground storage space, through groundwater exchange transfers and imported surface water banking.[129] Attaining these goals requires a more offensive, comprehensive strategy of groundwater management that protects local users while providing opportunities to address supply and quality problems and allowing those with well-designed water transfer and banking projects to participate in the market.[130]

VI. FROM GROUNDWATER PROTECTION TO GROUNDWATER MANAGEMENT

What models exist for efficient groundwater management that might be applicable to rural California? Although there is no statewide system of oversight,[131] a number of local institutions have evolved in some regions, which regulate the use of groundwater supplies through a combination of pricing and quantity controls.[132] Institutional forms include basins with a single managing authority,[133] and basins where individual property rights have been attributed through a court-ordered adjudication.[134] Such systems can manage groundwater basins efficiently because they internalize the full costs of extraction. In a basin that is entirely owned or managed by one entity, that entity will have the incentive to set pumping charges to the level consistent with the full costs of replenishment. In a groundwater basin where withdrawal rights are fully attributed through adjudication, the full cost of the resource is also taken into account in the determination of maximum sustainable yield.[135] The only collective problem in such basins is to ensure adequate monitoring and enforcement of the rules on withdrawal.

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129. These are two examples of programs that expand the availability of water resources through the conjunctive use of surface and groundwater. For a description of the various types of conjunctive use programs suitable for California conditions, *see* DAVID R. PURKEY ET AL., FEASIBILITY STUDY OF A MAXIMAL PROGRAM OF GROUNDWATER BANKING 9-10 (1998), *at* 129.These are two examples of programs that expand the availability of water resources through the conjunctive use of surface and groundwater. For a description of the various types of conjunctive use programs suitable for California conditions, *see* DAVID R. PURKEY ET AL., FEASIBILITY STUDY OF A MAXIMAL PROGRAM OF GROUNDWATER BANKING 9-10 (1998), *at* http://www.n-h-i.org/Publications/Pubs_.pdf/Conj_use.pdf.

130. *See, e.g.*, THOMAS, *supra* note 31, at 12-16; WATER TRANSFER WORKGROUP, *supra* note 104, at 39-41, 56.

131. 1996 WATER FACTS, *supra* note 82, at 1.

132. *Id.* at 3.

133. Notably, this list includes certain special water districts with groundwater authority, such as the Orange County Water District and the Santa Clara Valley Water District, and eleven special groundwater management districts established by legislative acts. *See* 1996 WATER FACTS, *supra* note 82, at 1-3.

134. *See* Cal. Dep't of Water Res., *Adjudicated Basins in California*, WATER FACTS, Jan. 2001, at 1 [hereinafter 2001 WATER FACTS].

135. *Id.* at 1, 4.

The movement to develop fully regulated local management systems began in densely populated regions of coastal southern California in the 1940s and 1950s.[136] This movement has continued through to the present, with the result that many coastal and all Southern California counties now have such systems in place.[137] Interestingly, several counties in this group have employed the tool of county groundwater protection ordinances as a substitute for [138] or complement to[139] special groundwater management districts or adjudication. In contrast to the set of ordinances restricting exports discussed above, these ordinances regulate on-site use of groundwater, with a clear aim to manage the resource locally.[140] In most cases, the permitting process involves incorporation of a groundwater review or overlay in a regular ministerial process, rather than application for a discretionary permit with CEQA review.[141]

Southern California's local groundwater management systems have been so successful that they have been singled out as models in the literature on collective management of common pool resources.[142] Yet

136. The Raymond Basin in Los Angeles County was the first adjudicated basin in the state, dating back to 1944. *Id.* at 2. The first special district to receive full authority over groundwater regulation is the Orange County Water District, which was authorized by the state legislature to begin charging a pump tax and to monitor groundwater extractions in 1956. *See* Orange County Water Dist., *Orange County Water District History*, http://www.ocwd.com/-html/history.htm.

137. Southern California and coastal counties with one or more local regulatory schemes for groundwater involving price and/or quantity controls for on-site use include: San Diego, Orange, Los Angeles, Ventura, Riverside, San Bernardino, Monterey, Santa Clara, Napa, and Mendocino. Coastal counties without such systems include Santa Barbara, San Luis Obispo, and all counties north of Santa Clara, with the exception of Mendocino. *See generally* THIRD PARTY ISSUES, *supra* note 24, at 26-29, 139-44.

138. Groundwater protection ordinances in lieu of other measures have been introduced in San Diego and Napa. SAN DIEGO COUNTY, CAL., CODE § 67.702 (2002); NAPA COUNTY, CAL., CODE § 13.15 (2002). Officials in Napa argued that the ordinance provided an alternative to a more costly adjudication process. Interview with Don Ridenhower, Dir., Napa County Public Works & John Stuart, Former Dir., Napa County Public Works, in Napa, Cal. (Sept. 10, 2002).

139. Groundwater protection ordinances that complement other local institutions include that of Mendocino, Monterey, and San Bernardino. MENDOCINO COUNTY, CAL., CODE § 20.744 (2002); Monterey County, Cal., Ordinance 3717 (Oct. 5, 1993); Monterey County, Cal., Ordinance 3790 (Nov. 8, 1994); Monterey County, Cal., Ordinance 3851 (Dec. 5, 1995); San Bernardino County, Cal., Ordinance 3872 (Oct. 29, 2002). The Mendocino ordinance applies only to the Town of Mendocino, where a special district has groundwater authority. The San Bernardino ordinance applies to desert regions of the county not already under a local management system (notably excluding the Mojave Basin, which is adjudicated). The Monterey ordinances apply to several different zones within the county not already covered by the Monterey Peninsula Water Management District, a special district with groundwater authority. *See* 1996 WATER FACTS, *supra* note 82, at 3. The county supervisors adopted the ordinances in their capacity as board of supervisors of the Monterey County Water Resources Agency.

140. *See, e.g.*, SAN DIEGO COUNTY, CAL., CODE § 67.702; MENDOCINO COUNTY, CAL., CODE § 20.744.005; NAPA COUNTY, CAL., CODE § 13.15.020.

141. Conversely, San Bernardino County's permitting process resembles that of counties with export restrictions.

142. *See* ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS

the extension of this type of model into the state's rural hinterland is virtually non-existent.[143] Although part of the reason may lie with cultural factors (notably the profound mistrust of regulatory intervention that pervades California's rural regions), the central explanatory factor is probably economic. There is some evidence to suggest that the strictly local benefits of improved management in agricultural areas may be inadequate to spur users to put in place an oversight system.[144] These benefits can increase substantially once one considers the opportunity for active conjunctive use of groundwater and surface water, with transfers and banking.[145] For this reason, the advent of the water market creates not only new risks for California's rural water users, but also new incentives for groundwater management.

In general, the risks and the incentives are not evenly distributed among the rural population. Certain water users stand to gain more from the water market, by virtue of their location (e.g., proximity to a conveyance facility, availability of land with good potential for recharge operations, etc.) and their access to senior surface water rights that can be used conjunctively with groundwater. Conversely, the downside risks are greatest for those without such opportunities, since the market merely increases their likelihood of facing higher pumping costs and dry wells. Ordinances that restrict exports are simple management options that respond to the downside risks of non-sellers.[146] The incentives for moving to a more comprehensive

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FOR COLLECTIVE ACTION 103-42 (1990); *see generally* WILLIAM BLOMQUIST, DIVIDING THE WATERS: GOVERNING GROUNDWATER IN SOUTHERN CALIFORNIA (1992).

143. Some ostensible exceptions include five special groundwater management districts established over the past two decades in the mountain counties bordering the State of Nevada. *See* 1996 WATER FACTS, *supra* note 82, at 1-3. However, all but one of these, the Sierra Valley Groundwater Management District, was set up with the primary purpose of controlling exports, rather than for local use management. Telephone interviews with Bob Sorvaag, Dir., Lassen County Dep't of Cmty. Dev. (Aug. 29, 2002), and Dan Lyster, Dir., Mono County Dep't of Econ. Dev. (Aug. 8, 2002). Despite the initial intent, there have been no controls imposed on local users in this one district since its inception. Telephone interview with Judy Dylan, Manager, Sierra Valley Groundwater Mgmt. Dist. (Dec. 19, 2002). Another exception is the adjudicated basin (Scott River Stream System) in Siskiyou County, near the Oregon border. *See* 2001 WATER FACTS, *supra* note 134, at 2. Finally, several of the counties with export restrictions (Imperial, San Benito, and Sierra) appear to be operating hybrid systems—requiring permitting for some within-county uses as well as for exports. *See supra* text accompanying note 56.

144. Modeling exercises show that the annual increases in farmers' pumping costs—a function of declining groundwater levels—in an open access system are typically not very large if groundwater use is limited to the overlying users, ranging from .3 to 10 percent. *See* Provencher, *supra* note 125, at 515.

145. *See* Keith Knapp et al., *Water Transfers, Agriculture, and Groundwater Management: A Dynamic Economic Analysis*, J. ENVTL. MGMT. (forthcoming 2003, manuscript on file with author).

146. Not surprisingly, these parties frequently supported the introduction of the ordinances. For a discussion of the Butte County ordinance introduction, *see* THOMAS, *supra* note 31, at 28-38. THIRD PARTY ISSUES, *supra* note 24, at 37-58, provides a detailed discussion of the dynamics of ordinance adoption in many of the counties, drawing on material collected in interviews with county officials and water users.

management system that does not discriminate against exports lie with those who stand to gain the most–the potential sellers.

In several counties, alternative management models have begun to emerge that reflect this line of reasoning. In Kern County, where there are particularly good conditions for groundwater banking, parties in a position to develop these projects played a leadership role in setting up a monitoring and oversight system with neighboring parties whose groundwater access could potentially be affected.[147] The project operating rules provide for the possibility of mitigation in the event of harm to these third parties, including the cessation of groundwater pumping for export. Recently, in response to public concerns over some proposed new groundwater banking projects, the county's wholesale water agency launched a countywide consultation process on groundwater management issues.[148]

In Yuba County, members of agricultural water districts have an agreement with the countywide wholesale water agency to engage in mitigation in the event of any third-party groundwater impacts related to groundwater exchange transfers.[149] Active monitoring of the groundwater basin is an integral component of water transfer programs in Yuba.[150]

In both Yuba and Kern, this system of safeguards for third parties has forestalled the need to impose export restrictions backed by the authority of county police power.[151] A third county, Glenn, has introduced a new management process, effectively supplanting the original export restriction system adopted in 1990. In 2000, the county supervisors adopted a new ordinance that lays out a set of rules for comprehensive management of the resource.[152] A citizen's group representing water users from throughout the county drafted the ordinance, the outcome of an eight-year process of consultations.[153]

147. See the case studies of the Semitropic Water Storage District banking project and the Kern Water Bank in THOMAS, *supra* note 31, at 71-78, 88-98.

148. Telephone interview with Gary Bucher, Water Supply Manager, Kern County Water Agency (Dec. 12, 2002).

149. Interview with Curt Aikens, Gen. Manager, Yuba County Water Agency (Dec. 2, 2002); *see also* THIRD PARTY ISSUES, *supra* note 24, at 95-115.

150. *Id.* at 144.

151. Recall that Kern's ordinance applies only to the southeastern portion of the county, overlying the Lahontan hydrologic formation. KERN COUNTY, CAL., CODE § 19.118.020 (2002). The code expressly excluded the San Joaquin Valley portion of the county because a water resource management process was already underway there. Telephone interviews with Bruce Divelbiss, Kern County Counsel (Aug. 6 & Sept. 26, 2002).

152. GLENN COUNTY, CAL., CODE § 20.03 (2002). This is a separate section in the county code from the export restriction ordinance adopted in 1990. *Id.* § 20.04. Although it does not officially replace the old ordinance, the county is operating as though it has done so. Interview with Judy Brown, Chair of Water Advisory Comm., in Willows, Cal. (Aug. 27, 2002); Interview with Keith Hansen, Glenn County Supervisor, in Willows, Cal. (Aug. 28, 2002); Interview with Denny Bungarz, Glenn County Supervisor, in Willows, Cal. (Aug. 26, 2002).

153. JUDY BROWN ET AL., LOCALLY GOVERNED GROUNDWATER MANAGEMENT IN GLENN COUNTY, CALIFORNIA 1 (2001); Interview with Sandy Denn, Member, Bd. of Dirs., Glenn-Colusa Irrigation Dist., in Chico, Cal. (Aug. 28, 2002). Interview with Van

The county's largest irrigation district initiated the process. This district's members stood to gain the most from being able to engage in water transfers and recognized the need to accommodate the concerns of neighboring groundwater users who stood to lose from an uncontrolled export scheme.[154] Under the new system, local users have committed to monitoring the health of the aquifer and have established a set of target levels, called basin management objectives, as reference points for determining critical declines in the water table.[155] The system dispenses with the need to acquire a permit for water transfers; instead, it stipulates that exports can be stopped if they lead to critical declines in the water table.[156] It can also require cessation of pumping for local agricultural uses if critical levels are exceeded.[157] Although the ordinance does not provide for other forms of mitigation, water districts that have begun to engage in transfer activity since the passage of the new ordinance have established funds for this purpose.[158]

Elsewhere within rural California, the 1990s have seen some movement toward local oversight systems for groundwater, notably through the establishment of groundwater management plans, commonly referred to as Assembly Bill 3030 plans, under the authority of the legislation adopted in 1992 and noted earlier.[159] As a group, these systems provide a framework for active, largely voluntary management of the groundwater basin. The focus is on the development of monitoring systems and the organization of basin replenishment activities.[160]

Taken together, these various models suggest that although the days of open access to rural groundwater basins are over, the systems may evolve to a somewhat different set of management rules than those operating in coastal and southern California. Instead of moving toward quantified property rights through adjudication or a

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Tenney, Gen. Manager, Glenn-Colusa Irrigation Dist., in Willows, Cal. (Aug. 27, 2002); Telephone interview with Van Tenney, Gen. Manager, Glenn-Colusa Irrigation Dist. (Dec. 9, 2002).

154. BROWN ET AL., *supra* note 153, at 1.

155. *Id.* at 3.

156. *Id.* at 9.

157. GLENN COUNTY, CAL., CODE §20.03.130 (2002).

158. Interview with Van Tenney, *supra* note 153; Telephone interview with Van Tenney, *supra* note 153.

159. CAL. WATER CODE §§ 10750 to 10750.10 (Deering 2003). CDWR records show that there may be as many as 100 such plans, of which involve multiple parties, although officials do not know how many of these are active. It is widely recognized that many plans were adopted on paper, with little real management content. Some local agencies did so as a defensive strategy, to keep the state from expanding its own authority over groundwater. Interview with Carl Hauge, Chief Hydrologist, CDWR, and Rob Swartz, Senior Hydrologist, CDWR, in Sacramento, Cal. (Sept. 27, 2002).

160. For an early assessment of these plans, *see* CAL. DEP'T OF WATER RES., GROUNDWATER MANAGEMENT IN CALIFORNIA, A REPORT TO THE LEGISLATURE PURSUANT TO 1997 SENATE BILL 1245, at IX (1999). Further discussion of the plans will be forthcoming in the CDWR Bulletin 118-2003, to be published before the end of 2003. Interview with Carl Hauge and Rob Swartz, *supra* note 159.

comprehensive scheme for water pricing under a single management authority, rural users are seeking forms that combine consensual rules and only limited restrictions on individual behavior. Clearly, development of information on the characteristics of the aquifer is a necessary component of any form of active management. There is an open question as to whether these systems will be able to function effectively on a strictly voluntary basis, without a mechanism to impose price or quantity sanctions on pumping in the event of serious water table depletion.[161] In this respect the Glenn County system stands out as the only one backed by police power. By contrast, agencies with Assembly Bill 3030 plans have only limited powers to introduce either quantity controls or pricing mechanisms for limiting access to the resource.[162]

A second and related question is whether a groundwater management plan can be effective without establishing target levels for the water table. Such levels are the essence of the "basin management objectives" approach. This approach allows for adjusting target levels as information on the aquifer improves and determining critical conditions when pumping restrictions are warranted.[163] Legislation passed in 2002 provides local agencies with a strong incentive to adopt such target levels; without them, a groundwater management plan will no longer be eligible to receive state funds administered by CDWR for groundwater quality or construction projects.[164]

The third question on the horizon concerns the appropriate level of jurisdiction for a local groundwater management system. The systems now in place span a wide range of options, from a single water district to multi-party, multi-county arrangements. Many of the multi-party groundwater management plans are configured to correspond to the underlying groundwater basin.[165] This is generally not the case for programs adopted by individual water districts. By making state funding contingent on the presentation of plans to involve other agencies overlying a basin, the legislature in 2002 sent a signal to local agencies to follow a basin approach whenever possible.[166]

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161. According to the manager of an agency that federates numerous water districts within the San Joaquin Valley on water policy issues, the common position of member districts is that a voluntary method ought to suffice. Telephone interview with Dave Orth, Gen. Manager, Kings River Conservation Dist. (Oct. 21, 2002).

162. For instance, a local agency with an Assembly Bill 3030 plan cannot "limit or suspend extractions unless [it] . . . has determined through study and investigation that groundwater replenishment programs or other alternative sources of water supply have proved insufficient or infeasible to lessen the demand for groundwater." CAL. WATER CODE § 10753.9(c). Fees can only be collected for groundwater management after an election within the affected area. *Id.* § 10754.3.

163. *See* Toccoy Dudley, *Basin Management Objective (BMO) Method of Groundwater Basin Management, in* BASIN MANAGEMENT OBJECTIVE (BMO) FOR GROUNDWATER SURFACE ELEVATIONS IN GLENN COUNTY, CAL., at A1-A9 (2001).

164. CAL. WATER CODE § 10753.7(a) (Deering 2003).

165. Two examples are the Merced Area Groundwater Pool Interests and the Tulare Lake Bed coordinated Groundwater Management Plan.

166. CAL. WATER CODE § 10753.7.

From a basin management perspective, one can make strong arguments in favor of systems uniting agencies overlying a common basin; this is, after all, the level at which the negative externalities of groundwater mismanagement are registered and the benefits of sound management are shared. A basin approach nevertheless raises questions concerning the future role for counties, whose administrative boundaries rarely coincide with the contours of aquifers (or the local management plans adopted by water agencies). Counties have already shown their ability to play a defensive policing role. As the experiences in Glenn, Yuba, and Kern show, the county can also serve as a useful level of organization for more offensive management initiatives. Counties provide a readily available structure for convening water users, and their police powers can be used proactively as a safeguard in groundwater management. For water users in the many California counties with export restrictions in place, the challenge ahead will be to negotiate the move from a purely defensive role of groundwater protection to one facilitating active groundwater management.

VII. CONCLUSION

The adoption of county ordinances restricting groundwater exports was a rational initial response to the threat of uncontrolled mining of the aquifers under a statewide water market. In effect, the county police powers are a substitute for the lack of protection of groundwater users under the State's no injury laws. From an economic perspective, these protections should apply both for direct transfers of groundwater (an area the courts have determined to be within county jurisdiction) and for indirect transfers through the use of additional groundwater in exchange for transferred surface water. Although county jurisdiction in this latter area remains ambiguous from a legal perspective, it is consistent with the spirit of the State's no injury protections. There are, however, both economic and legal bases for concern that the ordinances may over-protect the resource, thereby imposing a barrier to its reasonable and beneficial use within the state. A more offensive strategy of groundwater management is needed to achieve the goals of stabilizing overdrafted aquifers and making economic use of underground storage space through transfer and banking operations.

Water users in rural counties have so far eschewed the comprehensive management systems adopted in coastal and southern California, including adjudicated basins and pump taxes. In some rural counties, however, the advent of the market has led to experimentation with new forms of management, key components of which are the establishment of monitoring and mitigation systems. These experiences suggest the potential for this rural movement to go beyond its initial role of protecting local water users from the negative effects of the market to one of advancing groundwater management at the local level.