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Dynastic Disruption: The Use Efficiency and Conservation Legacy of the Governor's Commission to Review California Water Rights Law Recommendations, A

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A Dynastic Disruption: The Use Efficiency and Conservation Legacy of the Governor's Commission to Review California Water Rights Law Recommendations

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I. INTRODUCTION

On the cusp of the diminishing water project development era, the Governor's Commission to Review California Water Rights Law assumed a daunting, heady, but essential task when it reviewed California's regulatory framework on water rights law in the late 1970s.[1] Presented the year after a severe drought occurred throughout the state (1976-1977), the water use efficiency recommendations and the ensuing legislative changes are arguably more pertinent and relevant in today's age of population explosion and suburban inland expansion than ever before. Recent geologic findings suggest that the Twentieth century's water supply was abnormally wet, making the boom in growth through the lure of California's physical and economic climates more precarious than previously assumed.[2] Permanent water conservation and transfers will be vital tools to sustain the world's fifth largest economy. However, transfers hinge on certainty in delivery of appropriative allocations and in quantification of riparian rights, an obvious yet arduous and politically contentious undertaking still to be broached.[3]

The 1978 Final Report issued by the Commission evoked political controversy when it created a theoretical framework for subsequent water use efficiency legislation that attempted to assure security, certainty, and flexibility in water rights.[4] The Final Report sought to temper economic theory with environmental and socially-reasonable considerations, enabling a creative, market-based solution to a water rights system that previously privileged priority and, arguably, inefficient "heirloom" rights allocation.[5] The immediately enacted nine, of twelve suggested, water use efficiency and conservation recommendations focused on refining and procedurally facilitating a voluntary transfer system, assuring property rights for the transferors, applying uniform forfeiture laws, streamlining the administrative review process for water rights disputes, and clarifying rights to wastewater.[6]

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1. *See generally* Brian E. Gray, *The Modern Era in California Water Law*, 45 HASTINGS L.J. 249, 275 (1994) (discussing important features of California water transfer laws); MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER 11 (1993) (addressing the political aspects of water projects during the Carter administration); NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER: A HISTORY 365-388 (rev. ed. 2001) (exploring the complexity of the California water system).

2. Kirk Johnson & Dean E. Murphy, *Drought Settles In, Lake Shrinks and West's Worries Grow*, N.Y. TIMES, May 2, 2004, § 1, at 1.

3. Barton H. Thompson, Jr., *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671, 707 (1993).

4. GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, FINAL REPORT (Dec. 1978) [hereinafter FINAL REPORT].

5. Harrison C. Dunning, *Reflections on the Transfer of Water Rights*, 4 J. CONTEMP. L. 109, 110-11 (1977) (arguing that the most economically productive approach is not always so, as economic analysis can exclude a set of indirect benefits and rights priority may have had a social purpose, in addition to an economic one).

6. *Id.* at 114.

Despite the immensity of these legal advances in encouraging recycling and efficiency in water use, the Commission knew that they could not reach a fundamental piece of the transfer conundrum and California water supply problems more generally: institutional and political obstacles that presently hinder the voluntary transfer system.[7] This is not an indictment of the recommendations; rather, the failure to transfer generated a more sustainable solution to water problems by encouraging urban water conservation on a much broader and more permanent scale throughout the state.[8]

The Commission exhibited courage in addressing the issues of water conservation at all, knowing that there were substantial political and institutional obstacles resistant to legislation that would subject any recommendations to critique. Many of the impediments to transfer identified in the supporting documents for the Final Report and those in the findings of California Water Code section 1020 remain vexing variations on a theme of resistance to long-term transfers and to changes from lower to higher-value uses in the market approach.[9] A balanced set of legislative changes alone cannot achieve comprehensive solutions to such politically complex and controversial issues, particularly when trying to shift a dominant paradigm of subsidy and hierarchy to one of freer trade and efficiency.[10] Even the novel and inclusive CALFED process, while paving better relationships between participants for future policy-making, did not establish a comprehensive state water policy or assuage area of origin concerns.[11] Ultimately, the players in the state's modern water game of uncertain supply and growing population must humanely and fairly decide what geographic areas and uses they prioritize for economic gain.

This article will trace the enduring legacy of the Commission's legal prescience, and will synthesize perspectives on available future directions. Part II describes the historical context for the water use efficiency recommendations, laying a foundation for the reasoning behind each proposed legislative change. Part III delineates the full twelve recommendations, dividing them into those that were eventually adopted, those that were not, and those that were partially implemented. Adoption, in whole or part, does not always constitute de facto "success" in a legal legacy, and Part IV categorizes those legislative changes (or

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7. Thompson, *supra* note 3, at 677; Dunning, *supra* note 5, at 114, 116.

8. Mary Ann Dickinson, Cal. Urban Water Conservation Council, *Water Conservation in California: Insurance against Droughts and Blackouts*, ACADEMIE DE L'EAU (2003), *available at* http://www.cuwcc.org/Uploads/Tech_Docs/Ins_Against_Droughts_Blackouts.pdf (copy on file with the *McGeorge Law Review*); Water Conservation in Landscaping Act, CAL. GOV'T CODE §§ 65591-65600 (West 1997).

9. ELLEN HANAK, PUB. POLICY INST. OF CAL., WHO SHOULD BE ALLOWED TO SELL WATER IN CALIFORNIA? THIRD-PARTY ISSUES AND THE WATER MARKET 12-15 (2003); Thompson, *supra* note 3, at 673-76; CAL. WATER CODE § 1020 (West Supp. 2004).

10. HUNDLEY, *supra* note 1, at 543-64; Dunning, *supra* note 5, at 116.

11. Sarah Connick, The Use of Collaborative Processes in the Making of California Water Policy: The San Francisco Estuary Project, the CALFED Bay-Delta Program, and the Sacramento Area Water Forum 166-167 (2003) (unpublished Ph.D. dissertation, University of California, Berkeley) (copy on file with the *McGeorge Law Review*).

lack thereof) into successes and failures, with particular focus on transfers and ensuing urban water conservation measures. Part V elaborates on these urban conservation measures, as well as other unanticipated impacts from the recommendations in the state water policy arena and their continued relevance. Finally, Part VI offers a synthesis of suggestions for additional steps, culled from multiple sources, including the State Water Resources Control Board's Water Transfers Workgroup ("WTW"), the Public Policy Institute of California ("PPIC"), and economic and legal scholars throughout the state.

II. HISTORICAL CONTEXT AND REASONS FOR THE FINAL RECOMMENDATIONS: THEN AND NOW

To understand the Final Report's recommendations' contribution to water rights law and their evolution over the past two and a half decades, one must be familiar with the context of the period in which they were generated. The enacted recommendations reflect the larger movement toward incorporating and balancing multiple interests through an economic efficiency approach to water rights allocation. During the national sea change in environmental, legal, and economic paradigms of the 1960s and 1970s, the California courts adopted an equity and economic interest balancing approach to solving water rights disputes that is still employed today. The Final Report was a state-level assessment of water rights allocation that occurred parallel to the national phenomenon of growth in state control over land use, also known as the "quiet revolution."[12] The Commission's recommendations reflect an evolving concept of "waste" and notions of use efficiency, moving from a "use it or lose it" standard to a more expansive idea that includes environmental, social, and economic systems perspectives.[13] The Final Report sought to capture systems convergence through regulatory, market and administrative reform approaches. The Commission's efforts paved the way for our present water transfer system that guardedly encourages a voluntary water market with substantial "no-injury" provisions and third party protections through socially-tempered concepts of reasonable water use.[14]

12. *See generally* FRED BOSSELMAN & DAVID CALLIES, THE QUIET REVOLUTION IN LAND USE CONTROL (1971).

13. *See* Joslin v. Marin Mun. Water Dist., 429 P.2d 889 (Cal. 1967); Cal. Trout, Inc. v. State Water Res. Control Bd., 153 Cal. Rptr. 672 (Ct. App. 1979); CAL. WATER CODE § 1707 (West Supp. 2004).

14. Gray, *supra* note 1, at 273-83.

In the environmental paradigm shift, after the air and water pollution problems of the 1960s, Rachel Carson's 1962 book *Silent Spring* was a catalyst for the 1970s environmental movement. Her accounts vividly conveyed the message that environmental issues were not just about wild places but directly affected people's daily lives and health.[15] The ensuing rejuvenated and refocused environmental movement created a political atmosphere for change, both locally and nationally. Federal and state legislators capitalized on this momentum by enacting the National Environmental Protection Act ("NEPA") of 1970 and the California Environmental Quality Act ("CEQA") of 1970. After the California Supreme Court's 1972 holding in *Friends of Mammoth v. Board of Supervisors,* 502 P.2d 1049 (1972), CEQA's environmental review requirements reached most municipal land use decisions. Federal legislators subsequently adopted a cascade of additional environmental protections, including the Clean Water Act, the Clean Air Act, and the Endangered Species Act, creating a statutory toolbox that reflected the greater societal environmental awakening. California legislators also adopted the Wild and Scenic Rivers Act in 1972, severely curtailing additional water projects by asserting that it was both reasonable and beneficial under Article X, Section 2 of the California Constitution to preserve certain rivers in free-flow, for their wild and scenic value to California.[16]

Simultaneously, in the legal paradigm shift, there was a movement throughout the country towards a reasonable use in water law.[17] In 1928, the state amended the California Constitution to prevent water waste by adding a "reasonable beneficial" use requirement to all (riparian and appropriative) water rights.[18] Until the 1960s, courts interpreted "reasonable beneficial" use as a single, merged requirement.[19] But in the late 1960s and 1970s, California court holdings distinguished the "reasonable" and "beneficial" use requirements and interpreted the State Water Resources Control Board's ("SWRCB") authority to enforce against wasteful uses through judicial action, creating a more expansive standard for assessing use priority.[20] In *Joslin v. Marin Municipal Water District,* the court separated the notions of "reasonable" and "beneficial" uses in Article

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15. HUNDLEY, *supra* note 1, at 309-11.

16. DEP'T OF WATER RES., THE CALIFORNIA WATER PLAN UPDATE BULLETIN 160-98, app. 2A at 6 (1998) [hereinafter DWR BULLETIN 160-98].

17. *See* Joseph W. Dellapenna, *The Law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 U. ARK. LITTLE ROCK L. REV. 9, 12-15 (2002) (using Alabama law as an example of the shift in the interpretation of reasonable use); Carol M. Rose, *Energy and Efficiency in the Realignment of Common-Law Water Rights*, 19 J. LEGAL STUD. 261, 294-96 (1990) (discussing historical water rights); A. Dan Tarlock, *The Future of Prior Appropriation in the New West*, 41 NAT. RESOURCES J. 769, 785-86 (2001) (surveying the effects of population growth).

18. CLIFFORD T. LEE, GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, LEGAL ASPECTS OF WATER CONSERVATION IN CALIFORNIA 3-6 (Staff Paper No. 3, Aug. 1977).

19. *Id.* at 7.

20. *See, e.g., id.* at 32-34 (discussing California Water Code section 275, which requires that DWR and the SWRCB enforce the reasonable and beneficial use requirements).

X, Section 2 of the California Constitution.[21] The *Joslin* court affirmed the state's power to assert an evolving definition of "beneficial" use, contingent on a balancing of interests. Usufructuary in nature, and originally affirmed by the priority system, water rights based on an obsolete use are tenuous at best, and may lose their priority when competing with another, more economically and societally "beneficial" use. Courts must make this factual determination on a case-by-case, evidentiary basis.[22] The court in *Environmental Defense Fund, Inc. v. East Bay Municipal Utility District* held that "use" in Article X, Section 2 of the California Constitution must be reasonable and beneficial to society, according to the context of the use (local custom, public interest, legislative and constitutional policy of water conservation, etc.), variation of the situation, and the concurrent discretion of both the courts and the SWRCB.[23] With the growing environmental movement, as well as the public trust doctrine revival through the seminal *National Audubon* holding,[24] courts began to adopt an economic balancing approach with multiple interests, acknowledging an evolution in the concept of "waste." This new standard broadened the meaning of water rights priority and altered their certainty.

In the economic paradigm shift, academic economists during the 1960s promoted the theory of marginal cost pricing and efficiency, particularly in the energy industry.[25] This "commodity school" theory transferred to the water field shortly thereafter, bringing with it three principles:

> First, the economically most productive uses of water resources are the best uses, provided adequate accounting is made for direct third party impacts. Second, the market . . . will bring about the economically most productive uses. . . . Third, certainty in the definition of property rights in water resources and a minimum of legal and institutional barriers to the transferability of those rights are necessary if this market is to be developed.[26]

Unlike the energy industry, the water industry was overwhelmingly public, precluding a regulatory commission such as the Public Utilities Commission (PUC). Thus, water markets were a logical analog of marginal cost pricing.[27] In

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21. *Id.* at 7; Gray, *supra* note 1, at 253-59; Joslin v. Marin Mun. Water Dist., 429 P.2d 889 (Cal. 1967).

22. LEE, *supra* note 18, at 9.

23. 605 P.2d 1, 7-10 (Cal. 1980).

24. Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709 (Cal. 1983). In addition to resurrecting the public trust doctrine, evidence presented in the case provided a scientific and tangible manifestation of the environmental effects of moving water from areas of origin. *Id.*

25. Interview with W. Michael Hanemann, Professor, Department of Agricultural Resource Economics, University of California, Berkeley (May 21, 2004) [hereinafter Hanemann Interview] (notes on file with the *McGeorge Law Review*).

26. Dunning, *supra* note 5, at 109.

27. Hanemann Interview, *supra* note 25.

fact, the Committee's staff director acknowledged the similarity of the energy and water industries, dismissing less analogous pairings, such as land and water markets, or coffee and water markets.[28] Although the Committee recognized the support for this paradigm shift and the emergence of water economics, particularly in light of the dam construction shortage and the potential environmental benefits, the staff director argued that the commodity school should justify the priority given to economic uses, particularly in light of the dam construction shortage and the potential environmental benefits.[29] Economic productivity does not always account for environmental and social interests.[30]

Concurrently, water supply development was slowing, if not ending, for several reasons. First, many of the most profitable sites were already taken by the late 1960s, and the cost-benefit analysis for new sites was harder to justify.[31] Cost-benefit analyses themselves were starting to incorporate market-less and non-excludable public goods, such as environmental amenities and clean air, through revealed preference.[32] Second, costs to build new projects were much higher, with the expense of incorporating externalities (i.e. environmental laws and associated remediation) and the lack of federal subsidy for large water projects.[33] The Carter administration simply refused to pay for additional federal subsidies in project development.[34] Third, the Wild and Scenic Rivers Act effectively stopped development in California with its mandate to protect California scenic river systems.[35]

With decelerated or abruptly halted water supply development and a growing public perception of misallocation, not to mention actual climatic drought, the state could improve water use efficiency by reducing demand and transferring water to areas of more efficient use. The Final Report's recommendations reflect a more holistic and comprehensive approach to water allocation, describing the economic concept of marginal value, and the need to equalize uses/consumers through transfers, without impairing the environment or third parties through "substantial injury."[36] Admittedly strained, the market argument and the concept of equalizing users were necessary components of a moderated commodity school approach to water rights.[37] This theoretical combination fuels the majority of the recommendations in the market approach section, creating a guarded transfer framework. The recommendations also acknowledge the power of the

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28. Dunning, *supra* note 5, at 112-14.

29. *Id.* at 110.

30. *Id.* at 111.

31. Gray, *supra* note 1, at 259.

32. W. Michael Hanemann, *Valuing the Environment Through Contingent Valuation*, 8 J. ECON. PERSPECTIVES 19, 21 (1994).

33. FINAL REPORT, *supra* note 4, at 51; Gray, *supra* note 1, at 259.

34. REISNER, *supra* note 1, at 11; Gray, *supra* note 1, at 259-60.

35. FINAL REPORT, *supra* note 4, at 51; Gray, *supra* note 1, at 256-60.

36. FINAL REPORT, *supra* note 4, at 53.

37. Dunning, *supra* note 5, at 110.

state with respect to determining water rights, and the tenuous, usufructuary nature of the rights themselves. Even with such radical legal shifts to foster a relatively free market approach in water rights, Professor Barton Thompson argues that that the institutions to support these rights still do not fully exist.[38] The Commission realized such limited scope of legislative efficacy, but nonetheless made their recommendations.[39] Like offering children their starter toolboxes, the legislature could only stand back and hope that a transfer and more efficient allocation structure would emerge from curious trifling. Ultimately, augmented with new tools, a more enumerated water policy, and actual incentives through a State Water Bank model, the teenage transfer system may be more structurally sound.[40]

III. RECOMMENDATIONS AND STATUTORY LANGUAGE IMPLEMENTATION

The Final Report recommendations reflect the Commission's attempt to generate a comprehensive approach that improved water use efficiency by increasing certainty, security, and flexibility in water rights.[41] The adoption and amendment of those recommendations happened in three waves, roughly following California's severe drought patterns in 1976-1977, and again in 1987-1992.[42] The first wave of adoption occurred in 1980, fueled by legislative concern over 1977, the driest year on record.[43] The second occurred predominately in 1988 and 1991, spanning the five-year drought period.[44] The final wave occurred in 1999, the year after DWR's Bulletin 160-98,[45] with The Water Rights Protection and Expedited Short-Term Water Transfer Act of 1999.[46] Shown below, Table 1 illustrates the waves, as well as describes the twelve recommendations by the Commission's reform approach and their associated code sections.

38. Thompson, *supra* note 3, at 673-74.

39. Dunning, *supra* note 5, at 116.

40. HANAK, *supra* note 9, at 12-15.

41. FINAL REPORT, *supra* note 4, at 57-71.

42. Department of Water Resources, *Background: Droughts in California*, *at* http://watersupplyconditions.water.ca.gov/background.cfm (last visited June 12, 2004) (copy on file with the *McGeorge Law Review*).

43. *Id.*

44. *Id.*

45. DWR BULLETIN 160-98, *supra* note 16.

46. CAL. WATER CODE §§ 1014-1017, 1726-1728, 1732 (West Supp. 2004).

TABLE 1: FINAL REPORT RECOMMENDATIONS ADOPTED AND AMENDED

Approach	Recommendations	Code Sections Adopted	Years Adopted and Amended
Regulatory	1. Local custom is only one factor in determining reasonable and beneficial use under Article X, Section 2 of the California Constitution.	CAL. WATER CODE § 100.5 (West Supp. 2004)	add. 1980
Regulatory	2. SWRCB is granted cease and desist orders, as well as injunctive relief and civil penalties over unauthorized diversions.	CAL. WATER CODE §§ 1825, 1831-1836, 1845, 1850-1851 (West Supp. 2004)	add. 1980
Market	3. The forfeiture doctrine is modified to retain the full amount of the right, and extended to a uniform forfeiture period of five years.	CAL. WATER CODE §§ 1011, 1241 (West Supp. 2004)	§ 1011 add. 1979, § 1241 amen. 1980; § 1011 amen. 1982, amen. 1996, amen. 1999
Market	4. It is possible to get a permit and license for appropriating salvage water; salvage water gets priority over all other water rights in the watercourse if no injury to users or instream beneficial uses.	Not adopted	
Market	5. The owner of a wastewater treatment plant gets the right to reclaimed water (unless there is another agreement).	CAL. WATER CODE §§ 1210-1211 (West Supp. 2004)	add. 1980
Market	6. No appropriation allowed for return flow water introduced to maintain instream beneficial use.	CAL. WATER CODE § 1212 (West Supp. 2004)	add. 1980
Market	7. Transfer is not waste and unreasonable use under Article X, Section 2, of the California Constitution, and does not constitute forfeiture.	CAL. WATER CODE § 1244 (West Supp. 2004)	add. 1980
Market	8. Allow trial transfers of appropriative rights and long-term transfers if no "substantial injury" to other water users.	CAL. WATER CODE §§ 109, 1735-1740 (West Supp. 2004)	add. 1980; § 109 amen. 1982; §§ 1735-1740 amen. 1988, amen. 1991
Market	9. Adopt temporary transfer procedure for short-term transfers.	CAL. WATER CODE §§ 1725-1732 (West Supp. 2004)	add. 1980, amen. 1988, amen. 1991, amen. 1999
Market	10. Repeal district "surplus" restriction.	Not repealed but later substantively repealed through CAL. WATER CODE §§ 380-387	add. 1982
Administrative	11. Repeal California Water Code sections 1392 and 1629, restricting transfer to value of the permit.	Not repealed	
Administrative	12. Mandatory field investigation procedure for minor amounts of water and minor changes in use.	CAL. WATER CODE §§ 1345-1348, 1704.1-1704.4 (West Supp. 2004)	add. 1980, amen. 1997

Clearly, the Commission included more recommendations in the market approach than in either of the others, thereby encouraging water conservation, enabling transfers, and establishing allocation priority in reclaimed water to ensure an economic interest in perpetuating reclamation.

A. *The Regulatory Approach*

Within the regulatory approach category, the Commission had two recommendations: a change from the local custom priority[47] in determining reasonable and beneficial use, and an increase in the SWRCB's enforcement ability with unauthorized diversions.[48] Both recommendations were adopted.[49] Although determining reasonable and beneficial use was admittedly community and region-specific under Article X, Section 2 of the California Constitution, the Commission's first recommendation gave less weight to the local custom priority.[50] The proposed code section allowed courts to adopt a more comprehensive assessment approach by weighing local custom as only one factor in the reasonable and beneficial use determination.[51] The California legislature adopted the proposed code language verbatim from the Final Report in 1980.[52] The section has not been amended since.[53]

The Commission's second recommendation in the regulatory approach category involved increasing the SWRCB's power to reduce waste from unlawful diversions. The code language granting the SWRCB the power to issue cease and desist orders, as well as seek injunctive relief and civil penalties for continued violations, was again adopted virtually verbatim from the Final Report in 1980 (except for some slight numbering changes). California Water Code section 1825 requires the state to take action to enforce existing permits to appropriate and prevent unlawful diversions.[54] Sections 1831 through 1836 grant the SWRCB the power to issue a preliminary cease and desist order to a violating appropriator and the ability to change the order after a properly noticed hearing (should the notified party request it).[55] These sections also permit the SWRCB to issue a final

47. Local custom priority is reflected in the *Tulare Irrigation District v. Lindsay-Strathmore Irrigation District* court's rule that an appropriator "is entitled to make a reasonable use of the water according to the general custom of the locality, so long as the custom does not involve unnecessary waste." 45 P.2d 972, 997 (Cal. 1935).

48. FINAL REPORT, *supra* note 4, at 57-59.

49. *See id.* at 73-79; CAL. WATER CODE § 100.5 (West Supp. 2004); CAL. WATER CODE §§ 1825, 1831-1836, 1845, 1850-1851 (West Supp. 2004).

50. FINAL REPORT, *supra* note 4, at 71.

51. *Id.*

52. CAL. WATER CODE § 100.5 (West Supp. 2004).

53. *Id.*

54. *Id.* § 1825.

55. *Id.* §§ 1831-1836.

order and/or take other actions.[56] Section 1845 allows the SWRCB to file an injunction and seek civil penalties for failure to comply with a valid cease and desist order.[57] Finally, sections 1850 and 1851 reflects the language (but not the numbering) of the Final Report, retaining the right for private action, but mandating that a final cease and desist order cannot be raised in other administrative proceedings.[58]

B. The Market Approach—Chaptering Successes

If volume is any indication, the Commission focused most intensively on the market approach category to increase water use efficiency.[59] Nine of the twelve recommendations in the Final Report created market-based incentives for more economic and use efficiency.[60] Of the nine, three (and their ensuing legislative language) were excluded in 1980. The rest were adopted, with some amendment and subsequent overhaul throughout the last two and a half decades, resulting in the framing and refining of both the transfer market and ensuing conservation legislation.

To encourage appropriators to engage in water conservation, and to address their concern about the forfeiture doctrine and conservation as a beneficial use, the Commission recommended a change to the forfeiture doctrine and the imposition of a uniform five-year forfeiture period.[61] Both of these recommendations were added verbatim from the Final Report.[62] Adopted in 1979, the language in section 1011 stated that water use reduction from conservation (through temporary fallowing, etc.) would not forfeit the right to the appropriator's original volume, provided that the appropriator filed with the SWRCB.[63] And, in 1982, the code section was amended, adding a sub-section to allow for the transfer of the conserved water, should it comply with governing state law.[64] In 1980, section 1241 was amended to reflect the Commission's recommended language changes, including substituting "use beneficially" instead of "beneficially use," instating a five-year forfeiture period instead of three years, and an automatic reversion clause to public water upon the lapse of the five-year period. The final incarnation of transfer assurance occurred in 1999, with The Water Rights Protection and Expedited Short-Term Water Transfer Act of 1999,

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56. *Id.* The mandamus clause in section 1840 was initially adopted in 1980, then repealed in 1996. *See id.* § 1840.

57. *Id.* § 1845.

58. *Id.* §§ 1850-1851.

59. *See* Table 1, *supra* text following note 46.

60. More economic efficiency is created by lower to higher value water uses through voluntary transfers. More use efficiency comes from conservation measures.

61. FINAL REPORT, *supra* note 4, at 71.

62. *Id.* at 80-82.

63. CAL. WATER CODE § 1011 (West Supp. 2004); FINAL REPORT, *supra* note 4, at 80-81.

64. CAL. WATER CODE § 1011.

which added sections 1014 through 1017, 1726 and 1727 and amended section 1728. Sections 1014 through 1017 state that transferring water does not forfeit a right or constitute waste, and the beneficial use of transfer goes to the transferor.[65] Sections 1726 and 1727 establish the process for a temporary change permit, subject to the no-injury rule.[66]

With the death of the water project development era, water districts sought to generate supply through water recycling. But before the Commission's recommendations on reclaimed water, the water right could go to either the water supplier or the treatment plant operator. Adopted verbatim in 1980 from the Final Report, but with different code numbers, sections 1210 and 1211 reward the treatment plant owner for investment in treatment equipment by granting the owner the right to the wastewater.[67] The treatment plant owner may also apply for a change in point of use for this reclaimed water, permitting the owner to sell or distribute the "new" water.[68] Section 1212 protects the return flow for beneficial in-stream use, preventing other users from appropriating the recycled wastewater if the owner of the treatment plant introduced it to enhance in-stream uses.[69] The SWRCB cannot grant permits for this water.[70]

To assuage concerns that transferring water would jeopardize the holder's appropriative rights to the water through claims of non-beneficial use (i.e., waste or forfeiture), the Commission recommended an affirmative declaration of existing law.[71] Section 1244 was added in 1980, verbatim from the Final Report, guaranteeing that the "sale, lease, exchange, or transfer of water or water rights, in itself, shall not constitute evidence of waste or unreasonable use, unreasonable method of use, or unreasonable method of diversion and shall not affect any determination of forfeiture applicable to water appropriated pursuant to the Water Commission Act or this code or water appropriated prior to December 19, 1914."[72] This language purportedly established security in the original rights holder, creating an incentive to voluntarily transfer water.

But in order to execute a voluntary transfer, the rights holder needs flexibility both in the right, and in the terms of its transfer. In the decade following the release of the Final Report, the Commission's recommendations with respect to water transfer flexibility were adopted in their entirety. The recommendations distinguished temporary transfers from trial and long-term transfers, all of which were encouraged through the legislation. Realizing that some rights holders sought short-term transfers through crop fallowing, while others decided to retire

65. *Id.* §§ 1014-1017.
66. *Id.* §§ 1726-1727.
67. *Id.* §§ 1210-1211; FINAL REPORT, *supra* note 4, at 85-86.
68. CAL. WATER CODE §§ 1210-1211 (West Supp. 2004).
69. *Id.* § 1212.
70. *Id.*
71. *Id.* § 1244; FINAL REPORT, *supra* note 4, at 87.
72. CAL. WATER CODE § 1244 (West Supp. 2004).

a field in a long-term transfer, the Commission created a transfer system with three categories: temporary, trial, and long-term.[73] As adopted in 1980, section 109, declared that the State supports voluntary transfers and defined property rights to further improve use efficiency.[74] This code section was amended in 1982 to delegate responsibility to the SWRCB and to DWR for technical assistance on water conservation measures.[75] An extension of the Commission's transfer-enabling intent, section 475, was adopted in 1986 and enumerated the legislative findings to support voluntary water transfers, asserting that they are in the public interest.[76]

The temporary transfers were facilitated by sections 1725 through 1730 in 1980, by providing a procedural structure. They were subsequently amended in 1988, 1991, and 1999, with relatively few substantive changes.[77] These sections allow a temporary change in the point of diversion caused by a transfer if the transfer is equivalent to the amount of water that would have otherwise "consumptively" been used, and would not injure other users or the environment.[78] "Temporary change" is defined as "any change of point of diversion, place of use, or purpose of use involving a transfer or exchange of water or water rights for a period of one year or less"[79] and are exempt from CEQA review.[80] This exemption is an integral element in the code, expediting temporary transfers when others are subject to lengthy environmental review processes. While short-term and long-term transfers must meet the "no-injury" rule,[81] exemption from environmental review potentially makes the transfer more economically viable so that transaction costs do not exceed the value of the transfer. A legal balm for concerned transferors, former section 1740 (adopted in 1980 and later repealed in 1988 to become section 1731) assures the transferor that at the end of the "temporary change" period, all rights revert to the original holder.[82] Section 1732 was adopted in 1988, then repealed in 1999, preventing the transferor from starting to use or increasing their use of groundwater to replace the transferred surface water.[83]

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73. FINAL REPORT, *supra* note 4, at 88-91.

74. CAL. WATER CODE § 109 (West Supp. 2004).

75. *Id.*

76. *Id.* § 475.

77. *Id.* §§ 1725-1730.

78. *Id.* §1725.

79. *Id.* §1728.

80. *Id.* §1729.

81. *See* WATER TRANSFER WORKGROUP, WATER TRANSFER ISSUES IN CALIFORNIA: FINAL REPORT TO THE CALIFORNIA SWRCB app. 3 (June 2002), *available at* http://calwater.ca.gov/Programs/Water/Transfers/adobe-pdf/Final-Report%20_Water_Transfer_Group.pdf (last visited July 24, 2004) [hereinafter WTW FINAL REPORT] (copy on file with the *McGeorge Law Review*) (describing the "no-injury" rule's definitions and interpretations).

82. CAL. WATER CODE § 1731 (West Supp. 2004).

83. *Id.* § 1732.

Finally, sections 1735 through 1740, adopted in 1980 and amended in 1988 and 1991, enabled trial and long-term transfers.[84] The code sections permit long-term transfers (exceeding a year in duration), and allow any water right to be transferable, provided that there is a SWRCB hearing in which the petitioner can show that the change in use would not result in substantial injury to legal users or fish, wildlife and other instream beneficial uses.[85] It is unclear if this no "substantial injury" provision is substantively the same as the "no-injury" rule in temporary and trial transfers.[86] The 1991 amendment gave the Department of Fish and Game review and recommendation power in section 1736, exceeding the simple notice requirement in the temporary transfers language.[87]

C. *The Market Approach—Chaptering Disappointments*

According to Kimberly Felix, "[i]n the year following the release of the Final Report, Assemblymember William J. Filante authored and introduced Assembly Bill 1147, a bill containing nearly identical language to that of the Commission's proposed legislation," with ten of the twelve recommendations.[88] The fourth recommendation, the salvage water provision, enabled a salvager to obtain a permit and license for appropriating salvage water and gave priority to this water over all other water rights in the watercourse if it did not injure other legal users, fish, wildlife, or in-stream beneficial uses.[89] However, "due to concerns about environmental costs and quality," the recommendation was cut on the floor.[90]

In the Commission's staff background document on the conservation issues to consider in the Final Report, Clifford Lee distinguishes salvage water, return flow, and waste and seepage water classifications.[91] Lee defines salvage waters as "parts of a particular stream or other water supply that have been unavailable, as far as any beneficial use is concerned, to any of the established users, but are made available by artificial means," and expresses concern that they may affect other legal users.[92] He argues for salvage legislation that promotes water conservation through its clarity on priority and permitting.[93] The fear of forfeiture and conflicting SWRCB permit precedent would otherwise dissuade con-servation.[94]

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84. *Id.* §§ 1735-1740.

85. *Id.*

86. WTW FINAL REPORT, *supra* note 81, at app. 3.

87. CAL. WATER CODE §§ 1726, 1736 (West Supp. 2004).

88. Kimberly A. Felix, *Improving Efficiency in Water Use: An Overview of the Recommendations of the Governor's Commission to Review California Water Rights Law*, 36 MCGEORGE L. REV. 165, 173 (2005).

89. FINAL REPORT, *supra* note 4, at 71.

90. Felix, *supra* note 88, at 174.

91. LEE, *supra* note 18, at 38.

92. LEE, *supra* note 18, at 38 (citing 2 HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 565 (1975)).

93. FINAL REPORT, *supra* note 4, at 60-61; LEE, *supra* note 18, at 47.

94. LEE, *supra* note 18, at 61.

Lee was especially concerned with confusion over whether municipalities' wastewater was considered salvage, return flow, or seepage, thus affecting their decision to invest in recycling technology.[95] The legislature did not share this concern in 1980, nor did it agree that it should establish a right in salvaged water superior to other users' rights, subject to the no injury rule.[96]

The legislature also did not agree to fair market value for transferred appropriative rights. The Commission sought to entirely repeal sections 1392 and 1629, which limit the value of transferred appropriative rights to the amount paid for the permit. While the Commission feared that this would preclude fair market valuation and maintain a disincentive to transfer, both sections remain on the books.

Like the other two recommendations, the legislature did not repeal the surplus language in individual district formation acts.[97] The language restricted districts to the sale of surplus water if they were selling outside of the district boundaries.[98] Yet, in 1982, the legislature chaptered sections 380 through 387. These code sections grant deference to local or regional agencies' discretion over water management in their regions, in furtherance of the policy set forth in Article X, Section 2 of the California Constitution and Water Code section 109, and explicitly supercede the individual district formation statutes on the sale of surplus.[99] "Local agency" is defined as "any public agency other than a state agency,"[100] and the statutes do not apply to federal agencies.[101] They enable the agencies to transfer water outside of the agency, for up to seven years, contingent on a SWRCB finding of no injury, and consent from the agency within whose boundaries the transferee is located.[102] As much as these sections effectively lifted export restrictions for the local agencies, they simultaneously created an ambiguity about who (the institution, the individual rights holders within the institution, etc.) can transfer the surplus. This may be a present barrier to transfer.[103]

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95. *Id.*

96. FINAL REPORT, *supra* note 4, at 61.

97. *See, e.g.*, CAL. WATER CODE § 22259 (West 1984) (limiting irrigation districts to sale of only surplus, both within and without the district); *id.* § 22261 (West 1984) (preventing irrigation districts from selling their water rights); *id.* § 31023 (West 1984) (limiting county water districts to sale of surplus to those outside the district (municipalities, public agencies or consumers)); *id.* § 35427 (West 1984) (preventing water districts from selling their water rights); *id.* § 55336 (West 1966) (limiting county waterworks to sale of surplus to those outside the district); *id.* § 71612 (West 2004) (limiting municipal water districts to sale of surplus, within and without the district). *See also* FINAL REPORT, *supra* note 4, at 94 (suggesting that the same kind of surplus language be removed from the special district acts).

98. FINAL REPORT, *supra* note 4, at 68.

99. CAL. WATER CODE §§ 380-387 (West Supp. 2004).

100. CAL. GOV'T CODE § 65930 (West 1997).

101. CAL. WATER CODE § 380(d) (West Supp. 2004).

102. *Id.* §§ 380-387.

103. Thompson, *supra* note 3, at 726.

Curiously, one of the statutes in the Commission's recommendations appears to have been modified to reflect part of the Final Report language. Section 35425, which applies to water districts and does not eliminate the surplus restriction on sale, adds "for use either within or without the district" language recommended in the Final Report.[104] The legislative history does not note the addition, merely stating that the statute was added in 1951.[105]

D. The Administrative Approach

Like the regulatory approach, the administrative approach contained only two recommendations. The first recommended certifying small, unauthorized diversions with non-discretionary permitting, much like the SWRCB's approach to stock pond permitting.

The second changed the SWRCB's dispute investigation procedures. DWR was similarly empowered to investigate minor protested applications and minor protested petitions for change, using the threat of investigation to persuade private parties to settle disputes privately. Under sections 1345 through 1348, adopted in 1980, DWR conducts field investigations of protested "minor applications."[106] Section 1345 was amended in 1997 to change the means of notice and time period for contested applications.[107] Sections 1346 and 1347 were simultaneously repealed and reinstated in the same year. They relate to the field investigation in section 1345, mandating that parties submit supporting information on the contested applications, and empowering DWR to issue a decision based on the investigation and the hearing.[108]

Also added in 1980, sections 1704.1 through 1704.4 mirror the procedures for the minor application, but apply them to minor protested petitions for change.[109] Like the protested minor applications, section 1704.1 was amended in 1997 to change the notice requirements for the DWR field investigation of all minor protested petitions for change.[110] Sections 1704.2 and 1704.3 were repealed and reinstated in 1997, permitting DWR to request supporting information on the contested applications, and empowering DWR to issue an order regarding water rights.[111]

104. CAL. WATER CODE § 35425 (West 1984).
105. *Id.*
106. CAL. WATER CODE §§ 1345-1348 (West Supp. 2004).
107. *Id.* § 1345.
108. *Id.* §§ 1346-1347.
109. *Id.* §§ 1704.1-1704.4.
110. *Id.* § 1704.1.
111. *Id.* §§ 1704.2-1704.3.

IV. SUCCESSES AND FAILURES: IMPLICATIONS OF IMPLEMENTATION, OR LACK-THEREOF

The successes and failures of the Commission's recommendations focus predominately on the legacy of the transfer language, with passing discussion of the other efficiency recommendations. Hundley attributes any failures of the Commission's recommendations to the then-Governor's subsequent actions, yet the ensuing transfer and water policy problems were the product of a conflation of factors, most of which could not be altered through legislation.[112]

A. Successes

Success can be defined in several ways, but from a policy and practical perspective the de facto effect carries the most credence. Using the Commission's staff director's own standard, "[a] knowledge of the particulars of various kinds of transfers as well as an understanding of why attempted transfers sometimes fail is necessary to make a judgment of the significance of water rights transfer law."[113] If success is defined as innovation through establishing the procedural and bureaucratic infrastructure to support the transfer process, and creating of an affirmative right that allows a transferor to transfer with legal protection upon the termination of the transfer, then the recommendations have succeeded. In addition, if success is defined by an expanding progression and code development from the initial set of recommendations (including wheeling statutes, amendments to the original code sections, etc.), then the recommendations have succeeded. However, if success is defined by the sheer volume of transferred water, by the quantity of transfers from lower to higher uses, and by variation in duration, then the recommendations have failed. Yet, the Commission deserves a more nuanced judgment of success than sheer volumetric measure. The transfer framework should be judged by whether the water is reaching society's prioritized users, begging the larger question of how and for whom society sets its priorities.

1. Transferring Surplus; Clarifying and Creating Security in Rights

Irrefutably, the Commission's recommendations have had a profound, yet delayed, effect on California water supply and use efficiency. The code adoption was a success in the sense of enactment. As previously mentioned, only two years after the Final Report's release, nine of the twelve recommendations were chaptered virtually, if not entirely, verbatim. Six of the nine recommendations in the market approach were adopted. The Commission launched the framework that has since been amended and refined, but created the legislative backbone for

112. HUNDLEY, *supra* note 1, at 561.

113. Dunning, *supra* note 5, at 117.

transfers in California. Agricultural users prefer transfers to pricing, given the risk allocation with market-clearing prices and pricing efficiency versus equity concerns.[114] Gray argues that their voluntary nature is another Commission success with the transfer system.[115]

The code sections making a uniform forfeiture period and affirmative statements about transferred water ensured the flexibility of the right, as evidenced by the fact that some transfers started as early as the 1980s.[116] Short-term transfers constitute a majority of the transferred volume, particularly post-1991 State Water Bank, and occur largely between users in the same water institution.[117] The Central Valley Project Improvement Act (CVPIA) of 1992 follows sections 380 through 387 of the California Water Code and reflects the substantive spirit, if not the exact surplus language, from the Final Report.[118] According to Gray, when assessing California's current water rights era, the two most important aspects of water transfer law are the ability to transfer surplus[119] and conserved water,[120] and the fact that transferor's rights to the transferred water are legally protected.[121] Both of these legal concepts originated in the Final Report. The "no forfeiture if conservation clause"[122] allows individuals to retain their rights, despite land fallowing, making conservation a reasonable and beneficial use in California. This is a monumental, yet simple element of a wiser water use policy. Without it, the appropriative system, founded on an anthropocentric conservation ethos principle of use that promotes waste, was an impediment to conservation.[123]

Establishing rights in reclaimed water is a subtle, but remarkably effective incentive to invest in what has now become a means to combat "waste" in urban areas. The rights in reclaimed wastewater rewards districts for their more environmentally-friendly recycling practices, which have become an integral element of urban water supply.[124] Reclamation produces a significant volume of recovered water, with the potential for more, through developing technology.[125] It

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114. Thompson, *supra* note 3, at 717-18.

115. Gray, *supra* note 1, at 276.

116. Thompson, *supra* note 3, at 716.

117. HANAK, *supra* note 9, at 14; Thompson, *supra* note 3, at 713-14.

118. Gray, *supra* note 1, at 285-91. However, the CVPIA is more expansive with the individual's ability to transfer, regardless of the agency veto power (unlike California).

119. CAL. WATER CODE §§ 380-387 (West Supp. 2004).

120. *Id.* § 1011.

121. Gray, *supra* note 1, at 275.

122. CAL. WATER CODE § 1011 (West Supp. 2004).

123. George Perkins Marsh is first ascribed with generating the anthropocentric conservation ethos, which reserves natural resources for present and future economic, social and aesthetic use under the Pinchot model of cyclical use and replacement. Marsh also described the dangers of overusing forests to the detriment of water supply. GEORGE P. MARSH, MAN AND NATURE (1864); *see* SAMUEL TRASK DANA & SALLY K. FAIRFAX, FOREST AND RANGE POLICY 70 (2d ed. 1980).

124. *See* Dickinson, *supra* note 8.

125. *Id.* at 1.

also shows transfer-resistant users that the urban areas are utilizing their resource wisely, and additional water purchases are legitimately needed.

The administrative streamlining reforms in the SWRCB processes were essential elements of the transfer process. Without determined rights, there can be no transfers, and without timely processing, the parties may miss the window in which to complete the transaction, especially the short-term ones. There are understandable concerns about the environmental impacts of streamlining a permitting process, but the Commission made excellent suggestions balancing both environmental and social concerns. However, the potential to further streamline the review process is limited because overzealous streamlining may compromise protection for other legal users, fish, wildlife, and in-stream uses.[126] The cumulative effects of multiple small short-term transfers can be just as devastating as one high-volume short-term transfer.

2. *The Legislative Road Not Taken*

So far, the successful recommendations have been affirmative, but the legislature's refusal to repeal sections 1392 and 1629 seem to have had very little impact on the transfer market. Transfer volume in the agricultural community, or from agricultural users to the environment appears to be more affected by the price disparity for different kinds of users and by political and area of origin concerns than the code sections.[127] Even if they had been repealed and a profit permitted, water sellers could conceivably stall the transfer market by waiting for a seller's market.

The Commission wisely left the reasonable and beneficial use determinations to the courts, to be employed on a case-by-case basis. The court in *California Trout, Inc. v. State Water Resources Control Board* followed the Final Report, in which the majority held that reasonable and beneficial use, as ambiguously described in Article X, Section 2 of the California Constitution, does not include leaving in-stream flow for environmental purposes.[128] Justice Reynoso strongly dissented, and the legislature honored that dissent in 1991 with the adoption of California Water Code section 1707. Section 1707 states that if prior appropriation is perfected, and the transfer is for recreation, the SWRCB can approve whether or not the proposed use involves a diversion of water.[129] In principle, it would be feasible to find someone with a perfected right to appropriate water, and then purchase the right to leave the water in the stream.

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126. Thompson, *supra* note 3, at 706-07.

127. *See* HANAK, *supra* note 9, at 18-20.

128. 153 Cal. Rptr. 672 (Ct. App. 1979).

129. CAL. WATER CODE § 1707 (West Supp. 2004).

B. Failures

As much as establishing a water market may be considered a success, there are still social and political stumbling blocks that plague the transfer process today. The Commission's market is subject to common market critiques. Social and environmental protections through cautious no-injury provisions hamper a free transfer market. Despite the early enabling legislation in 1980, transfers did not take off until after another drought, motivating the generation of the State Water Bank in 1991.[130] The current volume of post-1991 transferred water constitutes only three percent of the water available in California.[131] The majority of transfers are short-term, either from one agricultural water user to another or between an agricultural user and the environment (to USBR, etc.).[132] There are very few transfers from irrigation to urban uses, but those that do occur tend to be long-term.[133] Although the streamlining recommendations have reduced the permitting timeline by using non-discretionary permits, short-term or low-volume transfers still suffer from relatively high transaction costs.[134] And yet, the no-injury requirements are necessary to balance competing environmental and economic interests. Long-term transfers are more immune to transaction costs through economies of scale.[135]

1. The Institutional Conundrum and Legislative "Might Have Beens"

The Final Report never addressed institutional bias or reached the internal workings of California water institutions, in part because internal institutional power is difficult to reach through state legislation. Institutions can enable or inhibit the transfer process, assuming more of a role than is reflected in the governing water law.[136] According to Thompson, "[l]ocal institutions have often created internal markets that enable their members to transfer water among themselves more readily than traditional state transfer procedures would permit. Yet, institutions have also served as a significant barrier to external transfers of water."[137] Transfers between different water project contractors are effectively excluded.[138]

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130. *See* HANAK, *supra* note 9, at 12-13.

131. *Id.* at 14.

132. *Id.* at 18-20.

133. *See id.* at 22-24 (stating that according to records there were "15 approved long-term transfers and 14 permanent transfers of surface water rights or entitlements from 1985 to 2002").

134. The costs manifest in time and the no-injury findings reports. Thompson, *supra* note 3, at 704; WTW FINAL REPORT, *supra* note 81, at 13.

135. Thompson, *supra* note 3, at 703.

136. *Id.* at 673.

137. *Id.*

138. *See id.* at 719.

Thompson posits that there are three institutional reasons for opposition to interregional transfer: first, unclear property rights lead to unclear beneficiaries (i.e., does the individual or the institution hold the water right) and possible rent-seeking;[139] second, transfers generate a risk of third-party effects for other rights holders within the institution;[140] and third, managers or district boards have internal political concerns.[141] There are legislative solutions for two of the three barriers. Property rights clarification and mitigation for institutional third-party effects can be improved through amendments to the district formation acts. The internal political concerns are more difficult to reach, due to social dynamics and the sway of an informed consumer group. The Commission might have done so with a recommendation to limit the institutions' ability to veto transfer[142] and through transfer empowerment to individual institution members, also known as "member transfer legislation."[143]

However, the districts themselves might have lobbied against such an act, for Thompson argues that water institutions can have as much of an effect on state water policy as changes to water rights law.[144] Getches would agree, except that Getches views institutions as particularly short-sighted, asserting that any comprehensive state water policy must come from all players and strategies.[145] Thompson argues that there is very little that can be achieved through changes to the water rights law, and the transfer statutes in particular. Specifically, Thompson states:

> The California experience, however, also suggests the limited relief that legislative tinkering with the statutory transfer process can provide—particularly in increasing local flexibility among small users. A survey of approximately 500 California water users in the early 1980s revealed that over a quarter were potentially interested in selling some or all of their water. Yet the 1982 legislation yielded only about two transfer applications per year, virtually all of which involved large transfers by institutions or sizable commercial interests; only one application entailed a small transfer between individual water users.[146]

Hundley makes the same argument when he states that legislatures simply have not been able to solve the water supply problem, insinuating that the Final Report's recommendations had less than the anticipated effect, and calls for a

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139. *Id.* at 730.

140. *Id.* at 731.

141. *Id.* at 731.

142. *See id.* at 673; Gray, *supra* note 1, at 280-81.

143. Thompson, *supra* note 3, at 745.

144. *Id.* at 675.

145. *See* David H. Getches, *Essays from Askhabad, to Wellton-Mohawk, to Los Angeles: The Drought in Water Policy*, 64 U. COLO. L. REV. 523, 548-53 (1993).

146. Thompson, *supra* note 3, at 706.

"coordinating agency authorized to *take charge*."[147] Hundley's agency would establish a mechanism to address the problems through several different legal and social arms, as "[t]he issue has thus far proven beyond the capability of legislatures, is not suited to resolution by the courts, and is too complex (and important) to be left to the vicissitudes of the initiative process."[148] Given its existing oversight authority, its multiple arms and its familiarity with institutions throughout the state, the SWRCB would logically be the agency to assume a greater review and enforcement role.

Admittedly, the Commission's efficacy was handicapped by the means available to change water policy. However, despite the confinement to the arena of water rights law, the Commission succeeded in creating a theoretical, market-based approach to effect the changes that reflect new concepts of efficiency in water use (from *Joslin*, *National Audubon*, the Racanelli decisions, etc.).

2. *Persistent Ag to Urban Transfer Fears*

These changes attempted to eradicate the effects of the dynastic priority system in water, but users continue to cling to heirloom rights as they resist long-term, interregional transfers. Despite the de jure protection given through the Commission's adopted, and subsequently amended, recommendations to ensure security of the transferor's right, agricultural users are leery to transfer to municipal users.[149] According to Thompson, agricultural users believe that urban areas waste their water allotments by failing to institute growth control and conservation measures.[150] He supports his argument when he says that "metropolitan water institutions may pursue water transfers even when other options are economically less expensive . . . [f]acilitating transfers could remove . . . pressure and thus lead in some cases to less, not more, efficiency."[151] It is also true that the marginal cost of transfer may surpass the cost of conservation in certain instances, creating a legitimate argument for urban pricing and conservation.[152] But with the institution of pricing in large urban coastal areas (i.e., Los Angeles, San Francisco, etc.)[153] and conservation through the best management practices from the California Urban Water Conservation Council ("CUWCC"), the agricultural resistance loses its merit. Pricing is subject to critique, with its issues of equity and efficiency balancing, as well as actual metering problems.[154] It is

147. HUNDLEY, *supra* note 1, at 553.

148. *Id.* at 554.

149. Thompson, *supra* note 3, at 701-03. Ag-urban transfers are political; institutions are supporting internal markets, but fewer long-term or interregional transfers and few transfers between smaller users. *Id.*

150. *Id.* at 753.

151. *Id.* at 755.

152. *Id.* at 757.

153. *See* W. Michael Hanemann, *Designing New Water Rates for Los Angeles*, 92 WATER RESOURCES UPDATE 11 (Summer 1993).

154. *See* Thompson, *supra* note 3, at 718.

important to note that pricing is only one element used to create conservation incentives in a comprehensive urban water management plan and smart growth strategies.

Agricultural users are also resistant to municipal transfers given the likelihood that residential development will establish reliance on the water and preclude reversion at the end of the transfer period. This concern can be mitigated with water transfer portfolios for municipal districts. Admittedly, the districts must have sufficient scale to generate the purchasing power and sophistication for a portfolio.

The bigger obstacle in transferring, particularly during periods of drought, appears to be the no-injury rule and the issue of quantifying consumption versus entitlement (considered "paper water")[155] in California. Thompson acknowledges that this is a remarkably large administrative (and political) burden for the state to assume.[156] Transfers are less valuable—or certain—without actual allocation delivery or riparian quantification, and private contracting does not elude the no-injury rule.

3. Resistance from Rural Economies; Groundwater Substitution and Third Party Concerns

The equity concerns over transfers remain an issue, despite legislative language assuring a weighing of interests when the SWRCB makes its "no-injury" determinations. More specifically, many rural areas fear exacerbation of inequitable wealth distribution, third-party economic consequences, and groundwater overdraft with transfers from areas of origin.[157] Owens Valley left a psychological scar and, even with area of origin and watershed protection acts for surface water, many rural counties have asserted as much control as they can over groundwater. This occurred through groundwater substitution and export

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155. Planning & Conservation League v. Dep't of Water Res., 100 Cal. Rptr. 2d 173 (Ct. App. 2000).

156. Thompson, *supra* note 3, at 707. Thompson states that:

> The only reasonably effective cure for the problems presented by the no-injury rule is to requantify appropriative rights according to the amount of water that each appropriator can *consume* rather than the amount each can *divert*. . . . Although transfers would be unburdened, states would need to calculate the return flows of *all* water rights *immediately* in order to quantify the consumptive rights—a tremendous administrative chore that no state would want to undertake without a compelling reason.

Id.

157. *See generally* HANAK, *supra* note 9, at 42-58; Thompson, *supra* note 3, at 735. The area of origin sections were added in 1984. CAL. WATER CODE §§ 1215-1222 (West Supp. 2004). They prevent export from a "protected area" without giving contractual/negotiating priority to the protected area's water users. The county of origin may also negotiate the appropriation levels. Section 1220 restricts groundwater export from the Sacramento and Delta-Central Sierra Basins without a groundwater management plan and county board of supervisors' approval. *Id.* § 1220.

restriction ordinances after the holding in *Baldwin v. County of Tehama*,[158] which confirmed local government authority to regulate groundwater export in 1994.[159]

V. UNANTICIPATED IMPACTS AND CONTINUED RELEVANCE

Historically, water has followed development.[160] Moreover, as illustrated by the Owens Valley and Los Angeles Aqueduct battles, water comes to the more populated, wealthier sectors of development.[161] Much like the problem with water project development, built-out coastal areas are pushing growth into more arid parts of California. But urban growth is correlated with population, and like squeezed toothpaste, it cannot be returned to the tube—only moved around.[162] Augmented by residential uses with larger lot sizes and landscaping in more arid climates, urban water demand has correspondingly increased over the past two and a half decades.

A. *Unanticipated Impacts*

1. Urban Water Conservation Measures

Corresponding water supply has not met urban water demand through transfers. Yet, the comparative lack of transfers to urban areas may be an indirect and unanticipated success, supporting Thompson's metropolitan transferring inefficiency argument.[163] Without transfers, urban areas have been forced to improve the efficiency of their current water use. Urban water conservation is now a long-term solution to water supply problems, not simply a stop-gap measure that occurs during droughts (especially the drought of 1991).[164] Despite the supporting legislation, this evolution is a logical consequence of the lack of transfers to urban areas. However, so is a reversal of the water coming to development precedent, with urban growth moving into areas of ample water supply. The WTW group was concerned with this scenario should the ag-urban transfers resistance continue.[165]

In the absence of reallocation, the best solution to mitigate the effects of the urban straw is to modify urban behavior through water conservation.[166] According to Lee,

158. 36 Cal. Rptr. 2d 886 (Ct. App. 1994).

159. *See* HANAK, *supra* note 9, at 26-27; WTW FINAL REPORT, *supra* note 81, at 26.

160. *See generally* HUNDLEY, *supra* note 1, at 121-202; *see also* REISNER, *supra* note 1, at 5.

161. *See generally* HUNDLEY, *supra* note 1, at 144-71; *see also* Getches, *supra* note 145, at 535-36.

162. JOHN LANDIS ET AL., GROWTH MANAGEMENT REVISITED: A REASSESSMENT OF ITS EFFICACY, PRICE EFFECTS AND IMPACTS ON METROPOLITAN GROWTH PATTERNS 9 (Univ. of Cal. Inst. of Urban and Reg'l Dev., Working Paper 2002).

163. Thompson, *supra* note 3, at 755.

164. Dickinson, *supra* note 8, at 1.

165. WTW FINAL REPORT, *supra* note 81, at 7-8.

166. WILLIAM E. RIEBSAME, WESTERN LAND USE TRENDS AND POLICY: IMPLICATIONS FOR WATER RESOURCES 62-63 (1997).

as early as 1933, "[t]he courts have defined the public interest in terms of the paramount policy of water conservation."[167] Again following the drought pattern, the legislature added showerhead and faucet standards in 1978, then low-flush toilet standards in 1992.[168] Shortly after the 1982 amendment to Water Code section 109 delegating responsibility for water conservation technical assistance to DWR and SWRCB, the legislature also imposed standards on water suppliers in 1983 under the Urban Water Management Planning Act ("UWMPA").[169] The UWMPA applies to water agencies with more than 3,000 customers or acre feet per year and requires them to adopt and submit urban water management plans (UWMP's) with enumerated elements.[170] These elements include a description of demand (past, present, and future), ways to meet the demand, a supply reliability assessment, water conservation measures in place (and reasons for any foregone), and a water recycling opportunity assessment.[171]

1991 was a banner year for urban water conservation. With the drought, the legislature made two enactments that echoed the Commission's intent. First, it amended the UWMPA to require estimates of water supplies in the next three years as well as establish emergency drought plans.[172] Second, it adopted the Water Recycling Act, which built on the Commission's recommendations by describing the environmental and societal benefits of water recycling, and set a minimum threshold for amounts to be recycled in 2000 and 2010.[173] Finally, in 1991, water suppliers and the environmental community came together in a cooperative effort to address a diminishing Bay-Delta. Together, they signed the Memorandum of Understanding ("MOU") that effectively extended the pricing argument from the Final Report.

The MOU was a direct result of the negative reaction to the SWRCB's Draft Staff Report in the Bay-Delta hearings, calling for capped diversions and urban water conservation.[174] Virtually every water user opposed the report.[175] Although the urban water agencies agreed to implement conservation measures, they balked against the capped diversions, which would force them to bear all of the shortage uncertainty if conservation measures did not yield the anticipated savings.[176] The SWRCB backed off and allowed water users to negotiate conservation measures. The urban water agencies proceeded to align with environmental interests to implement the conservation practices, generating the MOU if the SWRCB would shift the skewed burden of risk and entitle uncapped

167. LEE, *supra* note 18, at 17 (citing *Chow v. City of Santa Barbara*, 22 P.2d 5 (Cal. 1933)).

168. *See* Dickinson, *supra* note 8, at 6.

169. CAL. WATER CODE §§ 10610-10657 (West 1992).

170. *Id.*

171. CAL. WATER CODE §§ 10631-10634 (West 1992 & Supp. 2004).

172. *Id.* §§ 10620-10621.

173. *Id.* §§ 13575-13583.

174. Hanemann Interview, *supra* note 25.

175. *Id.*

176. *Id.*

diversions.[177] While signatures were entirely voluntary, the MOU garnered over 260 signatures from different water agencies and environmental groups, and generated fourteen best management practices ("BMPs").[178]

The MOU also established the California Urban Water Conservation Council ("CUWCC"), an extension of the MOU group with a governance system comprised of an equal number of water districts and environmental groups. Each agency need only implement the BMPs when they are "cost-effective" for that agency's system, namely, where costs for conservation do not exceed costs for purchasing new supply.[179] This principle illustrates Thompson's arguments about the marginal cost of transfer.[180] The CUWCC reports on implementation of the BMPs to the SWRCB, and conducts supporting research and technical assistance to member agencies.[181] Out of the need for better water conservation and efficiency, groups that typically competed formed the first consensus agency of its kind in the United States.[182] Unfortunately, the larger attempt to bring all players to the table for a greater state water policy through CALFED fell through, attributed largely to funding troubles.[183]

Like the sluggish transfer market, another urban water conservation measure has not been as successful in implementation. In 1990, the legislature adopted the Water Conservation in Landscaping Act (AB 325) to reduce outdoor water consumption.[184] The legislation mandated that DWR create a Model Landscape Ordinance by 1993, which local agencies would subsequently adopt or improve upon, unless they could find that they did not need an ordinance.[185] A follow-up statewide implementation review published in March 2001, found that the legislation had little actual implementation effect, despite its almost universal adoption in the sample population.[186] The authors attributed the lack of implementation to institutional issues, insufficiently stringent ordinances, and the legislation itself, which had few enforcement or pricing requirements.[187] The review recommended additional research on "the linkages between land use and water agency policies so that their independent efforts can both be fostered and integrated to maximize synergy and overall effectiveness."[188]

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177. *Id.*

178. Dickinson, *supra* note 8, at 8.

179. *Id.* at 11.

180. Thompson, *supra* note 3, at 757.

181. Dickinson, *supra* note 8, at 8-9.

182. *Id.* at 8.

183. *See generally* Connick, *supra* note 11, at ch. 6.

184. CAL. GOV'T CODE §§ 65591-65600 (West 1997).

185. *Id.*

186. ANIL BAMEZAI ET AL., WESTERN POLICY RESEARCH, WATER EFFICIENT LANDSCAPE ORDINANCE (AB 325): A STATEWIDE IMPLEMENTATION REVIEW 16 (2001).

187. *Id.* at 16.

188. *Id.* at 17.

2. Water Supply and Land Use Planning Linkage

Linkages between land use and water agency policies are increasing through recent state legislation. According to Hundley, that is how it should be, given "the powerful reality that Californians are not so much facing a water problem as a *land-use* problem."[189] In Riebsame's 1997 review of western land use trends and their implications for water policy, the author stated that:

> most of the effective action on land use and water in the urban section focused on landscaping. . . . Although much is made of current land use trends and their potential implications for water policy, little attention is given to land development trends as a source of potential solutions to problems.[190]

Contemporary research focuses on the increasing connections between land and water supply planning, with its policy and legal ramifications.[191] Doremus asserts that the environment, namely, the Endangered Species Act, was the tool that started linking the different levels of governance with respect to water supply and land use planning.[192] Specifically, she states, "[w]ater, the essential element whose limited availability defines the West, is the fulcrum of [the] relationship" between population growth, endangered species, and water.[193] However, previous authors have argued that the link arose through CEQA and NEPA, supported by the extended controversy and series of suits around the Newhall Land and Farming Company's Newhall Ranch development in Los Angeles and Ventura counties.[194]

The conflation between state and federal environmental laws (like CEQA, NEPA, CWA, etc.), and water districts' refusals to extend services, influenced the legislature's grant of water supply responsibility to local governments for new development. In 1995, EBMUD refused to extend service outside of its boundaries to the proposed Dougherty Valley development in Contra Costa and the developer eventually purchased a permanent supply from Kern County.[195]

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189. HUNDLEY, *supra* note 1, at 562.

190. RIEBSAME, *supra* note 166, at 62-63.

191. *See generally id.* at Part VI.

192. Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COLO. L. REV. 361, 411-14 (2001).

193. *Id.* at 361.

194. *See* Kevin M. O'Brien & Barbara Markham, *A Tale of Two Coasts: How Two States Link Water and Land Use Planning*, 11 NAT. RESOURCES & ENV'T 3 (1996); Santa Clarita Org. for Planning the Env't v. County of Los Angeles, 131 Cal. Rptr. 2d 186 (Ct. App. 2003) (building on *Planning & Conservation League v. Dep't of Water Res.*, 100 Cal. Rptr. 2d 173 (Ct. App. 2000)).

195. Ryan Waterman, Comment, *Addressing California's Uncertain Water Future by Coordinating Long-Term Land Use and Water Planning: Is a Water Element in the General Plan the Next Step?*, 31 ECOLOGY L.Q. 117, 125-28 (2004).

Following the purchase, the legislature adopted SB 901.[196] SB 901 required land use agencies (cities and counties) to verify water supply for projects that triggered an EIR and a specific or general plan amendment.[197] However, this legislation was cursorily applied,[198] and as a result the legislature adopted SB 610 and SB 221, which went into effect January 1, 2002.[199]

The legislation links supply assurance to the local planning departments before permitting on large projects in California.[200] SB 610 strengthens SB 901's long-term supply assessment during any project subject to CEQA and builds on the UWMPA by adding groundwater consideration and detailed future supply assessment, in addition to more severe non-compliance consequences.[201] SB 221 establishes a moratorium on development if planners fail to identify a sufficient water supply for new residential subdivisions before arguing permis.[202]

Both statutes are riddled with loopholes, including the definition of "sufficient" water supply, and the fact that they only apply to new projects of 500 units or larger (or, for districts with fewer than 5,000 connections, anything that would increase use by 10%).[203] Established housing is exempt, and arguably, developers could alter behavior and build new housing up to the 450 or 499 unit count. But the effect of the flaws in the current legislation may be exaggerated, according to a recent study showing that the linkage between water and land use planning exists independently of and even precedes the legislation in some California cities.[204] In their Public Policy Institute of California ("PPIC") survey, Hanak and Simeti found that "55 percent of all cities and four out of five counties . . . indicated that they have some form of local policy linking subdivision approval or residential construction-permitting to water supply conditions" and that any growth, regardless of count, triggered review.[205] With the planning and water supply linkages, there is current discussion about adding a water element to the seven-element general plan requirement.[206]

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196. *Id.* at 129.

197. *Id.*

198. *See* Matthew D. Zinn, *California's New Water-Supply Planning Statutes: Selected Problems of Application*, 5 CAL. ENVTL. L. REP 123 n.1 (May 2002).

199. *See* S.B. 610 (enacted as 2001 Cal. Stat. ch. 643) [hereinafter SB 610]; S.B. 221 (enacted as 2001 Cal. Stat. ch. 642) [hereinafter SB 221].

200. Zinn, *supra* note 198, at 124; SB 221 & SB 610, *supra* note 199; CAL. DEP'T OF WATER RES., GUIDEBOOK FOR IMPLEMENTATION OF SENATE BILL 610 AND SENATE BILL 221 OF 2001 iv (2003) [hereinafter DWR GUIDEBOOK].

201. Zinn, *supra* note 198, at 125-26; SB 221 & SB 610, *supra* note 199; DWR GUIDEBOOK, *supra* note 200, at iii.

202. Zinn, *supra* note 198, at 124.

203. *Id.* at 127-30; SB 221 & SB 610, *supra* note 199.

204. ELLEN HANAK & ANTONINA SIMETI, PUB. POLICY INST. OF CAL., WATER SUPPLY AND GROWTH IN CALIFORNIA: A SURVEY OF CITY AND COUNTY LAND-USE PLANNERS 11-13 (2004).

205. *Id.*

206. *See generally* Waterman, *supra* note 195, at 50-80; CAL. GOV'T CODE §§ 65300-65307 (West 1997 & Supp. 2004).

Following SB 221 and SB 610 (as well as AB 325), local governments appear to be the new locus for water supply and land use planning. Although planning and permitting occur at this level, the decision-making process is loaded with federal, state, and regional policy and legal overlays. Planners are bound by legal inconsistencies. They must limit growth if the water supply does not appear to support additional housing; however, they are obliged to accommodate their fair share of the region's affordable housing. Despite the shared management in local planners' actions (through the Endangered Species Act and CEQA reviews),[207] Getches expresses concern over granting water policy authority to local agencies.[208] Granting this authority leads to a singleness in behavior and policy-making,[209] and any new state water policy must incorporate both land use and water policy, as well as transfers and conservation, to ensure sustainability.

If legislation alone has not achieved a sustainable solution, then institutions must embrace a comprehensive water and land use policy. Institutions have flexibility to respond quickly to environmental and climate fluctuations.[210] However, that flexibility also sustains transfer resistance, potentially creating societal costs that exceed the savings in transaction costs from internal transfers.[211] Water institutions can "reconfigure water rights to achieve a variety of member goals, including greater user flexibility, a more efficient or equitable allocation of rights, and the elimination of entitlement-based externalities."[212] If past behavior of tax-base chasing is any indicator, local planning agencies may not overcome the water institutions' problems.

Erie and Joassart-Marcelli found water district policy on pricing to be an influential factor in land-use form and development throughout Southern California.[213] These findings support Getches's concerns over narrow institutional vision.[214] The authors showed that MWD's pre-1970s water policies of subsidized pricing to the peripheral suburbs (rather than a fixed rate for handling the water or actual cost of service charge) came at the expense of the City of Los Angeles.[215] According to the authors, ag-urban transfers further sustain these inequities.[216] In effect, their findings support the idea that pricing can be used as a growth inducing mechanism when a district is trying to build a service area base.[217]

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207. Doremus, *supra* note 192, at 414; Getches, *supra* note 145, at 547.

208. *See* Getches, *supra* note 145, at 545-50.

209. *Id.* at 545-46.

210. *See* Thompson, *supra* note 3, at 680.

211. *See id.*

212. *Id.*

213. Steven P. Erie & Pascale Joassart-Marcelli, *Unraveling Southern California's Water/Growth Nexus: Metropolitan Water District Policies and Subsidies for Suburban Development, 1928-1996*, 36 CAL. W. L. REV. 267, 268 (2000).

214. *See* Getches, *supra* note 145, at 546.

215. Erie & Joassart-Marcelli, *supra* note 213, at 280.

216. *Id.* at 289.

217. *See generally id.*

B. Continued Relevance

1. Evolution of the Transfer Process

The Commission's transfer legislation adopted in 1980 has continued to evolve, with support from the 821,000 acre-feet of water purchased from the state's regulated market to the 1991 State Water Bank.[218] California Water Code sections 1745.02 through 1745.11 were added in 1992 to allow water suppliers to contract with a state water bank and reduce supplied water for a particular period, as well as replace transferred water with groundwater.[219]

Wheeling statutes[220] provide conveyance mechanisms for the transfer process. Adopted in 1986, these provisions permit bona fide transferors the use of conveyance facilities, subject to fair compensation and "no-injury" restrictions, limitations of the system capacity, and the facility owner's approval.[221] Additionally, a public agency must facilitate transfers when they use less than 70 percent of the system's unused capacity.[222] The court gives deference to the public agency's determination of capacity.[223] In 1987, special legislation exempted Imperial Irrigation District (IID) from liability for reduced flow into the Salton Sea.[224] This legislation built on the 1984 version of California Water Code section 1012, which specifically exempted IID from forfeiture of Colorado River water for water conservation.[225] In response to disputes over the wheeling legislation, the court in *Metropolitan Water District of Southern California v. Imperial Irrigation District* held that a water conveyance owner can charge uniform wheeling rates (which incorporate system-wide maintenance) if another user invokes the statute requiring the conveyance owner to allow system use and there is unutilized conveyance capacity.[226]

Following the adoption of the code sections placing DWR in charge of facilitating transfers in 1986,[227] the legislature added section 484 in 1991.[228] Section 484 permits temporary transfers of water that would have been consumptively used or stored, without jeopardizing the transferor's right to the

218. WTW FINAL REPORT, *supra* note 81, at 4.

219. *See* CAL. WATER CODE §§ 1745.02-1745.11 (West Supp. 2004).

220. "Wheeling" means to convey water through another water user's conveyance system. *See* Metro. Water Dist. of S. Cal. v. Imperial Irrigation Dist., 96 Cal. Rptr. 2d 314, 316 (Ct. App. 2000) (defining the term wheeling and referring to sections 1810 through 1814 of the California Water Code).

221. CAL. WATER CODE §§ 1810-1814 (West Supp. 2004).

222. *See id.* §§ 1813-1814.

223. *Id.* § 1813.

224. *See id.* § 1013.

225. *See id.* § 1012.

226. 96 Cal. Rptr. 2d 314, 331 (Ct. App. 2000).

227. CAL. WATER CODE §§ 480-483 (West Supp. 2004).

228. *Id.* § 484.

water.[229] An extension of the Commission's water conservation intent, sections 1020 through 1030 were added in 1991 to permit water leasing for a period of five years.[230] Lessors (the district or the individual) may lease up to 25 percent of their conserved water right, provided that they have SWRCB approval and lease monitoring.[231] In 1992, mutual water companies were permitted to lease as well.[232]

Section 1011.5, augmenting section 1011, was added in 1992 to allow conjunctive use of surface and groundwater and create certainty to appropriators participating in a conjunctive use program.[233] Water banking followed sections 380 through 387, to substantively reflect the Commission's recommendation to allow local agencies to transfer water outside their district boundaries.[234] Most recently, in 2003, the legislature adopted AB 514 mandating metering for Central Valley Project (CVP) contractors, and facilitating the institution of pricing structures.[235] The statute promotes the Commission's tempered market-based approach to water management.

2. *Water Transfer Workgroup Final Report*

But for the Commission's recommendations that established the voluntary transfer process, the 2002 Water Transfer Workgroup (WTW) Final Report to DWR would not exist. Their suggestions are an extension of the Commission's Final Report, revisited, with new and evolving issues related to the market character of the transfer system.[236] Given the extensiveness of their recommendations, this section will highlight only a few.

As previously discussed, permit streamlining issues remain.[237] The WTW identified multiple changes in the permit streamlining, from facilitating pre-defined transfers and environmental reviews, to the inter and intra basin transfer concerns. Perhaps the strongest recommendation was the argument to establish "shared places of use for the CVP and SWP"[238] to encourage more inter and intra basin transfers.[239] In order to simplify the approval process for the shared places of use, the WTW proposed limiting approval to those transfers that would result in "[n]o land use changes, . . . [n]o growth-industry effects, . . . [n]o adverse effects on species or

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229. *Id.*

230. *Id.* §§ 1020-1030.

231. *See id.*

232. *Id.* § 1022.

233. *Id.* § 1011.5.

234. *Id.* §§ 380-387.

235. CAL. WATER CODE § 111 (enacted by 2003 Cal. Stat. ch. 680).

236. *See* WTW FINAL REPORT, *supra* note 81, at 11-12. The group recommends looking at the Commission's Final Report, among other documents, when considering water transfers.

237. *See supra* Parts III.D, IV.A.

238. WTW FINAL REPORT, *supra* note 81, at 16.

239. *See* Thompson, *supra* note 3, at 719.

habitats designated in accordance with federal or state endangered species protection acts."[240] While this is a clever solution, it ties the hands of urban agencies seeking water for additional growth. Such a recommendation might suggest a bias toward agricultural uses. However, earlier in the report, the WTW refused to expand the "injury" definition with respect to water transfers to include "diminishing agricultural production" because the group is worried that it will be used as a tool to block ag-to-urban transfers.[241]

Furthermore, the WTW addressed the relationship between groundwater and surface water. This issue exists in a gray jurisdictional separation of two legally distinct but physically connected water body classifications. With groundwater substitution and transfers, there is a strong need to protect third parties through regional groundwater management at the basin level.[242] In the section on water transfers and groundwater banking, the group acknowledged a need for improved baseline information on the basins themselves, as well as the need for clarification of the legal ambiguity surrounding rights with aquifer storage. As a solution, the group recommended using nuisance law, rather than trespass law, to resolve rights disputes in varying regions that have different basin characteristics.[243]

One of the most notable concerns in the report has little direct relation to the Commission's recommendations. The adoption of Water Code section 1707 in 1991 created an issue for surface water transfers, as transferors now fear taking that which has been conserved or allocated to in-stream use.[244] The report suggested statute clarification, and further defined the policy to "meet nonproject obligations in the Delta."[245]

Strikingly, many of the issues identified in Lee's 1977 background report on the transfer issues[246] reflect those contained in the WTW's Final Report and in section 1020. Third party effects, permit approval delays, high transaction costs for short-term transfers, the need for institutional changes outside water rights law, and a measured but increasing role for regional or local decision-making on transfers, remain. Ultimately, the state needs a water policy that captures regional market differences but enjoys immunity from institutional bias.

VI. NEXT STEPS/UNFINISHED BUSINESS

In the era of modern California water law, courts have moved towards equity and the balancing of economic interests. However, this creates uncertainty in the

240. WTW FINAL REPORT, *supra* note 81, at 16.

241. *See id.* at 7.

242. *Id.* at 56.

243. *Id.* at 40-41.

244. *See* CAL. WATER CODE § 1707 (West Supp. 2004).

245. WTW FINAL REPORT, *supra* note 81, at v.

246. *See* CLIFFORD T. LEE, GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, THE TRANSFER OF WATER RIGHTS IN CALIFORNIA (Staff Paper No. 5, Dec. 1977).

priority system. The Commission intended a balancing approach in the transfer structure, permitting economic efficiency mitigated by the "no-injury" requirements. The Commission's recommendations and subsequent legislation reflect a systematic approach in the water rights law changes, but have had several obstacles to transfer implementation.

Expert opinion suggests that California needs a transfer system that can adapt more regionally. Although "[e]xpanded institutions would also permit greater regional planning and thereby might help eliminate concerns that urban areas are placing the entire burden of water conservation on the backs of farmers,"[247] solutions to the water supply questions in California cannot be found in any one system. The Commission did an excellent job in trying to modernize the statutory and code systems, but it could not reach institutional bias and urban users' behavior. Thus, we must identify the remaining transfer impediments in each region,[248] agree upon how to prioritize users, and assign responsibility and mechanisms.

Thompson argues that the Commission's statutory reforms cannot reach the institutions because there is a delicate balancing occurring between that which can and should be legislated, and that which should be settled at the local level. He closes his argument insisting that "[i]n the case of water markets, most legal thinking to date has also been too abstract . . . [t]he time has now arrived to turn our attention to the still highly veiled world of local water institutions."[249] If Dunning's 1977 article is an appropriate gauge, the Commission itself would agree with Thompson, arguing for reform generated by an examination of transfer failures.[250] What emerges from these perspectives is an argument for a consistent reassessment of the effects of both the abstruse legal theory and the institutional implementation, much as the Commission conducted in the background research for the Final Report and economists have been doing since the 1980 transfer legislation.

Hundley would agree, closing with the fact that,

> [s]till, there are hopeful signs: the environmental legislation and the occasional attempts to focus some of the best minds on the issues, most notably in the 1978 report of the Governor's Commission to Review California Water Rights Law which, despite then-Governor Jerry Brown's failure to follow through vigorously on the commission's recommendations after asking for them, sparked the most effective of recent reforms.[251]

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247. Thompson, *supra* note 3, at 753.

248. *See id.* at 764.

249. *Id.*

250. Dunning, *supra* note 5, at 117.

251. HUNDLEY, *supra* note 1, at 561.

Once again, we better appreciate the immensity of the hydrologic uncertainty facing California in the next century. Municipal water districts must foster creativity when supporting new development with increasingly limited supply sources. One solution is to develop a water transfer portfolio, allowing districts to tap the short-term transfer market and adapt to regional differences while assuaging one of the agricultural community's fears. To reach the other transfer concern about enabling municipal water waste, urban planners can incorporate conservation measures into their design review, ordinances, and building codes. According to the WTW,

> [n]ew water development projects, water conservation efforts to reduce consumptive demand or irrecoverable losses, and water reclamation programs all need to be pursued if California is to meet the water supply challenges of a growing population and its environmental and agricultural needs. Additionally, a more comprehensive discussion of population growth in California is necessary.[252]

The latter suggestion is politically controversial, but a vital question for the legislature and local or regional institutions alike.

Like those trying to site new water projects at the end of the development era, we must face some of the most difficult and politically unpalatable issues: undertaking an assessment of water rights in California and considering the state's population growth. For a successful water market to function relatively freely, we need to evaluate the certainty in actual deliveries for appropriative allocations and invest in assigning volumetric figures for riparian rights, given the increasing state mandates for sufficient supply in permitting new growth. Planners cannot permit new growth without reliable water entitlements,[253] especially as they become more contentious with the advent of anticipated climate change.[254] We honor the Commission's legal legacy of rationality and reason in politically and socially troubled waters by assuming these issues and working toward their resolution with comparable acumen and grace.

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252. WTW FINAL REPORT, *supra* note 81, at 8.

253. *See* SB 221 & SB 610, *supra* note 199 and accompanying text (requiring land developers to identify water supplies for new developments).

254. Johnson & Murphy, *supra* note 2, § 1, at 1.