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MODERNIZING WATER LAW: THE EXAMPLE OF FLORIDA

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I. INTRODUCTION

> At the beginning of the twenty-first century, the Earth, with its diverse and abundant life forms, including over six billion humans, is facing a serious water crisis. All the signs suggest that it is getting worse and will continue to do so, unless corrective action is taken. This crisis is one of water governance, essentially caused by the ways in which we mismanage water.[1]

One of the defining issues of the twenty-first century will be the allocation of fresh water supplies. Population growth, increased per capita consumption in some areas, water pollution, and climate change challenge the water allocation systems of even the wettest states. For example, Florida,

1. U.N. World Water Assessment Programme, U.N. World Water Development Report: Water for People, Water for Life: Executive Summary, at 4 (2003), *available at* http://www.un.org/esa/sustdev/publications/WWDR_english_129556e.pdf.

which enjoys an average annual precipitation of more than fifty inches,[2] has begun to experience regional water shortages, with more predicted for the future.[3]

This Article takes a national view of the modernization of water law. Using Florida as an example, it identifies some of the most important and controversial challenges faced by states. Part II provides an overview of the process of water law reform. As states attempt to improve water management, they have modified their common law water allocation systems with an overlay of statutory law. Often, the process occurs in a piecemeal fashion, resulting in a patchwork of rules—common law and statutory, old and new. In rare cases—including that of Florida—the process may be more comprehensive, one through which states supplement or supplant their common law with modern statutory codes. Part III examines the evolutionary path of Florida, a state that has adopted a generally wholesale reform in modern times. Because this reform took place in 1972—at the dawn of the environmental era—the reform reflects modern environmental and public interest sensibilities. Part IV turns from process to substance, identifying five challenges that plague virtually all states: (1) advancing the public interest while allocating water among competing users; (2) retaining sufficient water in natural streams, lakes, and aquifers to maintain vibrant aquatic ecosystems; (3) ensuring that adequate water supplies will be available for future needs; (4) determining the extent to which managers should "transfer" water from places of relative abundance to places of relative scarcity; and (5) determining the role, if any, of the "free" market[4] in allocating water resources within states.

We hope that our focus upon Florida will be illuminating to water experts in other states, as well as in Florida. We place each of the challenges identified in Part IV into a national context to provide a clearer view of the problem. Then, for each challenge we describe the experience of Florida as a case study of a modern state undertaking a second wave of water reform. Finally, we present our own views as to the best resolution of each of the five challenges and how these views may apply to other states facing challenges similar to those of Florida.

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2. National*atlas*.gov, Florida Precipitation, http://www.nationalatlas.gov/printable/images/pdf/precip/pageprecip_fl3.pdf (last visited May 8, 2009) (listing the average annual precipitation in Florida between 1961–1990 at 53.49 inches).

3. *See infra* Part III (discussing the history of Florida's varied responses to water law issues).

4. Due to the unique nature of water, commentators dispute whether it is even possible to construct "free" markets in water. *See* Joseph W. Dellapenna, *The Importance of Getting Names Right: The Myth of Markets for Water*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 317, 337 (2000).

II. THE LAW OF WATER ALLOCATION: A NATIONAL PERSPECTIVE

In order to fully understand modern water law reform, one must trace the historical roots of the two common law water allocation systems that distinguish eastern states from western states. The wetter eastern states—generally east of the 100th meridian[5]—view the right to use water as an attribute of the ownership of riparian land.[6] This is primarily a torts regime, prohibiting one riparian landowner from inflicting unreasonable harm upon another.[7] In contrast, the arid western states historically have followed the prior appropriation doctrine, protecting the right to use water according to temporal priority of use.[8] The traditional western system is rooted in property, rather than tort law.[9] As an additional layer of complexity, many states have adopted an independent regime for groundwater resources, even though underground and surface waters ultimately are linked in the hydrologic cycle.[10] The historical contours of common law riparianism and prior appropriation continue to color and shape modern water law.

A. *The Common Law*

1. The Riparian Doctrine

Common law riparian rights attach to "riparian" land, defined as land that abuts a natural watercourse (i.e., a surface stream or lake).[11]

5. Charles F. Wilkinson, Crossing the Next Meridian: Land, Water, and the Future of the West 219 (1992).

6. A. Dan Tarlock et al., Water Resource Management: A Casebook in Law and Public Policy 126–27 (5th ed. 2002).

7. RESTATEMENT (SECOND) OF TORTS § 850 (1979) (setting forth the principle that "[a] riparian proprietor is subject to liability for making an unreasonable use of the water of a watercourse or lake that causes harm to another riparian proprietor's reasonable use of water or his land").

8. Frank E. Maloney et al., A Model Water Code: With Commentary 157 (1972).

9. *See, e.g.*, Klamath Irrigation Dist. v. United States, 67 Fed. Cl. 504, 540 (2005) (denying regulatory takings claim and asserting, "water rights, though undeniably precious, are subject to the same rules that govern all forms of property—they enjoy no elevated or more protected status").

10. For a brief discussion of groundwater, see *infra* Part II.B.3.

11. Determination of the contours of riparian land depends on the theory of title, either the unity of title rule or the source of title rule. Joseph W. Dellapenna, *The Right to Consume Water Under "Pure" Riparian Rights*, *in* 1 WATERS AND WATER RIGHTS § 7.02(a)(2), at 223 (Robert Beck ed., 1991). Under the unity of title rule, all lands in a contiguous tract under common ownership are riparian as long as any part of the tract is adjacent to a natural watercourse. *Id.* The history of ownership and past fragmentation of the tract is irrelevant. *Id.* Under the source of title rule, however, land that has been severed from the original riparian track cannot reacquire riparian status, even if ownership is currently unified under a single title; this rule narrowly defines riparian land as land that has perpetually abutted a natural watercourse. *Id.* at 223–24. In practice, the unity of title rule allows more flexible and farther-reaching water use. *Id.* at 223. For example, where a parcel of land has a small portion that abuts a natural watercourse with a disproportionately large parcel that stretches inland, none of which touches the watercourse, the unity of title rule would consider the inland

Historically, the place of use was limited to either the riparian tract itself or to land within the same watershed.[12] The so-called on-tract and watershed rules preserve the metaphysical relationship between the water source and the abutting land.[13] This linkage of land and water also protects the natural environment of the surrounding watershed.[14]

Generally enjoying a "usufructuary" right[15] rather than an immutable property right, all riparian landowners along the same watercourse have an equal right of use of the water.[16] The concept of "reasonable use" determines the type of use and amount of water to which each landowner is entitled.[17] The determination of reasonableness is correlative, considering the reasonableness of a particular use not only in isolation, but also in comparison to other potentially reasonable uses of water. The calculus depends upon an evaluation of factors such as the purpose of the use, the economic and social value of the use, and the extent of harm it causes to other riparian users and, more recently, to the environment.[18] In times of shortage, all riparians share the limited water supply.[19]

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portion riparian as well. *Id.*

12. *See id.* § 8.03(b)(2), at 391–94. In a strict application of the watershed rule, for example, the Connecticut Supreme Court held that the city of New London, which owned two riparian tracts in separate watersheds, could not divert water from the tract outside the city's watershed for use within the city limits. *See* Dimmock v. City of New London, 245 A.2d 569, 570, 573 (Conn. 1968).

13. Joseph W. Dellapenna, *Regulated Riparianism*, *in* 1 WATERS AND WATER RIGHTS, *supra* note 11, § 9.03(a)(2), at 453.

14. *Id.*

15. *See, e.g.*, Vill. of Tequesta v. Jupiter Inlet Corp., 371 So.2d 663, 667–68 (Fla. 1979) ("The right of the owner to ground water underlying his land is to the usufruct of the water and not to the water itself. . . . The right to use water does not carry with it ownership of the water lying under the land. . . . This 'right of user' may be protected by injunction or regulated by law, but the right of user is not considered 'private property' requiring condemnation proceedings unless the property has been rendered useless for certain purposes." (citations omitted)).

16. Dellapenna, *supra* note 13, § 9.03(a)(2), at 453.

17. The reasonable use doctrine was preceded by the natural flow theory, which permitted the use of water as long as it did not alter the rate of flow, or quantity or quality of water for the other riparian users. TARLOCK ET AL., *supra* note 6, at 126–27. That is, all riparians were entitled to enjoy the adjacent watercourse in its natural state. *Id.* at 127. This exacting rule effectively limited permissible use to small-scale and/or nonconsumptive types of use. *Id.* Having long abandoned the natural flow theory for a more practical rule, most riparian states now follow the doctrine of reasonable use. *Id.* at 122.

18. RESTATEMENT (SECOND) OF TORTS § 850A (1979); *see also* Harris v. Brooks, 283 S.W.2d 129, 136 (Ark. 1955) (citing principle that owner may use water right to extent not detrimental to rights of other riparian owners); Mason v. Hoyle, 14 A. 786, 791 (Conn. 1888) (supporting right to use water to one's best advantage, but not to render downstream parties' rights useless or unproductive); Hoover v. Crane, 106 N.W.2d 563, 565 (Mich. 1960) (citing principle that when evaluating reasonable use, court should consider use, extent, and duration, among other factors).

19. RESTATEMENT (SECOND) OF TORTS § 859 cmt. a., illus. 1 (1979) (asserting that during drought or temporary water shortage "it is usually reasonable to require the water and the harm to be shared" among landowners along the same watercourse).

Courts cannot determine the precise contours of riparian water rights in advance. Instead, they must wait until one landowner's exercise of riparian rights has been challenged by another. This results in lengthy, expensive litigation. Moreover, judgments may not survive the arrival of new riparian landowners because a water use that is reasonable under one set of circumstances may not be reasonable under a different set, including an increase in the number of neighbors desiring to share the same limited water supply.[20] In the absence of precisely defined water rights, investors may be reluctant to make expenditures for water-dependent enterprises.[21] The potential for loss of unexercised riparian rights further compounds the uncertainty. Although riparian rights are incident to landownership and generally cannot be lost through nonuse, courts nevertheless invalidate unexercised rights under a variety of legal theories, including abandonment, forfeiture, and prescription.[22]

2. The Prior Appropriation Doctrine

The significantly different climate and geography of the western United States resulted in a correspondingly different system of common law water allocation: prior appropriation. The doctrine grew out of customary practices, such as those of nineteenth-century miners.[23] Based upon the maxim "first in time, first in right," disputes are resolved in accordance with temporal priority, with no requirement that water users demonstrate ownership of riparian lands.[24] In fact, due to the aridity of the West and to the relative scarcity of water sources, westerners engineered elaborate mechanisms to transport water long distances from water source to place of use, even siphoning water across mountain ranges.[25] In times of shortage, users are satisfied in order of priority, departing from the eastern doctrine of pro rata sharing among all competing users.[26]

To perfect an appropriative right under the common law, a user must meet three requirements: (1) the user must demonstrate an *intent* to appropriate water from a natural watercourse;[27] (2) the user must *divert*

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20. *See* Dellapenna, *supra* note 13, § 9.01, at 415.

21. See id.

22. Dellapenna, *supra* note 11, § 7.04(d), at 313; *see also* Pabst v. Finmand, 211 P. 11, 13 (Cal. 1922) (holding that for an upstream user to claim a right by prescription, the downstream riparian must have actual notice of the adverse claim or the circumstances of use must give constructive notice).

23. *See* Irwin v. Phillips, 5 Cal. 140, 147 (1855) (settling competing water claims between miners on public lands by applying the miners' custom of "first in time, first in right").

24. *Id.* at 145, 147.

25. *See, e.g.*, City of Denver v. N. Colo. Water Conservancy Dist., 276 P.2d 992, 995 (Colo. 1954) (considering transmountain water diversion).

26. *See supra* note 19 and accompanying text.

27. TARLOCK ET AL., *supra* note 6, at 161–62; *see also N. Colo. Water Conservancy Dist.*, 276 P.2d at 1008 (finding no intent to appropriate where city failed to make adequate progress in

water from the watercourse;[28] and (3) the user must apply the diverted water to a *beneficial use* without waste.[29] Western water law evolved from a culture that viewed flowing streams as a wasteful give-away of unused water to downstream states.[30] Accordingly, the common law emphasized the diversion requirement, not only to give notice to subsequent competing users, but also to distinguish the doctrine from eastern riparianism, which has been emphatically rejected in the west.[31] At times, the appropriation doctrine has clung stubbornly to the diversion requirement, even where it serves no practical purpose.[32] In contrast, the requirement of beneficial use evolved relatively easily with modern cultural norms.[33]

B. *From Common Law to Statutory Law*

The common law of water allocation, as discussed in the previous section, has developed over the course of more than a century.[34] In times of abundance, the role of water law is relatively insignificant. But as the population grows and dependable water supplies dwindle (through increased use, pollution, climate change, or otherwise), each state must confront the adequacy of its common law system. To address systemic weaknesses, as well as to accelerate the modernization of water doctrine, many states have turned to statutory law. In some states, the statutes form a piecemeal supplement to the common law, resulting in an uneasy mix of old and new. Other states, such as Florida, have undertaken comprehensive reform, adopting detailed water codes that largely replace the common law.[35]

Many commentators emphasize the degree to which modern statutes retain the essence of the common law.[36] Others argue that modern statutes

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constructing infrastructure for transmountain water diversion); State *ex rel.* Reynolds v. Miranda, 493 P.2d 409, 411 (N.M. 1972) (doubting that claimant had formed valid appropriative intent in the absence of physical diversion of water).

28. *Reynolds*, 493 P.2d at 411 (enforcing diversion requirement).

29. Fellhauer v. People, 447 P.2d 986, 994 (Colo. 1968) (requiring "maximum utilization" of state's waters in order to promote efficient, non-wasteful beneficial use); *see also* Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Law*, 28 ENVTL. L. 919, 923 (1998) (discussing "beneficial use" requirement of western states).

30. Christine A. Klein, *The Constitutional Mythology of Western Water Law*, 14 VA. ENVTL. L.J. 343, 357 (1995).

31. *See, e.g.*, Coffin v. Left Hand Ditch Co., 6 Colo. 443, 449 (1882) (endorsing the appropriation doctrine and noting "disastrous consequences" of following riparianism).

32. *See, e.g.*, *Reynolds*, 493 P.2d at 411 (refusing to recognize water right for cattle to drink from natural stream in absence of "man-made" works to divert water).

33. *See, e.g.*, Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist., 45 P.2d 972, 1007 (Cal. 1935) ("What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.").

34. For an early prior appropriation case, see Irwin v. Phillips, 5 Cal. 140, 141 (1855).

35. *See infra* Part III.C.

36. For example, modern eastern statutory systems have been dubbed "regulated riparianism," emphasizing their differences from modern western statutory systems. *See infra* Part II.B.1.

have begun to minimize the differences between riparianism and appropriation, with eastern law importing aspects of temporal priority and pre-use administrative permits, and western law evolving to accommodate environmental protection and other instream uses.[37] This section will explore the challenges faced by traditional common law doctrine, and the attempt to meet those challenges by transitioning to modern statutory systems.

1. Modernizing the Riparian Doctrine

At the beginning of the twenty-first century, many eastern states face water shortages historically experienced primarily in the western United States. Record population growth has significantly strained the water resources in the precipitation-rich eastern half of the country. Increasingly, the easily obtainable, relatively inexpensive water supplies are dwindling under this growing demand. Similar to western states, the East has begun to experience a "geographic mismatch" of supply and demand, with some population centers developing far from the states' most abundant water supplies.[38] This combination of factors provides fertile ground for reform. Eastern states began reforming the common law as early as the 1950s.[39] Over time, these reforms have amassed into a distinct system called "regulated riparianism,"[40] and transition to this system is a current trend among eastern states.[41] Florida has been a leading model, adopting a comprehensive regulated riparian code in 1972.[42]

Regulated riparianism seeks to combine the flexibility of common law riparianism by accommodating as many reasonable uses as possible, with the stability of prior appropriation, by allocating a specific quantity of water for the duration of a permit.[43] Although the details of each state's statutory modification vary, common elements include: administrative allocation of water through a permit system; evaluation of permit applications based on the reasonableness of the proposed use; elimination of place of use requirements; and at least some recognition of temporal priorities.[44]

Although regulated riparianism retains one of the traditional hallmarks of the common law—the doctrine of reasonableness—the reasonableness

37. *See, e.g.*, George William Sherk, Meetings of Waters: The Conceptual Confluence of Water Law in the Eastern and Western States, NAT. RESOURCES & ENV'T, Spring 1991, at 3, 5.

38. TARLOCK ET AL., *supra* note 6, at 1.

39. A. Dan Tarlock, *Water Law Reform in West Virginia: The Broader Context*, 106 W. VA. L. REV. 495, 517 (2004).

40. *Id.*

41. Richard F. Ricci et al., *Battles Over Eastern Water*, NAT. RESOURCES & ENV'T, Summer 2006, at 38, 39.

42. *See infra* Part III.C.

43. Ricci et al., *supra* note 41, at 39.

44. *See generally* Dellapenna, *supra* note 13, § 9.03, at 444–48 (describing various methods of statutory modification of riparian rights).

inquiry is conducted prior to the initiation of a new use, rather than during after-the-fact dispute resolution.[45] Moreover, the parameters of reasonableness are defined by an expanded range of factors, incorporating concerns for efficiency and non-wasteful use (factors also considered under western common law).[46] Thus, the modern reasonable use analysis considers factors such as public health, welfare, and safety; environmental and ecological impact on source and watersheds; nature and size of use; economic and other benefits derived from use; compatibility with state water plans; and historic and preservation values.[47]

Despite the retention of the common law reasonableness analysis, regulated riparianism breaks cleanly from its common law origins in at least three respects. First, the uncertainty of after-the-fact dispute resolution has been replaced by an administrative permit system that considers and authorizes proposed uses before they begin.[48] In general, permits specify the location, nature, and quantity of permitted water use, and the place and means of diversion; impose monitoring and reporting requirements; provide for the protection of minimum flows; and impose other conservation measures.[49] By transferring water allocation functions to an administrative body, states gain significant control over water resources. Through permit applications, a state can collect information about all existing uses to help formulate a state-wide water resources plan, including decisions on where to permit new consumptive uses and where to reserve water for conservation or environmental benefits.[50] In addition, permit applications allow the state to factor the public interest into consumptive uses.[51] Regulated riparian statutes also empower the state to act during times of shortage or emergency.[52] Importantly—and distinct from the western permit system—riparian permits are of limited duration. Water users must reapply to continue their water uses, giving the state the opportunity for periodic review.[53]

As a second line of departure from the common law, modern riparian systems generally abolish place-of-use requirements and discard the

45. Joseph W. Dellapenna, *Developing a Suitable Water Allocation Law for Pennsylvania*, 17 VILL. ENVTL. L.J. 1, 49–50 (2006).

46. Dellapenna, *supra* note 13, § 9.03(b)(1), at 495–97.

47. *Id.*

48. Tarlock, *supra* note 39, at 517–18. Often, no permit is required for small uses that do not cross a specified threshold, or certain types of uses. Dellapenna, *supra* note 13, § 9.03(a)(3), at 455, 459–61.

49. Dellapenna, *supra* note 13, § 9.03(a)(5)(A), at 470–72.

50. Tarlock, *supra* note 39, at 518.

51. *Id.*

52. *Id.*

53. Dellapenna, *supra* note 13, § 9.03(a)(4), at 463. Authors of the *Model Water Code* selected twenty years as a reasonable permit length sufficient to allow for the amortization of infrastructural investments. *Id.* § 9.03(a)(4), at 464. *See also* MALONEY ET AL., *supra* note 8, at 175.

traditional prerequisite of riparian landownership.[54] Some statutes even permit, explicitly or by implication, interbasin transfers from one watershed to another[55]—an idea that would have been anathema under the common law.

Finally, the western reliance upon temporal priority has begun to creep—often unacknowledged—into eastern statutory systems. In some instances, an earlier-established use may be deemed more reasonable than a late-comer.[56] In other cases, states may recognize the priority of existing riparian water uses as they transition to statutory systems to avoid allegations that the new legislation constitutes an unconstitutional regulatory taking of common law water rights, requiring just compensation.[57]

2. Modernizing the Prior Appropriation Doctrine

During the past century, the allure of the West has drawn human settlement beyond the early prospectors and pioneers of the 1800s. What originally deterred population growth—the rugged landscape and arid climate—has paradoxically become a magnet for urban growth, enabled by water infrastructure projects and other investment in western states. Changes in water use have followed changes in land use, from agriculture and rural spaces to urban development and environmental conservation.[58]

Three main aspects of prior appropriation have become the focus of reform: (1) beneficial use; (2) the diversion requirement; and (3) efficiency. Over time, the range of uses deemed "beneficial" has expanded. In addition to traditional municipal, industrial, mining, irrigation, and hydropower purposes, beneficial uses now may include recreation and fish and wildlife protection.[59]

In many cases, these modern uses do not require the physical diversion of water from the natural watercourse; in fact, they rely upon legal protection for water remaining in natural streams or lakes. Recognition of these new beneficial uses has prompted a second reform—the relaxation of the common law diversion requirement. Now, many states recognize non-

54. Dellapenna, *supra* note 45, at 50.

55. Dellapenna, *supra* note 13, § 9.03(a)(2), at 454–55 (indicating that interbasin transfers are permitted in states including Connecticut, Georgia, Florida, Kentucky, and New York).

56. FLA. STAT. ANN. § 373.223(1)(b) (West 2008) (requiring consumptive use permit applicants to demonstrate, *inter alia*, that "the proposed use of water . . . [w]ill not interfere with any presently existing legal use of water"); *see also* Dellapenna, *supra* note 13, § 9.03(b)(3), at 506.

57. *See, e.g.*, *In re* Waters of Long Valley Creek Stream Sys., 599 P.2d 656, 669 (Cal. 1979) (interpreting state water code "as not authorizing the [state water board] to extinguish altogether a future riparian right, [but permitting the board to make] determinations as to the scope, nature and priority of the right").

58. See generally A. Dan Tarlock, The Future of Prior Appropriation in the New West, 41 NAT. RESOURCES J. 769, 776 (2001).

59. Gregory J. Hobbs, Jr., *Priority: The Most Misunderstood Stick in the Bundle*, 32 ENVTL. L. 37, 47 (2002).

diversionary "instream flow" water rights for specified, limited purposes.[60]

As a third reform, western states have sought to increase the efficiency of water use. Reluctant to enforce the longstanding prohibition against waste with respect to individual water users,[61] states have instead explored broader, systemic efficiency measures. One such idea addresses the problem that many senior water rights have been locked into relatively inefficient, traditional uses—agricultural flood irrigation, for example—even as cities are scrambling to find future water supplies. Rather than prohibiting such inefficient practices (by requiring the installation of micro-irrigation systems, for example), some states allow farmers to sell their water rights to cities, which presumably will use the water in a more efficient manner.[62] Although water markets hold promise to increase efficiency and to transfer water to more socially-desirable uses, they are not without difficulty.[63] For example, markets cannot function without precisely-defined "rights"—a feature somewhat problematic in the West,[64] and even more problematic under the eastern riparian doctrine.[65]

3. Modernizing Groundwater Allocation Doctrine

Historically, groundwater has been regarded as mysterious and unknowable, governed by relatively lenient common law regulations, independent of surface water regulations.[66] Most states have long overlooked the connection between surface water and groundwater,

60. *See, e.g.*, Pagosa Area Water & Sanitation Dist. v. Trout Unlimited, 170 P.3d 307, 314 (Colo. 2007) (discussing C.R.S. § 37-92-501 and the "maximum utilization" doctrine, concluding that the doctrine does not require that "every ounce of Colorado's natural stream water ought to be appropriated"); *In re* Adjudication of the Existing Rights to the Use of All the Water, 55 P.3d 396, 406 (Mont. 2002) (recognizing valid non-diversionary appropriations for fish, wildlife, and recreational purposes); *see also* COLO. REV. STAT. § 37-92-103(10.3) (West 2008) (authorizing "[r]ecreational in-channel diversion," defined as "the minimum amount of stream flow as it is diverted, captured, controlled, and placed to beneficial use . . . pursuant to an application filed . . . for a reasonable recreation experience").

61. For an extreme example, see State *ex rel.* Cary v. Cochran, 292 N.W. 239, 247 (Neb. 1940) (declining to prohibit as wasteful delivery to senior water user that would incur a 77% transit loss).

62. *See, e.g.*, Green v. Chaffee Ditch Co., 371 P.2d 775, 783 (Colo. 1962) (approving change of water right, with conditions, from agricultural to municipal use).

63. See Christine A. Klein, Water Transfers: The Case Against Transbasin Diversions in the Eastern States, 25 UCLA J. ENVTL. L. & POL'Y 249, 268 (2007).

64. *See, e.g.*, Jedidiah Brewer et al., *Transferring Water in the American West: 1987–2005*, 40 U. MICH. J.L. REFORM 1021, 1025, 1038 (2007).

65. *See infra* Part IV.E.

66. *See, e.g.*, State v. Superior Court of Riverside County, 93 Cal. Rptr. 2d 276, 286 n.20 (Ct. App. 2000) (noting traditional view under which "[g]roundwater was often called 'occult' . . . , carrying the meanings of both 'hidden' and 'mysterious'" (citations omitted)); Joseph L. Sax, *We Don't Do Groundwater: A Morsel of California Legal History*, 6 U. DENV. WATER L. REV. 269, 270 (2003). Common law groundwater regimes include the English rule of absolute ownership, the modified American rule of reasonable use, a prior-appropriation-like rule, and a correlative rights rule. TARLOCK ET AL., *supra* note 6, at 532, 549, 554, and 558.

subjecting rivers to "dewatering through the invidious and indirect means of groundwater pumping."[67] Slowly, reforms—affecting both riparianism and the prior appropriation doctrine—have begun to acknowledge the relationship between surface and groundwater.[68] For example, the Florida Water Resources Act of 1972 authorizes water managers to require permits for consumptive use of "water,"[69] defined as "any and all water on or beneath the surface of the ground or in the atmosphere . . . ."[70]

III. THE EVOLUTIONARY PROCESS: THE FLORIDA PERSPECTIVE

A. *In the Beginning: The Common Law*

Historically, Florida followed the eastern riparian doctrine, linking the right to use water to the ownership of waterfront land.[71] Early eastern riparian water law subdivided rights and obligations regarding water consumption based on what were thought to be four distinct categories of water: (1) surface streams and lakes in distinct, well-defined channels; (2) surface waters with no distinct or well-defined channels ("diffuse" surface water); (3) subterranean streams with distinct well-defined channels; and (4) subterranean waters with no distinct or well-defined channels ("percolating" water).[72] These distinctions were rooted in a lack of hydrological information about the interrelatedness of above ground and groundwater sources, leading to early misconceptions and unnecessarily complicated treatment of water by the courts.[73] Nineteenth-century Florida was no exception, applying the same classification system.[74] As scientific knowledge about the relationship and interdependence of all sources of water increased, Florida water law evolved and courts began applying

67. Brewer, et al., *supra* note 64, at 1028.

68. Kevin L. Brady, *An Economic Review of Inefficiency in Utah Groundwater Law: Cache County Emphasis*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10021, 10025 (2008) (referring to county management plan under which "county officials manage both groundwater and surface water permits conjunctively"); Brian E. Gray, *Global Climate Change: Water Supply Risks and Water Management Opportunities*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1453, 1457 (2008) ("One essential component of our response to global warming will be greater conjunctive use of ground and surface water supplies."); R. Timothy Weston, *Harmonizing Management of Ground and Surface Water Use Under Eastern Water Law Regimes*, 11 U. DENV. WATER L. REV. 239, 240–41 (2008) (considering eastern administrative management programs that have "attempted to consider and address the connection between surface water and groundwater").

69. FLA. STAT. ANN. § 373.219(1) (West 2008).

70. FLA. STAT. ANN. § 373.019(20).

71. *See supra* Part II.A.1.

72. Tampa Waterworks Co. v. Cline, 20 So. 780, 782 (Fla. 1896); Frazier v. Brown, 12 Ohio St. 294, 298–99 (1861), *overruled by* Cline v. Am. Aggregates Corp., 474 N.E.2d 324, 327 (Ohio 1984); *see also* FRANK E. MALONEY, ET AL., WATER LAW AND ADMINISTRATION: THE FLORIDA EXPERIENCE 151 (1968).

73. MALONEY ET AL., *supra* note 72, at 150.

74. *Id.* at 151.

substantially similar laws to surface and groundwater.[75]

Floridians did not historically see surface watercourses (streams and lakes) as major sources for consumptive uses, primarily because of the great abundance of groundwater and the ease of tapping into aquifers.[76] Moreover, surface water (especially when diffused, and not confined to a specific channel) was often perceived as a nuisance to be removed rather than used because it would drown crops, erode the land, and cause flooding.[77] Nonetheless, Florida law governing consumptive use of surface watercourses developed from the riparian reasonable use doctrine of the eastern states, which originated from English common law.[78] As early as 1896, Florida rejected the unworkable English natural flow version of riparianism in *Tampa Waterworks Co. v. Cline*.[79] Under the natural flow theory, all riparians have the right to receive surface water that flows past their land "substantially undiminished in quantity and uncorrupted in quality."[80] The Florida Supreme Court rejected that theory, declining to hold "that there can be no diminution whatever, and no obstruction or impediment whatever, by a riparian proprietor in the use of the water as it flows, for that would be to deny any valuable use of it."[81] Instead, like many eastern states, Florida adopted the reasonable use version of riparianism, under which all riparian owners bordering a common watercourse have an equal right to use the water for all reasonable lawful purposes, as long as such use does not cause unreasonable harm to other riparians.[82]

Florida began to apply substantially similar laws to surface and groundwater as early as 1956,[83] departing from the common law's failure to appreciate the interdependence of surface and groundwater.[84] In *Koch v.*

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75. *But see id.* at 167 (noting that only category two, diffuse surface water, remained largely unregulated under Florida common law).

76. *Id.* at 164.

77. *Id.* at 167.

78. For a discussion of the reasonable use doctrine, see *supra* Part II.A.1; *see also* FLORIDA BAR ASS'N, ENVTL. & LAND USE LAW SECTION, HISTORY OF THE REGULATION OF CONSUMPTIVE USE, § 14.1-1.

79. 20 So. 780, 782 (Fla. 1896). For discussion of the natural flow doctrine *see supra* note 17.

80. *Tampa Waterworks*, 20 So. at 782.

81. *Id.* at 782–83.

82. Taylor v. Tampa Coal Co., 46 So. 2d 392, 394 (Fla. 1950). Initially, Florida accorded special treatment to "natural" uses, including "domestic purposes of home or farm, such as drinking, washing, cooking, or for stock of the proprietor," which could occur even if harmful to other riparians. *Tampa Waterworks*, 20 So. at 783. In contrast, "artificial uses" such as irrigation were limited by the reasonable use rule, precluding unreasonable harm to other riparians. *Taylor*, 46 So. 2d at 394.

83. Koch v. Wick, 87 So. 2d 47, 48 (Fla. 1956); *see also* Cline v. Am. Aggregates Corp., 474 N.E.2d 324, 327 (Ohio 1984) (extending the reasonable use rule of surface water to percolating groundwater and overruling *Frazier v. Brown*, 12 Ohio St. 294 (1861)). The "percolating groundwater" that was the subject of *Frazier* falls into category four of the scheme recognized by many eastern courts. *See supra* note 72 and accompanying text.

84. *See supra* Part II.B.3.

Wick, the Florida Supreme Court noted with approval "that American courts have receded from the old common law rule that an owner had an unrestricted right to draw percolating water from his land and [they began] to adopt the rule that the right is bounded by reasonableness and beneficial use of the land."[85]

Ultimately, Florida's consumptive use common law came to a close with the enactment of the more comprehensive and progressive Florida Water Resources Act of 1972.[86] Notably, the statute generally superseded the common law.[87]

B. *In the Academy: The Model Water Code*

The Water Resources Act of 1972, and the *Model Water Code* on which it was based, were developed on a foundation of earlier legislation and studies of Florida's water management needs. The earliest legal and institutional development focused on the promotion of large-scale drainage projects. After transferring much of the state into private hands to encourage drainage and transportation improvements, the legislature provided for the creation of special taxing districts to finance the construction and operation of drainage works.[88] The most notable of these was the Everglades Drainage District, established in 1913 to complete the construction of a major network of structures draining Lake Okeechobee and the wetlands south of it.[89] The Everglades Drainage District established the principle that water

85. *Koch*, 87 So. 2d at 48; *see also Cline*, 474 N.E.2d at 326 (recognizing that "the advancement of scientific knowledge can insure the protection of a landowner's property rights in groundwater to the same degree that the riparian doctrine protects the interests of land owners adjacent to a stream").

86. *See* FLA. STAT. ANN. ch. 373 (West 2008).

87. Sw. Fla. Water Mgmt. Dist. v. Charlotte County, 774 So. 2d 903, 912 (Fla. 2d DCA 2001) (approving the conclusion of an administrative law judge that "[i]n adopting the Florida Water Resources Act, the legislature clearly intended to supplant the common law allocation system" and noting that "the legislature did not intend to allow vested common law water rights to exist ad infinitum alongside a statutory-permitting system" (alteration in original)). However, the Act exempts domestic water use from regulation, and such uses presumably remain subject to the common law. *See* Richard Hamann, *Consumptive Water Use Permitting*, *in* 1 FLORIDA ENVIRONMENTAL AND LAND USE LAW 10-7 (1997). Moreover, the Act does not mandate the regulation of all water uses, prompting the water management districts by rule to exempt some uses from regulation. If nonregulated uses become regulated in the future, then the common law would guide future permitting decisions. FLA. STAT. ANN. § 373.226(2) (West 2008) ("The governing board or the department shall issue an initial permit for the continuation of all uses in existence before the effective date of implementation of this part if the existing use is a reasonable-beneficial use . . . and is allowable under the common law of this state.").

88. *See* Luther J. Carter, The Florida Experience: Land and Water Policy in a Growth State 68 (1974).

89. 1913 Fla. Laws 127. The Okeechobee Flood Control District was created in 1931 to cooperate with the U.S. Army Corps of Engineers in building and operating an improved system of flood control and navigation works, including the Hoover Dike. 1931 Fla. Laws 570–71; *see also* NELSON MANFRED BLAKE, LAND INTO WATER—WATER INTO LAND: A HISTORY OF WATER

management facilities should be paid for by assessments or taxes on the land benefited by the drainage.[90] Numerous smaller drainage districts were established by legislation or petition to county commissions or circuit courts. These smaller drainage districts also had the authority to levy assessments or taxes on land and were controlled by boards elected by benefited landowners whose voting rights were proportional to the acreage they owned.[91] In 1945 there were 145 drainage districts operating in Florida.[92]

These efforts to drain Florida worked well; in fact, they worked too well. By 1944, there was such extensive concern over the adequacy of water management in Florida that Governor Spessard Holland[93] appointed a State Committee on Water Resources to investigate and make recommendations.[94] The Committee's report described a familiar litany of water problems resulting from overdrainage, increasing and frequently wasteful use, abandoned artesian wells, inadequate monitoring, and the failure to coordinate water control measures. To address these problems, the Committee recommended creating a Florida Department of Water Resources with authority to conduct research and monitoring, approve water supply and water control plans, regulate wells, establish regulation schedules for water levels, regulate water use and re-use, and cooperate in project development.[95] The recommendations were not adopted by the Florida Legislature.

Subsequent efforts focused on the development of regional institutions to address water management concerns in those areas of the state subject to the greatest growth pressures. Tropical storm flooding of central and south Florida in 1947 led to the creation of the Central and Southern Florida Flood Control District[96] to serve as the local sponsor of an enhanced drainage system to be constructed by the U.S. Army Corps of Engineers.[97] Like the Everglades Drainage District and the Okeechobee Flood Control District, which it absorbed,[98] the new Flood Control District was financed by ad

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MANAGEMENT IN FLORIDA 145–47 (1980).

90. BLAKE, *supra* note 89, at 122.

91. FLA. STAT. ANN. §§ 298.001, .11, .365 (providing for the management of the entities now known as "water control districts").

92. Citizens Water Problem Study Comm., Report to the Honorable Leroy Collins, Governor of the State of Florida 1 (Mar. 1, 1955) [hereinafter Citizens Water Problem Report].

93. The Spessard L. Holland Law Center at the University of Florida Levin College of Law was named in 1969 for the lawyer from Bartow who served as both the Governor of Florida and U.S. Senator, and founded the law firm of Holland & Knight. UF Law: Heritage of Leadership, Spessard L. Holland, http://www.law.ufl.edu/leadership/holland.shtml (last visited May 8, 2009).

94. State Comm. on Water Resources, Report and Legislative Recommendations 1 (Apr. 1, 1945).

95. *Id.* at 7.

96. 1949 Fla. Laws 514.

97. H.R. DOC. NO. 80-643 (1948).

98. 1949 Fla. Laws 1025 (abolishing the Everglades Drainage District); 1949 Fla. Laws 514

valorem taxes.[99] Unlike the drainage district, it was governed by a board of gubernatorial appointees.[100] Although the principal responsibility of the Flood Control District was to build and operate the flood control and drainage system, it also had broader responsibilities for conservation and protecting the property and inhabitants of the area from either the "surplus or deficiency" of water.[101] Flooding of western peninsular Florida in 1960 resulted in the establishment of the Southwest Florida Water Management District to serve as local sponsor of a flood control project in the region, the Four Rivers Basins Project.[102]

Meanwhile, there had been significant developments at the state level. Another group of citizens met in 1954–1955, identified continuing problems of water management, and recommended the establishment of a more formal commission to consider whether Florida required a comprehensive water law and state administrative structure.[103] The 1955 Legislature created the Florida Water Resources Study Commission,[104] which delivered a report in late 1956.[105] The report included a comprehensive assessment of water resources and management issues in the state. It called for the clarification of water rights and recommended the creation of a state agency to administer water policy.[106] The 1957 Legislature responded by enacting a new Water Resources Law[107] and creating a Department of Water Resources in the State Board of Conservation.[108] The Board was empowered to "authorize the capture, storage and use of water" of any watercourse, lake or groundwater source in excess of minimum flows, levels or elevations established by the statute.[109] Importantly, the law went beyond flood control,

(abolishing the Okeechobee Flood Control District).

99. 1949 Fla. Laws 485.

100. 1949 Fla. Laws 482.

101. 1949 Fla. Laws 476.

102. *See* 1961 Fla. Laws 230.

103. CITIZENS WATER PROBLEM REPORT, *supra* note 92, at 17–18, 24.

104. 1955 Fla. Laws 306, 307. The act also established state water policy. *Id.*

105. Fla. Water Res. Study Comm'n, Florida's Water Resources: A Study of the Physical, Administrative, and Legal Affairs of Water Problems and Water Management, Agricultural-Industrial-Municipal-Recreational iii (Dec. 1956). The Commission's report included a comprehensive summary of existing water laws prepared by a Committee on Water Law organized under the auspices of The Florida Bar and chaired by Frank E. Maloney. *Id.* at xi, 5–16. Maloney, who was at that time a professor of law at the University of Florida, had developed an interest in water law through his expertise in the law of torts.

106. *Id.* at 87, 89.

107. FLA. STAT. ANN. §§ 373.071–.251(1957); 1957 FLA. LAWS, ch. 57-380, 855-863 (repealed 1972); *see also* Frank E. Maloney, *Florida's New Water Resources Law*, 10 FLA. L. REV. 119, 132 (1957) (detailing the development of the new Water Resources Law). The Water Resources Law was incrementally strengthened in chs. 61-231, 63-210, 63-336, 65-60, 65-409, 69-106, and 71-377.

108. Maloney, *supra* note 107, at 137.

109. 1957 Fla. Laws 858. For example, the minimum flow of a watercourse was defined as "the average of the minimum thirty (30) day flow occurring during each of the five (5) lowest calendar years in the period of the preceding twenty (20) consecutive years." *Id.* at 856.

considering water as a resource valuable for use. The Board could also authorize the transport of water beyond riparian or overlying land provided there was no interference with existing reasonable uses—a significant departure from common law riparianism.[110] These powers could be delegated to any water management district.[111]

Scholarly analysis of Florida water law continued at the University of Florida with the publication in 1968 of *Water Law and Administration: The Florida Experience*.[112] Dean Frank Maloney and his colleagues then turned their attention to developing a proposal for a comprehensive regulatory program suitable for any eastern state. The result, *A Model Water Code*, was published in 1972.[113] As the authors were completing their work, a severe drought was affecting Florida, particularly in the southeast, with water shortages, salt water intrusion into wellfields, fires in the Everglades, and nationally-published photographs of alligators dying of thirst.[114] Governor Askew convened a "Governor's Conference on Water Management in South Florida," which concluded, "There is a water crisis in South Florida today" and recommended comprehensive land and water regulation.[115] Legislative leaders searching for a solution were provided with early copies of the *Model Water Code*, which they used as the basis for the Florida Water Resources Act of 1972,[116] albeit with some significant changes.[117]

The *Model Water Code* declared that the waters of the state were property of the state and held in public trust for the benefit of its citizens, who had a right to have the waters protected for their use.[118] Administratively, it vested substantial authority in a State Water Resources Board of gubernatorial appointees, with specified qualifications or experience in water management.[119] The State Board was authorized to conduct monitoring and research, develop and approve all federal water projects, and develop a state water use plan.[120] The Board was also expected to administer state water pollution control programs and regulate weather modification activities—an important step toward the linkage of water quality and quantity issues.[121] Water management districts were also to be created, modeled after Florida's existing districts, with the state Board given

110. *See supra* notes 12–14 and accompanying text (describing on-tract and watershed rules).

111. 1957 Fla. Laws 858.

112. MALONEY ET AL., *supra* note 72.

113. MALONEY ET AL., *supra* note 8.

114. *See* BLAKE, *supra* note 89, at 224; *see also* CARTER, *supra* note 88, at 125.

115. BLAKE, *supra* note 89, at 225, 227.

116. *See* 1972 Fla. Laws 1083.

117. *See infra* Part III.C.

118. MALONEY ET AL., *supra* note 8, § 1.02, at 3.

119. *Id.* § 1.05–.06, at 5–7. The board had to include an attorney, an engineer or hydrologist, a farmer or rancher, and two members of the public. *Id.* § 1.05, at 5–6.

120. *Id.* § 1.06, at 7–8.

121. *Id.* § 1.06, at 8.

"general supervisory authority" and the specific authority to review and rescind the regulations of the districts.[122] The governing boards of the water management districts were authorized to regulate the consumptive use of water, the installation of wells and pumping equipment, and the construction and operation of dams, impoundments, and other works for the management of surface waters.[123]

The provisions for water resource planning of the *Model Water Code* are very comprehensive. The State Water Resources Board was charged with developing a State Water Use Plan based on extensive studies of existing water resources, existing and contemplated needs and uses of water for consumptive use, fish and wildlife, recreation, and water quality improvement, and such related subjects as drainage, flood-plain zoning, and the selection of reservoir sites.[124] The Board was directed to divide each water management district into "hydrologically controllable area[s]" and develop the Plan on that basis.[125] Within each of these areas, the Plan was required to include minimum flows for all surface watercourses and minimum levels for all lakes and ponds greater than twenty-five acres and all aquifers.[126] In addition, the Board was authorized to prohibit or restrict future uses on designated streams that were inconsistent with public recreation, protection of the environment, or procreation of fish and wildlife.[127] Uses could also be designated as "undesirable" or "preferred" based on the "nature of the activity or the amount of water required."[128] Authority to protect the environment from consumptive use of water was thus established. The State Water Use Plan was to be integrated with a state water quality plan in a state water plan.

The actual regulation of consumptive use of water was to be implemented by the water management districts under chapter two of the *Model Water Code*.[129] All withdrawals, diversions, impoundments, or consumptive uses were subject to regulation, except domestic consumption by individual users.[130] Permits were of limited duration[131]—a departure from the common law of both the eastern and western states—and water use could be further limited during water shortages.[132]

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122. *Id.* § 1.06(10), at 8.

123. *Id.* at chs. 2, 3, 4.

124. *Id.* § 1.07(1), at 9.

125. *Id.* § 1.07(3), at 9.

126. *Id.* § 1.07(4), at 9–10. Conditioning of consumptive use permits to preserve minimum flows and levels was required. *Id.* § 1.07(6), at 10.

127. *Id.* § 1.07(7), at 10.

128. *Id.* § 1.07(8) & (9), at 10

129. *Id.* at ch. 2.

130. *Id.* § 2.01, at 23.

131. *Id.* § 2.06, at 25. Under common law riparianism, water rights generally endured as a permanent attribute of riparian landownership. Similarly, the appropriation doctrine recognizes perpetual rights to the use of water. *See supra* Part II.A.

132. MALONEY ET AL., *supra* note 8, § 2.09, at 26–27.

The conditions for issuance of a permit were some of the most innovative provisions of the *Model Water Code*. Applicants were required to show that a proposed use would meet three criteria.[133] It could not interfere with presently existing legal uses of water, thus giving protection to existing users for the duration of their permits—a striking contrast to riparian law's rejection of the western reliance upon priority.[134] Second, it had to be a "reasonable-beneficial use," defined in the code to incorporate both the reasonable use limitation of common law riparianism[135] and the beneficial use limitation[136] of prior appropriation. The effect was to limit the wasteful or inefficient use of water, regardless of how it affected other users or the environment, while giving the districts discretion to promote the most socially, economically, and environmentally desirable uses of scarce water resources.[137] Finally, the proposed use must be consistent with the public interest and the State Water Plan.[138] The districts were further empowered to "reserve" water from use by permit applicants in order to implement provisions of the state water plan.[139]

C. *In the Legislature: The Water Resources Act of 1972*

In 1972, the Florida legislature enacted Chapter 373 of the Florida Statutes, entitled the Florida Water Resources Act of 1972 (Act).[140] This Act, based in large part on the *Model Water Code*,[141] was intended to implement the policy of Article II, Section 7, of the Florida Constitution, by preserving natural resources, fish and wildlife, minimizing degradation of water resources caused by stormwater discharges, and providing for the management of water and related land resources.[142] The Act is highly regarded throughout the nation, providing a comprehensive system of water allocation throughout the state. The statute is forward-looking in many ways, including (1) the organization of state water institutions in conformity

133. *Id.* § 2.02, at 23–24.

134. *Id.*; *see also supra* Parts II.A.1, II.B.1.

135. MALONEY ET AL., *supra* note 8, § 1.03(4), at 4; *see also supra* notes 17–19 and accompanying text.

136. *See supra* note 29 and accompanying text.

137. Frank E. Maloney et al., *Florida's "Reasonable Beneficial" Water Use Standard: Have East and West Met?*, 31 FLA. L. REV. 253, 254, 269–70 (1979). For a scathing critique of the scope of discretion in the *Model Water Code*, see Frank J. Trelease, *The* Model Water Code, *the Wise Administrator and the Goddam Bureaucrat*, 14 NAT. RESOURCES J. 207, 209–10 (1974).

138. MALONEY ET AL., *supra* note 8, § 2.02(1), at 23–24.

139. FLA. STAT. ANN. § 373.223(4) (West 2008).

140. 1972 Fla. Laws 1082–83.

141. *See generally* MALONEY ET AL., *supra* note 8.

142. FLA. STAT. ANN. § 373.016 (West 2008); *see also* Prugh v. St. Johns River Water Mgmt. Dist., 578 So. 2d 1130, 1131 n.2 (Fla. 5th DCA 1991). Portions of this description of the Act previously appeared in Mary Jane Angelo, *Integrating Water Management and Land Use Planning: Uncovering the Missing Link in the Protection of Florida's Water Resources?*, 12 FLA. J.L. & PUB. POL'Y 223, 226 (2001).

with hydrological basins; (2) the integration of surface and groundwater supplies; (3) the inclusion of provisions for environmental protection; (4) the integration of water quality and water quantity issues; and (5) the heavy reliance upon planning for the future.[143] Under Chapter 373, water management districts are responsible for addressing issues such as water supply, flood protection, water quality, and protection of natural systems.[144] These responsibilities are carried out through the implementation of a number of regulatory and nonregulatory programs.

One of the most far-sighted acts of the crafters of the Act was to recognize that water resources do not stop at city or county boundaries. The Act adopted the approach set forth in the *Model Water Code*, which established regulatory and planning agencies, called "water management districts" (WMDs), based on watershed boundaries rather than political boundaries.[145] The Act divided the State of Florida into five water management districts based on the five major surface water hydrologic basins in the state: the St. Johns River Water Management District; the Suwannee River Water Management District; the South Florida Water Management District; the Southwest Florida Water Management District; and the Northwest Florida Water Management District.[146] The benefit of using watershed boundaries is that, at least with regard to surface water, water management districts would be able to comprehensively address all of the water-related issues within their respective watersheds. The districts would be less likely to encounter parochial struggles that might ensue when water crosses political boundaries and multiple governmental entities get involved in a decision regarding a particular waterbody or activities within a particular watershed. This regional/watershed-based aspect of water management is critical to the protection of water resources.[147]

As a second innovation, the Act treats surface water and groundwater uses consistently. The Act defines "water" or "waters in the state" to mean "any and all water on or beneath the surface of the ground or in the

143. *See, e.g.*, FLA. STAT. ANN. § 373.026 (West 2008).

144. *Id.*

145. *Id. See also* FLA. STAT. ANN. § 373.069 (West 2008).

146. *Id.* An important power given to the water management districts is the authority to levy ad valorem taxes to finance water management programs. The authority of the new districts to levy these taxes required a constitutional amendment, which the legislature placed on the ballot for 1976. In most of the state, it authorized the legislature to allow the districts to levy up to one mil. Powerful legislators in the Florida panhandle successfully demanded, however, that the Northwest Florida Water Management District should be limited to .05 mil. The measure was approved by a large majority, with most of the support coming from areas where citizens had been paying property taxes to support water management for many years.

147. In 1976, the Florida legislature enacted section 373.217, Florida Statutes, to provide that Part II of the Act is the exclusive authority for requiring permits for the consumptive use of water. This preemption was intended to avoid conflict among communities over water resource allocation. *See* Nw. Fla. Water Mgmt. Dist. v. Dep't of Cmty. Affairs, No. 1D08-4993, 2009 WL 593558, at *2 (Fla. 1st DCA Mar. 10, 2009).

atmosphere . . . ."[148] Furthermore, the Act erases the common law distinction among water that flows in a defined channel (either above or below-ground), water that is diffused across the earth's surface, and water that percolates beneath the ground.[149] The definition of "water" includes "natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state."[150]

A third progressive aspect of the Act is its emphasis upon environmental protection. The regulation of consumptive uses of water in Florida is governed by Part II of Chapter 373, which authorizes the state's five water management districts to adopt rules governing consumptive uses in their respective jurisdictions to prevent "harm[] to the water resources of the area."[151] The water management districts have implemented this authority through a Consumptive Use Permitting Program (CUP program) requiring permits for most water uses.[152] The statutory standard for authorizing a consumptive use of water consists of a three-prong test as set forth in the *Model Water Code*: the proposed use (1) must be a "reasonable-beneficial" use; (2) must not interfere with any presently existing legal use of water; and (3) must be consistent with the public interest.[153] Several criteria that make up the "reasonable-beneficial" component of the test are set forth in the water management district rules. For example, the reasonable-beneficial criteria in the St. Johns River Water Management District rules[154] include a number of factors related to preventing environmental harm and requiring water conservation and reuse of reclaimed water whenever feasible. Specifically, these rules require that all available water conservation measures that are economically, environmentally, or technically feasible must be used and that when reclaimed water is available, it must be used if

148. FLA. STAT. ANN. § 373.019(20) (West 2008).

149. These common law distinctions are discussed in *supra* Part III.A.

150. FLA. STAT. ANN. § 373.019(20) (West 2008).

151. FLA. STAT. ANN. § 373.219(1) (West 2008).

152. FLA. STAT. ANN. § 373.216 (West 2008). By statute, single family uses are exempt from CUP regulation. *See* FLA. STAT. ANN. § 373.219(1) (West 2008). In addition, the water management districts have adopted a number of regulatory exemptions, thresholds, and permits by rule. *See, e.g.*, FLA. ADMIN. CODE ANN. r. 40C-2.051 (2006). One very important aspect of the CUP program is that it is preemptive. Section 373.217(2) provides that Florida Statutes, Chapter 373, Part II is the "exclusive authority for requiring permits for the consumptive use of water . . . ." Thus, unlike many other areas of regulation where local governments are free to have more restrictive regulations than exist at the state level, the legislature has taken the regulation of the consumptive uses of water out of the hands of local governments. In other words, the regulation of the consumptive use of water is within the sole purview of water managers and is not within the jurisdiction of local government land use planners and growth managers.

153. Fla. Stat. Ann. § 373.223(1) (West 2008).

154. Although each water management district has its own rules, for purposes of this Article, the St. Johns River Water Management District rules will be used for illustrative purposes. *See* FLA. ADMIN. CODE ANN. r. 40C-2.301(4) (2006).

economically, environmentally, and technically feasible.[155] The rules also require that the proposed use must be the lowest quality source available for the intended use, that environmental and economic harm must be reduced to an acceptable amount, and that the use must not cause saltwater intrusion.[156] In addition to these requirements, the rules also contain specific criteria to protect water necessary for environmental health. These rules prohibit consumptive uses of water that would cause water levels or flows to fall below the minimum flow or levels[157] established by rule for that particular waterbody and require that new consumptive uses cannot interfere with water that has been "reserved" from use by rule.[158] Neither the Act nor the districts' rules contain detailed guidance on what constitutes "consistent with the public interest." Moreover, one significant part of the *Model Water Code*, which did not get adopted as part of the Act, is the *Model Water Code*'s provision allowing the designation of certain uses as either "undesirable" or "preferred" based on the nature of the activity or the amount of water required. The Act does not provide for such "preferred or priority uses," except that in the situation where two or more applications which otherwise comply with the Act are pending for a quantity of water that is inadequate, the Act directs the districts to approve the application which best serves the public interest and provides that in such situations, preference shall be given to a renewal application over a new application.[159]

Fourth, the Act provides an opportunity for integration of water quality and water quantity issues. Unlike the approach in many states where the governmental entities charged with making water allocation decisions are isolated from the governmental entities charged with regulating activities that impact water quality, the Florida districts regulate both. In addition to administering the CUP program, the districts administer a second regulatory program, the Environmental Resource Permit Program (ERP program), which regulates virtually all land development in excess of a certain size in Florida. The ERP program is extremely broad in its scope, which is not surprising given its roots in the *Model Water Code*, which intended to

155. *Id.*

156. *Id.*

157. *See, e.g.*, FLA. ADMIN. CODE. ANN. r. 40C-2.301(4)(k)(l) (2006). The Act requires the water management districts to establish minimum flows for all surface water courses, which establish the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area and to establish minimum water levels, which establish the level of groundwater in an aquifer and the level of surface water at which further withdrawals would be significantly harmful to the water resources of the area. § 373.042(1). For a more detailed discussion of minimum flows and levels, see *infra* Part IV.B.

158. *See, e.g.*, FLA. ADMIN. CODE ANN. r. 40C-2.301(5)(a)(4) (2006). The Act provides that the water management districts, by regulation, may reserve from use by permit applicants, water in such locations and quantities required for the protection of fish and wildlife or the public health and safety. § 373.223(4). For a more detailed discussion of water reservations, see *infra* Part IV.B.

159. FLA. STAT. ANN. § 373.233 (West 2008).

capture "virtually every type of artificial or natural structure or construction that can be used to connect to, draw water from, drain water into, or be placed in or across surface water . . . [including] all structures and constructions that can have an effect on surface water."[160] Specifically, the jurisdiction of the ERP program includes the construction, alteration, operation, maintenance, abandonment, and removal of any "stormwater management system, dam, impoundment, reservoir, appurtenant work, or works," and all dredging and filling in surface waters or wetlands.[161] Thus, the ERP program covers most land development systems, including buildings, parking lots, roads, ditches, pits, and mines, whether in uplands, wetlands, or other surface waters.[162] Among other things, the ERP criteria expressly prohibit any activity that would cause adverse water quantity impacts, cause or contribute to a violation of a state water quality standard, or cause adverse impacts to the functions provided to fish and wildlife by wetlands and other surface water.[163] In addition to the regulatory programs described above, the water management districts are also responsible for carrying out several non-regulatory programs. Such programs include planning, land acquisition, and wetlands and waterbody restoration.

Finally, the Act is noteworthy for its heavy reliance upon water resources planning. The water management districts have several planning responsibilities including development of water management plans,[164] providing technical assistance to local government planning departments,[165] and commenting on local government comprehensive plans and plan amendments.[166]

D. *In the Public Spotlight: The Water Congress of 2008 and Beyond*

The Water Resources Act has been reviewed and reconsidered by numerous committees and commissions, but the fundamental structure and policies of the 1972 legislation seem to have survived the test of time.

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160. MALONEY ET AL., *supra* note 8, § 4.01 & cmt., at 39, 223.

161. FLA. STAT. ANN. §§ 336.416(1), .426(1), 363.413(1) (West 2008) (addressing, respectively, the construction and alteration of systems; the maintenance and operation of systems; and the abandonment and removal of systems); *see also* FLA. ADMIN. CODE ANN. r. 40C-4.021(26) (2001).

162. There are a number of exemptions from ERP requirements for specific activities. *See, e.g.*, §§ 373.406, 403.813; FLA. ADMIN. CODE ANN. r. 40C-4.051 (2003). One of the most significant exemptions applies to the alteration of the topography of the land by agricultural, silvicultural, and horticultural activities. FLA. STAT. ANN. § 373.406(2) (West 2008).

163. FLA. ADMIN. CODE ANN. r. 40C-4.301 (2006). The regulations also contain a public interest balancing test, which requires consideration of seven different factors relating to water resource protection. *Id.* r. 40C-4.302 (2007).

164. FLA. STAT. ANN. § 373.036(2) (West 2008).

165. *Id. See also id.* § 373.0391(2).

166. *Id. See also id.* § 373.0391(1).

One significant addition has been the authorization of regional water supply authorities[167] for local governments to collectively develop and operate water supply facilities. Regional water supply authorities have been instrumental in both waging and settling the "water wars" of southwest Florida.[168] From their inception, the water management districts have had the authority to acquire and manage land,[169] but in a second reform the districts have been granted significant financial resources by the legislature in a series of major land acquisition programs. Third, the responsibility of the districts to develop water quality improvement plans was significantly expanded in the 1987 Surface Water Improvement and Management Act (SWIM),[170] but legislative appropriations soon dwindled. Protection and restoration of the Everglades, however, has been given substantial support.[171]

The most significant amendments affecting water allocation, however, were made in 1996–1997, following the report of the Water Management District Review Commission.[172] First, the authority of the districts to establish minimum flows and levels was clarified.[173] Second, water supply development was given a higher priority. The districts were required to develop regional water supply plans for all areas expected to have insufficient water during a twenty year planning horizon.[174] The goal of regional water supply planning was to identify adequate sources of water to meet all existing and projected reasonable-beneficial uses plus the needs of natural systems.[175] Third, greater control over district budgeting and personnel decisions was vested in the Governor and legislature.[176] Finally,

167. *See id. See also* FLA. STAT. §§ 373.1961, .1963.

168. *See generally* HONEY RAND, WATER WARS: A STORY OF PEOPLE, POLITICS AND POWER (2003) (discussing the solutions and conflicts arising out of creation of regional water supply authorities in Southwest Florida); Aysin Dedekorkut, *Tampa Bay Water Wars: From Conflict to Collaboration?*, *in* ADAPTIVE GOVERNANCE AND WATER CONFLICT: NEW INSTITUTIONS FOR COLLABORATIVE PLANNING, 52–63 (John T. Scholtz & Bruce Stiftel eds., 2005) (same).

169. *See* FLA. STAT. §§ 373.139, .199.

170. *Id.* §§ 373.451–.4595.

171. *Id.* §§ 373.1501–.1502.

172. WATER MGMT. DIST. REVIEW COMM'N, BRIDGE OVER TROUBLED WATER: RECOMMENDATIONS OF THE WATER MANAGEMENT DISTRICT REVIEW COMMISSION 2 (1995). The Water Management District Review Commission was created by legislation to conduct a comprehensive review of the water management districts. For discussion of the issues facing the Commission and the legislature, the recommendations of the Commission, and the legislative response, *see* Bram D.E. Canter & Sheri I. Holtz, *Water Law in Transition: Debates That Could Shape Florida's Future*, FLA. B.J., Nov. 1996, at 77, 79–80; Sally Bond Mann, *More Than a Drop in the Bucket: Florida's Water Resources Act II*, FLA. B.J., Nov. 1997, at 30, 30–31; Marcia Penman Parker & Sally Bond Mann, *Water Management Reform: Mission Impossible?*, FLA. B.J., Oct. 1996, at 20, 20, 29–30.

173. 1997 Fla. Laws 3012–16; 1996 Fla. Laws 1953–54.

174. 1997 Fla. Laws 3010–12.

175. 1997 Fla. Laws 3008–09.

176. 1997 Fla. Laws 3024–28; 1996 Fla. Laws 1956.

permit applicants were granted the right to twenty year permits under certain circumstances.[177] Other significant amendments followed. In 1998, the legislature adopted the "local sources first" policy for evaluating transfers of water across county boundaries.[178] Legislation passed in 2005 provided state funding for the development of alternative water supplies and required matching funds from the water management districts.[179] The linkage between water supply planning and local comprehensive planning has also been strengthened.

Many water users, however, have advocated for an even greater emphasis on water supply development and the development of facilities for transporting water across watershed or even water management district boundaries. The "Council of 100," a small, but very influential group that advises the Governor on economic policy issues, advocated these themes in 2003.[180] It called for the creation of a statewide Water Supply Commission to promote water supply development, and for the investigation of the feasibility of creating a statewide water distribution system.[181] After a member of the Council's Water Management Task Force described north Florida as the "Saudi Arabia" of water supplies and thousands of residents protested transfers out of the region, open advocacy was suspended.[182]

Recent attention to water management has stimulated a renewed effort to achieve similar goals. The Century Commission for a Sustainable Florida, created by the legislature in 2005 to envision Florida's future,[183] targeted the development of water supplies as a priority issue in its First Annual Report.[184] The Second Annual Report recommended convening a statewide Water Summit to develop "a comprehensive set of specific sustainable water use and supply action steps."[185] In preparation for what became a widely-publicized "Water Congress," advocates debated the relative merits of various approaches, including a spirited contest between managing supply and managing demand. The Florida Chapter of the American Water Works

177. 1997 Fla. Laws 3023–24.

178. 1998 Fla. Laws 636–37 (codified as FLA. STAT. ANN. § 373.223(3) (West 2008)).

179. 2005 Fla. Laws 2959, 2967–75 (codified as § 373.1961(3)(b)). Alternative water supplies are essentially any source other than "fresh" groundwater. *See* FLA. STAT. § 373.019(1).

180. FLA. COUNCIL OF 100, IMPROVING FLORIDA'S WATER MANAGEMENT STRUCTURE 18–21 (2003), *available at* http://www.fc100.org/documents/waterreportfinal.pdf.

181. *Id.* at 20–21, 23.

182. *See* Craig Pittman & Julie Hauserman, *North Has It, South Wants It*, ST. PETERSBURG TIMES, Aug. 10, 2003, at A1.

183. The enabling act charges the Commission with envisioning and planning for the future on twenty-five and fifty year time frames. FLA. STAT. ANN. § 163.3247(3) (West 2008).

184. Century Comm'n for a Sustainable Fla., First Annual Report to the Governor and the Legislature 41, 43 (2007), *available at* http://www.centurycommission.org/docs/First%20Annual%20Report%20-%20Version-9%201-31-07.pdf.

185. Century Comm'n for a Sustainable Fla., Second Annual Report to the Governor and the Legislature 1 (2008), *available at* https://www.commentmgr.com/projects/1148/docs/CCRptJan08.pdf.

Association, for example, developed a series of recommendations for improving the development of water supply infrastructure. These included proposals to reconsider the creation of a state-level water supply entity[186] and to promote the inter-regional transfer of water.[187] Those recommendations were not adopted by the Water Congress. Other groups also submitted proposals in preparation for the Water Congress, some placing more emphasis on management of demand.[188]

Perhaps the most notable result of the 2008 Water Congress is that it called for no significant changes in Florida water law.[189] The delegates' highest priorities—each of which drew upon past efforts—related to improving water conservation, funding alternative water supply development, and regionalizing water supply development.[190] In 2005, the legislature had initiated a program to provide $100 million in funding assistance for alternative water supply development.[191] By 2007 the state's contribution had fallen to $52 million.[192] The delegates recommended restoration of full funding and allocation of a dedicated funding source.[193] They also recommended making water conservation projects eligible for funding under the program[194] and providing stable funding for a program that provides water conservation information for public water suppliers.[195] As a regulatory impetus for conservation, the delegates recommended

186. *See* AM. WATER WORKS ASS'N, DRAFT ISSUE PAPER: FLORIDA 2030 GOVERNANCE FUNDING 2 (2008), *available at* http://www.florida2030.com/Draft_Issue_Papers/FL2030_Governance-Funding_09-23-08.pdf.

187. AM. WATER WORKS ASS'N, DRAFT ISSUE PAPER: FLORIDA 2030 WATER ALLOCATION AND TRANSFER 2, 4–5 (2008), *available at* http://www.florida2030.com/Draft_Issue_Papers/FL2030_WaterTransfer-Allocation_09-23-08.pdf.

188. *See, e.g.*, ANGELO ET AL., *infra* note 189.

189. For the recommendations of the Water Congress, see CENTURY COMM'N FOR A SUSTAINABLE FLA., WATER CONGRESS: PLANNING FOR FLORIDA'S WATER FUTURE 1–2 (2008), *available at* https://www.communicationsmgr.com/projects/1349/docs/ConsensusRec.pdf. Recommendations from the public and delegates are linked from this page. For recommendations of the authors that are posted in the document library, see MARY JANE ANGELO ET AL., REFORMING THE FLORIDA WATER RESOURCES ACT OF 1972: BEYOND THE FIRST 35 YEARS 2–3 (2008), *available at* https://www.communicationsmgr.com/projects/1349/docs/FLWaterLawBooklet.pdf.

190. Century Comm'n, Water Congress, *supra* note 189, at 1–2.

191. The state's contribution of $100 million was to be matched by $100 million from the water management districts and requires a 60% match from local governments or other recipient. *See* FLA. STAT. ANN. §§ 373.196(6)(a), .1961(23)(e) (West 2008). The state contribution fell to $60 million in 2006–2007 and $52 million in 2007–2008. FLA. DEP'T. OF ENVTL. PROT., LEARNING FROM THE DROUGHT: ANNUAL STATUS REPORT ON REGIONAL WATER SUPPLY PLANNING 12 (2008), *available at* http://www.dep.state.fl.us/WATER/waterpolicy/docs/learning-from-drought-final-report.pdf.

192. Fla. Dep't. of Envtl. Prot., Learning from the Drought, *supra* note 191, at 12.

193. Century Comm'n, Water Congress, *supra* note 189, at 8.

194. *Id.* at 3. Water conservation is not currently eligible for funding because it is not defined as an "alternative water supply." FLA. STAT. § 373.019(1).

195. *See, e.g.*, Conserve Florida Water: Promoting Conservation in Our Public Water Supplies, http://www.conservefloridawater.org/overview.asp (last visited May 8, 2009).

setting per capita targets or goals for water use and best management practices.[196] Finally, the delegates recommended establishing new incentives for regional water supply development, partnerships, and cooperative approaches to achieving water sustainability.[197] Finding sufficient revenue to implement existing programs and to fund alternative water supply development, including conservation, is likely to be the focus of legislative attention for the foreseeable future.

IV. THE SUBSTANTIVE ISSUES: LESSONS FROM FLORIDA

East or west, wet or dry, states must address a similar array of issues in order to develop a workable water doctrine. Despite this similarity, cross-pollination among the states has been generally rare, with lawmakers historically preferring to rely upon their own states' experience rather than drawing upon the experience of other states. Increasingly, however, policy makers are willing to learn from the successes and mistakes of their sister states, rendering scholarly identification of common themes increasingly valuable.

A. *Water for the People: The Public Interest Test*

Florida, as well as all other states, must decide how to allocate the right to use limited water resources among a growing population and among a diverse range of uses (such as domestic, industrial, agricultural, and environmental). Under traditional appropriation doctrine, the "tie-breaker" among competing uses is priority. That is, new water users will be allowed to initiate new beneficial uses, provided that water is still available when all prior uses have been satisfied.[198] Traditional riparianism, in contrast, has no such tie-breaker: existing reasonable uses must be scaled back over time in order to make room for sharing with new users.[199] Both systems worked well enough in a world with abundant water resources—in that case, virtually any non-wasteful use of water for a legitimate public or commercial purpose would be acceptable.

But, as population grows and increasing demands are made on limited water resources, the decision of what uses warrant permits, and under what conditions, becomes increasingly difficult, requiring the states to make tough choices. The traditional "beneficial use" and "reasonable use" touchstones may provide some guidance, at least in theory.[200] But in practice, those concepts tend to *expand* the permissible range of uses over time, with courts and administrators reluctant to apply them in a stringent

196. Century Comm'n, Water Congress, *supra* note 189, at 2–3.
197. *Id.* at 4–5.
198. *See supra* Part II.A.2.
199. *See supra* Part II.A.1.
200. *See supra* Part II.A.

manner that *restricts* wasteful or undesirable uses. Increasingly, the "public interest" analysis offers promise to identify and prioritize the community's most critical water needs, distinguishing more-desirable from less-desirable water uses. At times overlooked, at times overlapping with the ideas of beneficial use and reasonableness, the public interest review can play an important role in maintaining and protecting the public's water supply, ensuring that it benefits the public at large, as well as individual users. This is particularly true in the eastern states, where periodic evaluation of uses is familiar, making public interest review less likely to run afoul of established priorities and expectations.[201]

1. The National Context

Many states employ some form of a public interest test to measure proposed consumptive uses against the interests of the public. In the West, this analysis dates back to the late nineteenth century. The most conservative approach, originally applied in Nevada, conflated public interest review with existing legal requirements, adding little, if anything, to the beneficial use test.[202] Under that view, applications for water rights cannot be denied simply because the proposed use would harm the public interest, provided that the use would be "beneficial" and otherwise comply with statutory law.[203] Other states applied a broader standard, allowing water agencies to favor applications that best advanced the public interest in water, even if this approach disadvantaged prior water users.[204] Often, this approach relies upon specific statutory language designating the state's waters as "public."[205] And often, this approach assumes that the public interest will be

201. *See supra* Part II.A.1.

202. Douglas L. Grant, *Two Models of Public Interest Review of Water Allocation in the West*, 9 U. DENV. WATER L. REV. 485, 488 & n.12 (2006) (citing R.P. TEELE, U.S. DEP'T OF AGRIC., THE STATE ENGINEER AND HIS RELATION TO IRRIGATION 96 (1906)). Professor Grant calls this the "other-laws model," the core idea of which "is that the legislature intended the permitting agency merely to apply other state laws." *Id.* at 488–89. Under that model, "unwritten public policy plays no role . . . . Absent a state law calling for maximization [of community benefits], the agency has no authority to use public interest review to maximize benefits to the community." *Id.* at 489.

203. *Id.*

204. *Id.* at 488 (noting early administrative application of this approach in Utah and Wyoming). Professor Grant describes this approach as the "maximum-benefits model," the core idea of which "is that the legislature intended the permitting agency to use public interest review of applications as a tool to maximize the benefits to the community from the water resource." *Id.* To do so, the permitting agency "must ascertain a proposed project's benefits and costs, not only to the applicant but also to others in the community." *Id.*; *see also* Tanner v. Bacon, 136 P.2d 957, 959, 964 (Utah 1943) (affirming rejection of application to appropriate waters for power purposes upon grounds that approval "would be detrimental to the public welfare").

205. Young & Norton v. Hinderlider, 110 P. 1045, 1050 (N.M. 1910) (rejecting narrow view of the public interest as merely guarding against menaces to the public health or safety, and interpreting statutory description of state waters as "public waters" as a policy "designed to secure the greatest possible benefit from [the state's waters] for the public").

served best by water uses that promote maximum economic development.[206] More recently, however, public interest statutes have begun to go even farther—recognizing the public interest in non-diversionary, instream water uses—despite the traditional and time-honored diversion requirement.[207] Finally, some states take a yet broader approach—finding that water rights are in the public interest if they maximize the overall public welfare, even beyond the specific context of water.[208] For example, an Oregon statute defines the public interest as "[c]onserving the highest use of the water for *all purposes*, including . . . public recreation, protection of commercial and game fishing and wildlife . . . or any other beneficial use to which the water may be applied for which it may have a special value to the public."[209] Today, more than half the western states reexamine the public interest value of existing appropriations when water rights holders seek permission to transfer existing water rights to new uses.[210] Even more states—all but two—employ public interest review for new appropriations.[211]

Like the western states, many riparian jurisdictions include a public interest calculus in their law of water allocation. From the start, common law riparianism considered the impacts of particular water uses upon the community—albeit, the focus was upon the narrow community of landowners sharing a common watercourse.[212] Modern riparian statutes require a broader range of public interest factors to be considered before issuing new permits and also before renewing existing permits.[213]

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206. Grant, *supra* note 202, at 492.

207. *See, e.g.*, Shokal v. Dunn, 707 P.2d 441, 448–49 (Idaho 1985) (expanding public interest review to include benefits promoted by minimum stream flow legislation "to preserve the minimum stream flows required for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality").

208. OR. REV. STAT. ANN. § 537.170(8)(a) (West 2008); *see also In re* Sleeper (N.M.) (rejecting under public interest test application to change water rights from agricultural to recreational purposes, and noting that the proposed change of "water rights, devoted for more than a century to agricultural purposes, in order to construct a playground for those who can pay is a poor trade, indeed"), *rev'd on other grounds*, Ensenada Land & Water Ass'n v. Sleeper, 760 P.2d 787 (N.M. Ct. App. 1988); DeKay v. U.S. Fish & Wildlife Serv., 524 N.W.2d 855, 859 (S.D. 1994) (considering potential flood damage to neighboring property as part of public interest review of water rights application); Bonham v. Morgan, 788 P.2d 497, 498, 502 (Utah 1989) (per curiam) (same).

209. OR. REV. STAT. ANN. § 537.170(8)(a) (emphasis added) (West 2008).

210. Grant, *supra* note 202, at 486 & nn.1–2 (noting that public interest review is required in ten states: Alaska, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, South Dakota, Texas, and Utah). Public interest review is not required by the remaining eight continental western states (Arizona, California, Colorado, North Dakota, Oklahoma, Oregon, Washington, and Wyoming). *Id.*

211. *Id.* at 486 n.1 (citing Colorado and Oklahoma as the only two western states that do not subject new appropriations to public interest review).

212. *See supra* Part II.A.1.

213. *See, e.g.*, MISS. CODE ANN. § 51-3-9 (West 2008) (asserting that water permits shall automatically terminate after ten years, but that permits "shall be reissued to the permit holder[s] unless [their] continued use is found to be contrary to the public interest").

2. The Florida Context

The Florida Water Resources Act establishes a three-part test for permitting the consumptive uses of water. To obtain a permit, an applicant must establish that: (1) the proposed use is a reasonable-beneficial use; (2) the use will not interfere with existing legal users of water; and (3) the proposed use is consistent with the public interest.[214] Notably, the statute clearly articulates the public interest as a discrete test. Also important is the statute's authorization of a renewable permit system,[215] allowing for periodic reconsideration of the public interest in accordance with evolving social norms. However, the potential usefulness of the public interest criterion is weakened by at least three factors: (1) the tendency to conflate the public interest with the first two permitting criteria, or to ignore it altogether; (2) the practice of focusing narrowly upon individual interests, rather than upon the interests of the public at large; and (3) the failure to define "public interest." Only recently has the issue come to the fore, as water resources have been stretched to their limits in many parts of the state and as conflicts have arisen over proposed interbasin water transfers, the permitting of inefficient uses of water, and the development of bottled water facilities.

First, despite the statute's articulation of a public interest test, most permitting decisions rely primarily upon the first two permitting criteria.[216]

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214. FLA. STAT. ANN. § 373.223(1) (West 2008).

215. *Id.* § 373.236(1)–(2) (discussing duration of permits).

216. The authors have not been able to identify any example of a CUP application that was denied because the proposed used was not consistent with the public interest. Although there are examples where a CUP was granted in part because the proposed use was found to be consistent with the public interest, even such examples tend to conflate the reasonable-beneficial and public interest prongs and do not provide guidance on what factors should be considered in making public interest determinations. *See, e.g.*, Friends of Fort George, Inc., No. 85-3537, 1986 Fla. ENV LEXIS 104 (Dec. 9, 1986) (a proposed ground water use for a residential development was consistent with the public interest because it would utilize water conservation and reuse measures; no saline intrusion would occur; the potentiometric levels would not be lowered; and the pollution loading to an estuary would be lowered); AES Cedar Bay, Inc., No. 88-5740, 1989 Fla. ENV LEXIS 159 (June 27, 1989) (the Siting Board adopted the SJRWMD's recommendation that an electric power plant's proposed ground water use for cooling was consistent with the public interest because the water use would be minimized through eventual use of reclaimed water and the use did not degrade the water resources); Corp. of the President, No. 89-0828, 1990 Fla. ENV LEXIS 227 (Dec. 13, 1990) (the applicant's withdrawal would not harm the water resources and citizenry of the county); Nassau, No. 92-0246, 1992 Fla. ENV LEXIS 84 (June 9, 1992) (city's proposed renewal of its public water supply use was consistent with the public interest where it would not be harmful to the water resources of the area, the district, or the state); Lake Brooklyn Civic Ass'n, Inc., No. 92-5017, 1993 Fla. ENV LEXIS 118 (Sept. 30, 1993) (a proposed use for a sand mine operation was found to be consistent with the public interest because it was beneficial to the overall collective well being of the people and water resources of the area); Sierra Club, No. 99-1905, 2000 Fla. ENV LEXIS 123 (June 14, 2000) (proposed use for residential development was found to be consistent with the public interest where the water use for the golf course would be primarily irrigated by the storm water system that minimizes impacts to wetlands; the use would not cause a harmful drawdown; the irrigation would

As a result, the meaning of the "public interest," as well as how it should be applied, have never been articulated clearly by either the legislature or the water management districts. This problem is exacerbated by statutory language that creates overlap among the three permitting criteria, with the statute defining the first prong of the test ("reasonable-beneficial use"), in part, in terms of the third prong of the test (the public interest). That is, the statute defines "reasonable-beneficial use" as "the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest."[217] Moreover, even when the legislature has focused on the public interest as a distinct test, it has done so through a piecemeal approach that tends to undermine its importance. For example, the legislature amended the statute to provide a presumption that water uses are in the public interest if water management districts identify them as "alternative sources" of water.[218] This circumvents the public interest test because the districts are not directed to look broadly at public interest considerations as part of the alternative source analysis.[219]

As a second limitation, permitting decisions tend to interpret the public interest narrowly, focusing on the interests of individual water users rather than the public as a whole. This runs counter to the *Model Water Code*, which clearly contemplates a distinction between the "public interest" and the interests of individual water users. Although the *Model Water Code*, as its name implies, is simply a model that does not rise to the level of legal mandate, as the inspiration for the Act, the *Model Water Code* might be viewed as a type of legislative history that can provide a window into the minds and intentions of the Florida legislature that adopted the Act. The *Model Water Code* declares that certain uses of water are in the public interest, including protection and "procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the state for navigation, public recreation, municipal uses, and public water supply . . . ."[220] Such uses provide *direct* benefits to the public at large, rather than *indirect* benefits that accrue to the public as a result of economic benefits enjoyed by individual entities. Thus, the *Model Water Code* safeguards broad, collective interests through the "public interest" test.

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come from the lowest quality sources; extensive water conservation would be used; reclaimed water would be used when available; there would be no saline water intrusion; and groundwater quality would not be affected); Marion County v. Greene, Case No. 06-2464, 2007 Fla. Div. Adm. Hear. LEXIS 17 (Jan. 9, 2007), *aff'd*, 2009 WL 722021 (Fla. 5th DCA Mar. 20, 2009) (a proposed groundwater use for bottled water use was consistent with the public interest where the use was efficient and caused no detrimental impacts to the water resources).

217. FLA. STAT. ANN. § 373.019(16) (West 2008); *see also* FLA. ADMIN. CODE ANN. r. 62-40.210(23) (2005).

218. FLA. STAT. ANN. § 373.223(5) (West 2008).

219. *Id.*

220. MALONEY ET AL., *supra* note 8, § 1.02(3), at 3.

In contrast, the *Model Water Code* protects narrower, individual interests through the "reasonable-beneficial use" test, making clear that collective "public interest" uses comprise a class of water uses potentially distinct from individual "beneficial uses."[221] The latter class includes domestic uses, irrigation power development, and industrial uses.[222] This distinction is reinforced by the *Model Water Code*'s "conditions for a permit," which provides that a proposed use that is otherwise valid should be denied a consumptive use permit if it would be in conflict with the public interest, such as by having an unreasonably harmful effect on fish or wildlife.[223] Moreover, the *Model Water Code* recognizes that difficult choices over what uses are in the public interest are not needed in places where water is plentiful. In places where water is in short supply and therefore where users are competing for the same water, the public interest component of the test becomes much more significant.

As a third limitation, the Act does not define the phrase "consistent with the public interest." Nevertheless, the phrase appears in several places throughout the statute, providing limited guidance as to its meaning. For example, in the context of the transport and use of water across county boundaries, the statute specifies a number of factors that the districts must consider in determining whether such inter-county transfers are "consistent with the public interest."[224] While several of the listed factors directly relate to issues specific to transporting water from one county to another, some of the factors address the issue of what is consistent with the public interest in a more generic way. For example, one factor is whether alternatives to the proposed source, including but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and stormwater, and aquifer storage and recovery are economically and technically feasible.[225] This factor could apply to determining whether any proposed use, trans-county or not, is consistent with the public interest. Other tangential references to the requirement that certain water uses be consistent with (or in some cases, not contrary to) the public interest appear in the context of "reservations" of water,[226] preferred water supply sources,[227] interdistrict transfers of groundwater,[228] competing applications,[229] and reuse of reclaimed water.[230]

Administrative rules also assist in discerning the meaning of "public interest." Only one district has adopted a definition of "public interest" in

221. *Id.* § 1.02(3) & cmt., at 84–85.
222. *Id.*
223. *Id.* § 2.02(1) & cmt., at 179–80.
224. FLA. STAT. ANN. § 373.223(2)–(3) (West 2008).
225. *Id.* § 373.223(3)(c).
226. *Id.* § 373.223(4). For discussion of reservations, *see infra* Part IV.B.
227. FLA. STAT. § 373.2234 (West 2008).
228. *Id.* § 373.2295(4).
229. *Id.* § 373.233(1).
230. *Id.* § 373.250(1).

the context of consumptive use permitting. The St. Johns River Water Management District has by rule defined "public interest" to mean "those rights and claims on behalf of people in general."[231] The rule provides that "[i]n determining the public interest in consumptive use permitting decisions, the Board will consider whether an existing or proposed use is beneficial or detrimental to the *overall collective well-being of the people or to the water resource in the area, the District and the State*."[232] The district regulations also provide that "[t]he public interest requires protection of the water resources from harm"[233] and that "[p]ollution of wellfields is inconsistent with the public interest as well as not reasonable-beneficial."[234]

Two other districts provide helpful guidance as to the meaning of the "public interest," although their regulations stop short of defining the phrase. The regulations of the South Florida Water Management District state that "[t]he public interest requires protection of the water resources from harm"[235] and that "[t]he encouragement and promotion of water conservation and use of reclaimed water are state objectives and considered to be in the public interest."[236] In addition, the Northwest Florida Water Management District has by rule stated that in identified "Water Resource Caution Areas," new and expanded uses of the Floridan Aquifer for golf courses or landscape irrigation or other non-potable uses are determined not to be in the public interest.[237]

In the context of groundwater in central Florida, three districts—the South Florida Water Management District, the Southwest Florida Water Management District, and the St. Johns River Water Management District—have worked together to develop a rule that specifically addresses "concerns about the increasing stress to the water resources in Central Florida and the unsustainability of continued and escalating development of traditional groundwater sources."[238] The districts' long-term water supply planning

231. ST. JOHNS RIVER WATER MGMT. DIST., APPLICANT'S HANDBOOK: CONSUMPTIVE USES OF WATER § 9.3, at 9-1, *available at* http://www.sjrwmd.com/handbooks/pdfs/cuphdbk.pdf.

232. *Id.*

233. *Id.* § 12.1.2(a), at 12-1.

234. *Id.* § 13.0, at 13-1.

235. S. FLA. WATER MGMT. DIST., BASIS OF REVIEW FOR WATER USE APPLICATIONS WITHIN THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT § 3.2.1.F.1, *available at* https://my.sfwmd.gov/pls/portal/docs/PAGE/PG_GRP_SFWMD_WATERSUPPLY/PORTLET%20-%20RULE%20DEVELOPMENT_LOWA/WATER%20USE%20BOR%203-2-1_G-OCT%2014%202008.PDF.

236. *Id.* § 3.2.3.2.

237. FLA. ADMIN. CODE ANN. r. § 40A-2.802(1)(b) (1995). A designation as a "water resource caution area [] indicates that in the near future water demand in those areas will exceed the current available water supply and that conservation is one of the mechanisms by which future water demand will be met." FLA. STAT. ANN. § 373.228(1) (West 2008).

238. Memorandum from Chip Merriam, Deputy Executive Director, Water Resources on Basis of Review for Consumptive Use Permits, to Address Permitting Criteria Applicable to Cent. Fla. Coordination Area 1 (Aug. 9, 2007); *see also* SJRWMD, APPLICANT'S HANDBOOK, *supra* note 231,

coupled with permitting data indicated that "harm to the water resources will occur unless supplemental water supplies are expeditiously developed to meet growing public water supply (PWS) and other demands . . . ."[239] One articulated objective of the rule is to "protect the public interest in providing adequate supplies while preventing harm to the water resources."[240] The rule establishes an interim regulatory framework that requires avoidance and mitigation measures to prevent harm, as well as the implementation of supplemental water supply projects, which include surface water, stormwater, reclaimed water, and in certain circumstances, brackish groundwater.[241]

Beyond statutory and regulatory guidance, judicial decisions also assist in determining the contours of the public interest. In *Southwest Florida Water Management District v. Charlotte County*, the Florida Second District Court of Appeals held that the water management district had "authority to require [water use permit] applicants to investigate desalination and implement it where feasible as part of the reasonable-beneficial and public interest prongs of the three-prong test under section 373.223."[242] The court of appeals also stated that "[c]onsideration of a utilities' conservation efforts, including its rate structure, is appropriate in determining water allocations and applying the reasonable-beneficial use and public interest elements of the three-prong test of section 373.223(1)."[243]

Finally, an administrative adjudication provides insight into one district's view of the public interest test. In *Marion County v. Greene*, the Governing Board of the St. Johns River Water Management District considered whether to adopt the recommended order of an administrative law judge.[244] At issue was whether an application seeking a groundwater allocation for bottled water use satisfied relevant statutory and administrative criteria, including the public interest test.[245] The Board agreed that the scope of the public interest analysis should be both regional (benefiting the people of the area) and statewide (benefiting the water resources of the state), but stopped short of approving consideration of non-water related impacts.[246] The Board adopted the majority of the administrative law judge's recommended order, including the following interpretations of the "public interest" prong: (1) the districts should not consider local government approvals or non-water

§ 12.1.2, at 12-1; S. FLA. WATER MGMT. DIST., *supra* note 235, § 3.2.1(F).

239. Memorandum from Chip Merriam, *supra* note 238, at 1.

240. *Id.*

241. SJRWMD, APPLICANT'S HANDBOOK, *supra* note 231, §§ 2.0(hh), 12.1.2, at 2-4, 12-1.

242. Sw. Fla. Water Mgmt. Dist. v. Charlotte County, 774 So. 2d 903, 919 (Fla. 2d DCA 2001).

243. *Id.* at 922.

244. Final Order at 1, Marion County v. Greene, No. 06-2464 (Governing Bd. of St. John's River Water Mgmt. Dist. Mar. 13, 2007).

245. *Id.* at 2, 4, 15–17.

246. *Id.* at 16–17; *see supra* notes 204–11 and accompanying text (noting a few western states have considered non-water related impacts).

related impacts in their public interest test considerations because these considerations are not part of the districts' "adopted permitting criteria;" (2) "examining whether an application is consistent with the public interest, the District considers whether a particular use of water is going to be beneficial or detrimental to the people of the area and to water resources within the state;" (3) as part of this public interest test inquiry, the district should consider the efficiency of the proposed use of water, the need for the requested water, whether the proposed use is for a "legitimate purpose," and the "impact of the [proposed] use on water resources and existing legal users;" (4) the districts should not "consider the level of financial gain or benefit an applicant will derive from a permitted use of water for purposes of determining whether the proposed use is consistent with the public interest" because the districts' "rule criteria do not provide" such standards for evaluating these factors; and (5) the districts' permitting decision must be based on Chapter 373 of the Florida Statutes, and is independent of any additional approvals that may be required by local or other governmental entities (i.e., land use approvals that consider other impacts which are unrelated to the consumptive use of water).[247]

3. Into the Future: Modernizing Florida Law

Unlike many states that consider the reasonableness of proposed water uses in isolation from one another, Florida has a statutory mechanism that allows it to consider the broader social and environmental ramifications of individual uses—the public interest test, which can provide an important counterweight to the reasonable-beneficial use test.[248] Whereas the latter is narrow and individual, the public interest test is broad and community-oriented. The public interest test holds the potential of providing the authority and flexibility for districts to make difficult decisions regarding the allocation of limited water resources.

To reach its full potential, however, the statute must be modified in at least two respects. First, unwarranted presumptions must be deleted. Currently, Florida law provides that the water management districts must presume that the proposed use of "alternative water supplies," as described in regional water supply plans, will be consistent with the public interest.[249] Granting this automatic presumption simply because a particular source has been identified as an alternative source circumvents the public interest permitting test. Moreover, it fails to recognize that the public interest test

247. Final Order, *supra* note 244, at 1–29. The Final Order goes on to note that the district previously had considered the "denial of local land use approval as evidence in determining whether the applicant has provided reasonable assurance of need under rule 40C-2.301(4)(a), part of the District's reasonable-beneficial use criteria," but that this use of a local decision "is evidence, not a criterion." *Id.* at 17.

248. *See* FLA. STAT. ANN. § 373.223(1)(c) (West 2008).

249. FLA. STAT. § 373.223(5).

considers whether a proposed "use" is consistent with the public interest, involving considerations of more than just the "source" of the water.

As an additional modification, the statute should clearly define "public interest," using sustainability as its benchmark. This could be accomplished through a statutory amendment that takes the approach proposed by the American Society of Civil Engineers (ASCE) Model Water Code, as follows:

> "Reasonable use" . . . means the use of water, whether in place or through withdrawal, in such quantity and manner as is necessary for economic and efficient utilization without waste of water, without unreasonable injury to other water right holders, and consistently with the public interest and sustainable development.
>
> "Sustainable development" means the integrated management of resources taking seriously the needs of future generations as well as the current generation, assuring equitable access to resources, optimizing the use of nonrenewable resources, and averting the exhaustion of renewable resources.[250]

Beyond incorporating sustainability, the test should explicitly require consideration of the extent to which proposed water uses benefit the public at large, rather than merely benefiting the individual user. Moreover, clarifications should provide that the test can be used to deny consumptive use permits for inappropriate uses of water, even in circumstances where the other two prongs would allow a permit to be issued. At least four approaches are possible, based upon existing models: (1) existing public interest tests currently in use in Florida districts and beyond; (2) a list of factors to be balanced based on the structure of Florida's statutory environmental resource permitting test; (3) the *Model Water Code*'s commentary on preferences; and/or (4) local land use planning standards.

One efficient approach would be for each of the districts to revise its rules to incorporate the St. Johns River Water Management District's current definition.[251] In addition, the districts could follow the example of other states, such as Alaska,[252] by providing a list of factors to be considered

250. Am. Soc'y of Civil Eng'rs, Regulated Riparian Model Water Code, ASCE/EWRI 40-03 §§ 2R-2-20 and -24, at 25, 27 (2004).

251. SJRWMD, APPLICANT'S HANDBOOK, *supra* note 231, § 9.3, at 9-1.

252. Alaska law provides a number of factors that should be considered in determining the public interest:

> (1) the benefit to the applicant resulting from the proposed appropriation; (2) the effect of the economic activity resulting from the proposed appropriation; (3) the effect on fish and game resources and on public recreational opportunities; (4) the effect on public health; (5) the effect of loss of alternate uses of water that

in making the public interest determination. For example, a rule interpreting the public interest prong could be drafted as follows:

> The public interest means those rights and claims on behalf of people in general. In determining the public interest in consumptive use permitting decisions, the Board will consider whether an existing or proposed use is beneficial or detrimental to the overall collective well-being of the people or to the water resources in the area, district, and the State. In making such a determination, the Board shall consider the following factors:
>
> 1. Whether the use promotes or enhances protection of the water resources of the state, including promoting or enhancing protection of future water availability;
> 2. Whether the use promotes or enhances protection of public health and safety;
> 3. Whether the use includes substantial water conservation measures;
> 4. Whether the use promotes or enhances the reuse of reclaimed water;
> 5. Whether the use includes substantial energy conservation measures;
> 6. Whether the use is beneficial to the collective good of the public as a whole in the area, district, or State, as opposed to a use that provides a direct economic benefit only to a small number of individuals or entities.

A second approach could borrow from the structure of the public interest test currently utilized by Florida's Environmental Resource Permit Program (ERP program).[253] The ERP program is charged with making decisions involving activities in, on, or over water or wetlands, in accordance with a seven-part public interest balancing test.[254] Depending on whether the activity is proposed in an "Outstanding Florida Water" (OFW),[255] the applicant must provide reasonable assurances that the proposed activity will

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> might be made within a reasonable time if not precluded or hindered by the proposed appropriation; (6) harm to other persons resulting from the proposed appropriation; (7) the intent and ability of the applicant to complete the appropriation; and (8) the effect upon access to navigable or public water.

ALASKA STAT. § 46.15.080(b) (2008).

253. *See* FLA. STAT. ANN. § 373.414(1)(a) (West 2008).

254. *See id.*

255. Outstanding Florida waters are a special category of waters that the Florida Department of Environmental Protection has determined are worthy of special protection because of their natural attributes. *Id.* § 403.061(27).

not be contrary to the public interest (for activities not in OFWs) or clearly in the public interest (for activities in OFWs). A similar approach could be established for consumptive use permits, wherein activities proposed in areas designated as "water resource caution areas"[256] must be clearly in the public interest, whereas activities proposed in other areas must be merely consistent with the public interest, based on the balancing of a number of specified factors. Such factors could include: the extent to which the use is sustainable and protects future water availability; effects on fish, wildlife and other ecological resources; effects on recreation; the extent of water conservation; the extent of efficient use of water and energy; the extent to which the use benefits the general population of the state, region or local government; and the extent to which the use serves a purely public purpose such as fire protection or other public safety and welfare benefits.

A third approach draws inspiration from the *Model Water Code*, which uses the public interest test as a sort of tie-breaker when two or more water users are in competition for the same water.[257] Where water resources are scarce, as is currently the case in many of the highly populated areas of the state, the *Model Water Code* favors uses that benefit the public as a whole.[258] Thus, the *Model Water Code* contemplates that the public interest test would trump the reasonable-beneficial use test in cases of shortage. In particular, the *Model Water Code*'s commentary lists the types of water uses that should be afforded preference under the public interest test.[259] For example, in cases of conflict, the *Model Water Code* prefers uses by governmental agencies over uses by private parties; and economically productive uses over uses that would not be as beneficial to the economy of the area.[260] Moreover, the *Code* provided that certain uses could be designated as "undesirable" or "preferred" based on the nature of the activity or amount of water required.[261] To carry out the intent of the *Model Water Code*, the districts or the legislature could establish a list of the types of uses "preferred" as being in the public interest, such as the following:

1. Uses for protection of the public health and safety, such as hospital use and fire protection use;
2. Uses for the protection of fish and wildlife, including listed species, or for the protection, management, or restoration of ecosystems;
3. Uses for the protection of the water resources of the state;

256. A designation as a "water resource caution areas" indicates that in the near future water demand in those areas will exceed the current available water supply and that conservation is one of the mechanisms by which future water demand will be met. *Id.* at § 373.228(1).

257. MALONEY ET AL., *supra* note 8, § 2.05, at 25.

258. *Id.* § 2.05(1) & cmt., at 188.

259. *Id.*

260. *Id.*

261. *Id.* §1.07(8) & (9), at 10.

4. Domestic water use (i.e., drinking water use and basic in-home use) not including landscape irrigation use;
5. Uses for flood protection;
6. Other public and/or governmental uses that are for the collective good of the public as a whole, such as protection of the public health.

A rebuttable presumption could apply to the above-listed uses, presuming them to be consistent with the public interest provided that they do not otherwise cause harm to the water resources or to the public.

At the other end of the spectrum, a list of "low priority" uses could be established. Examples of such uses could include those that are purely aesthetic, and uses such as the irrigation of water-intensive lawn grasses and landscape irrigation where lower water-demanding alternatives are feasible, such as the installation of drought resistant lawn grass varieties and xeriscape landscape plants. Uses that fall in between the extremes could be evaluated using criteria such as the six factors listed above. The preferences and factors outlined here are only suggested as a starting point for further consideration. There may be other preferred uses or criteria that should be included.

A fourth approach draws from the context of land use planning, recognizing that water managers are not the only governmental entities charged with protecting the "public interest." Local governments also have broad authority to plan and to protect the public interest of their communities in ways that extend beyond pure water resource considerations, as through the development of comprehensive plans and the permitting of proposed development. Because land use and water use are intimately related, the "public interest" in land use should be linked to the "public interest" in water use to more effectively and efficiently protect the broader public interest.[262] This linkage could be accomplished through either agency rulemaking or through legislative action. Substantively, the public interest prong of the consumptive use permitting criteria could be defined broadly, as coterminous with the public interest in land use planning. Alternatively (or additionally), new rules or laws could provide explicitly that proposed water uses that do not have local government approval or are inconsistent with local government comprehensive plans are presumed contrary to the public interest for purposes of water use permitting. For example, such a rule could provide: "Any proposed water use that has not obtained all necessary local government land development approvals or is not consistent with the local government comprehensive plan is presumed to be contrary to the public interest."[263]

262. For discussion regarding the potential linkage between "public interest" in land use and "public interest" in water use, see *infra* Part IV.C.

263. It is important to recognize that *Marion County v. Greene*, *see supra* notes 244–47 and

B. *Water for the Environment: Minimum Flows and Levels*

Traditionally, the law of water and other natural resources concerned itself with facilitating the orderly extraction, development, and use of natural resources. Beginning about 1960, social values began to shift, exhibiting solicitude not only for the use of resources to satisfy human needs, but also for "the idea of nature as a good in itself, or as an aesthetic and recreational amenity."[264] It was during this period that the Cuyahoga River in Cleveland famously caught on fire, Lake Erie was declared "dead,"[265] proposals to dam the Grand Canyon were being seriously considered,[266] and the skies of Los Angeles and Denver were thick with smog. In response, water law began to incorporate environmentally-protective features, such as mechanisms for the maintenance of natural stream flows and lake levels, despite escalating human demand and ever-growing diversions.

1. The National Context

Although common law riparianism provides legal protection to non-diversionary water uses, it lacks any direct mechanism to protect minimum stream flows, lake levels, and aquifer levels specifically for the sake of environmental protection. Nevertheless, these environmental goals were served indirectly through the early natural flow version of riparianism, which allowed the use of water only to the extent that it did not adversely impact the quality or quantity of water received by the next downstream user.[267] Similarly, the on-tract and watershed rules of early riparianism served an environmentally protective function, albeit indirectly.[268] Over time, however, the natural flow theory gave way to "reasonable use" riparianism, and the on-tract and watershed rules became riddled with exceptions.[269]

Under the reasonable use doctrine, environmental concerns are also relegated to a secondary status, considered only collaterally when a riparian landowner's reasonable use requires the maintenance of water in its natural

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accompanying text, does not foreclose such a result. Although the Governing Board regarded local land use approval as simply "evidence" that a proposed water use satisfied the reasonable-beneficial test, falling short of an independent "criterion," the Board suggested that it would be permissible for districts to elevate the significance of local land use approval through revisions of their permitting criteria, without resort to legislative amendment. *See* Final Order, *supra* note 244, at 17.

264. Holly Doremus, Water, Population Growth, and Endangered Species in the West, 72 U. COLO. L. REV. 361, 364 (2001).

265. William D. Ruckelshaus, Environmental Protection: A Brief History of the Environmental Movement in America and the Implications Abroad, 15 ENVTL. L. 455, 457 (1985).

266. Frank Ackerman et al., Applying Cost-Benefit to Past Decisions: Was Environmental Protection Ever A Good Idea?, 57 ADMIN. L. REV. 155, 173–83 (2005).

267. *See supra* note 17 and accompanying text.

268. *See supra* notes 12–14 and accompanying text.

269. *See supra* Part II.A.1.

watercourse. For example, in *Harris v. Brooks*, the plaintiff rented out cabins, boats, and fishing gear to the public to fish on the lake.[270] The defendant was pumping water from the same lake to irrigate a rice crop, which the plaintiff argued was causing the water level of the lake to become "unsuitable" for fishing and recreation.[271] Observing that riparianism provides each riparian landowner an "equal right to make a reasonable use of waters subject to the equal rights of other owners to make the reasonable use," the Supreme Court of Arkansas enjoined the defendant from diverting water if lake levels would thereby drop below a specified level.[272] In recognizing the right to reasonable use of the lake by the plaintiff, the court required maintenance of a very precise lake level—189.67 feet above sea level.[273] Although the court's order bears a superficial resemblance to modern statutory protection for minimum lake levels, the court rooted its holding firmly in human, rather than environmental, needs. More recently, some eastern state statutes provide protection for minimum stream flows and lake levels.[274] Even in the most progressive of these states, however, the statutory provisions tend to be under-utilized.[275]

In the western states, the common law was even less hospitable to the protection of minimum flows and levels. In particular, the very antithesis of *in-situ* protection—the diversion requirement—mandated the physical removal of water from its natural course as a prerequisite to the award of a water right.[276] Western states adamantly enforced the requirement, noting its important function of distinguishing the western doctrine from eastern riparianism.[277] Gradually, some western states relaxed their diversion requirements. For example, some states recognized water rights for "stockwatering," even though it allowed farm animals to drink directly from natural streams, without artificial diversion.[278] Later, some states enacted statutes specifically approving non-diversionary "instream flow" (or "minimum stream flow") water rights for environmental and recreational

270. Harris v. Brooks, 283 S.W.2d 129, 130 (Ark. 1955).

271. *Id.*

272. *Id.* at 133.

273. *Id.* at 135; *see also* Hoover v. Crane, 106 N.W.2d 563, 566 (Mich. 1960) (restricting defendant farmer's diversion of lake water for irrigation to amount that would lower the lake level by no more than one-fourth of an inch during a dry period to ensure there was enough water for boating and swimming by the plaintiff, a resort owner).

274. *See infra* Part IV.B.2.

275. *Id.*

276. *See supra* Part II.A.2; *see also* State *ex rel.* Reynolds v. Miranda, 493 P.2d 409, 411 (N.M. 1972) (finding that man-made diversion is required *inter alia* to claim water rights by appropriation).

277. *See, e.g.*, Coffin v. Left Hand Ditch Co., 6 Colo. 443, 449 (1882) (noting "the disastrous consequences" of adopting the riparian rule in Colorado, and rejecting notion that water rights are in any way dependent upon their place of use).

278. *See, e.g.*, Town of Genoa v. Westfall, 349 P.2d 370, 378 (Colo. 1960); Stevenson v. Steele, 453 P.2d 819, 828 (Idaho 1969).

protection.[279] Despite such statutes, environmental flows remain at a disadvantage because they are, in the words of one commentator, "late-comers to an appropriative system that has been operating for over a century."[280] During dry years, when water for the environment is needed the most, senior users may exercise their appropriative rights without regard for the environmental needs of junior users.[281]

2. The Florida Context

Water for the environment can be protected through the application of consumptive use permitting criteria. Florida's water management districts are authorized to regulate consumptive use to prevent harm to water resources and to ensure the use is consistent with the objectives of the district.[282] The reasonable-beneficial use and public interest criteria can serve as the basis for denying permits that would cause environmental harm. Despite the implementation of permitting programs and the application of those criteria, however, wetlands, stream flows, lake levels, spring discharge, and other water resources have been degraded throughout the state. Water managers simply waited too long to implement those provisions of the Act that allow them to limit the cumulative impacts of withdrawals through establishing minimum flows and levels (MFLs) and reserving water for the environment.[283] Other limitations result from particular weaknesses in Florida's statutory language.

The *Model Water Code* requires minimum flows and levels to be developed as part of the state Water Use Plan to prevent harm to water resources, and prohibits the issuance of consumptive use permits that are inconsistent with MFLs or other parts of the plan.[284] Under the Florida Water Resources Act, the Florida Department of Environmental Protection

279. *See, e.g.*, Bureau of Land Mgmt., U.S. Dep't of Interior, Western States' Water Laws: Western States Instream Flow Summary, *available at* http://www.blm.gov/nstc/WaterLaws/pdf/StateFlowSummary.pdf.

280. Gregory A. Thomas, Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Streamflows in California, 15 STAN. ENVTL. L.J. 3, 44 (1996); see also Suzanne Schwartz, Whiskey is for Drinking, Water is for Fighting: A Texas Perspective on the Issues and Pressures Relating to Conflicts Over Water, 38 TEX. TECH. L. REV. 1011, 1014 (2006).

281. Thomas, *supra* note 280, at 44. To ameliorate this problem, at least one state allows for the sale or donation of senior water rights for instream flow use, thereby allowing environmental protection to claim an earlier priority. *See, e.g.*, COLO. REV. STAT. ANN. § 37-92-102(3) (West 2008) ("The [Colorado Water Conservation Board] . . . may acquire, by grant, purchase, donation, bequest, devise, lease, exchange, or other contractual agreement, from or with any person, including any governmental entity, such water, water rights, or interests in water that are not on the division engineer's abandonment list in such amount as the board determines is appropriate for stream flows or for natural surface water levels or volumes for natural lakes to preserve or improve the natural environment to a reasonable degree.").

282. FLA. STAT. ANN. § 373.219(1) (West 2008).

283. *See supra* Part III.C.

284. MALONEY ET AL., *supra* note 8, §§ 1.07, 2.02, at 9, 24.

(DEP)[285] and the five regional water management districts[286] were charged with the duty of establishing minimum flows and levels for all waters in the state.[287] Minimum flows for surface watercourses are to be established as "the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area."[288] For minimum levels of groundwater or lakes, the statutory language differs slightly, containing no reference to ecological harm: minimum water levels are to be established at a level "at which further withdrawals would be significantly harmful to the water resources of the area."[289] Minimum flows and levels must be "calculated . . . using the best information available" and can reflect "seasonal variations."[290] In establishing MFLs, the agencies are required to "consider . . . the protection of nonconsumptive uses" and have the discretion to provide for their protection.[291]

Until a successful citizen's suit forced the implementation of the statute in 1993, there was little progress on establishment of MFLs.[292] A series of executive orders and legislative changes followed, culminating in significant amendments in 1997 of the statutory framework.[293] Each water management district is required to adopt a priority list of waters for the adoption of MFLs.[294] This precludes citizen suits to force the adoption of MFLs for a particular body of water. Substantially affected persons can, however, require independent scientific peer review of "all scientific or technical data, methodologies, and models, including all scientific and technical assumptions employed in each model . . . ."[295] The districts are also authorized to consider "changes and structural alterations to watersheds,

285. Authority under the Act was originally given to the Florida Department of Natural Resources, transferred to the Department of Environmental Regulation in 1975, and consolidated in the Department of Environmental Protection by the Florida Environmental Reorganization Act of 1993. 93 Fla. Laws 2133.

286. The authority to adopt MFLs has been delegated to the water management districts by the DEP. Therefore, references to the DEP will be limited to those provisions it actually implements. *See* FLA. ADMIN. CODE ANN. r. 62-113.200(12)(a) (1995).

287. FLA. STAT. ANN. § 373.042 (West 2008).

288. *Id.* § 373.042(1)(a).

289. *Id.* § 373.042(1)(b).

290. *Id.*

291. *Id.*

292. *See* Concerned Citizens of Putnam County for Responsive Gov't v. St. Johns River Water Mgmt. Dist., 622 So. 2d 520, 521, 523–24 (Fla. 5th DCA 1993). In 1988, the Florida legislature required the development of MFLs for the Wekiva River System. 1988 Fla. Laws 521; 1988 Fla. Laws 2226.

293. *See* 1997 Fla. Laws 1–20; 1996 Fla. Laws 1952–55 (ordering districts to develop priority lists and begin developing MFLs throughout the state); Pinellas County v. Sw. Fla. Water Mgmt. Dist. (Final Order, FLWAC, 2/13/96); State of Florida, Office of the Governor, Exec. Order No. 96-297.

294. FLA. STAT. ANN. § 373.042(2) (West 2008).

295. *Id.* § 373.042(4)(a). Peer review may be demanded by any "substantially affected person." *Id.* Requesting peer review may subject a party to sharing the costs "to the extent economically feasible." *Id.* § 373.042(4)(b).

surface waters, and aquifers"[296] and may establish MFLs below historic levels if recovery is not technically or economically feasible or could cause "adverse environmental or hydrologic impacts."[297] Finally, where MFL violations exist or are projected within twenty years, the districts are required to develop and "expeditiously implement" prevention or recovery plans as part of Regional Water Supply Plans.[298] More than 250 MFLs have been adopted or are under development.[299]

Florida law also authorizes the districts to "reserve" water from use by permit applicants for the protection of fish and wildlife or public health or safety.[300] Reservations had a broader purpose under the *Model Water Code*: water could be protected to implement any part of the State Water Plan.[301] Reservations have seen little use in Florida,[302] although they are likely to play a major role in safeguarding water for Everglades restoration.[303]

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296. *Id.* § 373.0421(1)(a).

297. *Id.* § 373.0421(1)(b)1. The South Florida Water Management District is not allowed to use this exclusion in the Everglades Protection Area. *See id.* § 373.0421(1)(b).

298. *Id.* § 373.0421(2).

299. Adopted MFLs appear at FLA. ADMIN. CODE ANN. r. 40B-8, 40C-8, 40D-8, and 40E-8. When the Northwest Florida Water Management District adopts MFLs, they will appear at 40A-8. For discussion of the technical methods used by the districts to establish MFLs, see Clifford P. Neubauer, *Minimum Flows and Levels Method of the St. Johns River Water Management District, Florida, USA*, 42 ENVT'L MGT. 1101 (2008); Adam B. Munson, *Minimum Wet-Season Flows and Levels in Southwest Florida Rivers*, 43 J. AM. WATER RESOURCES ASS'N 522 (April 2007); and the technical publications and peer reviews supporting adopted MFLs available from each of the districts.

300. FLA. STAT. ANN. § 373.223(4) (West 2008).

301. MALONEY ET AL., *supra* note 8, § 2.02(3), at 24. Water might be reserved, for example, to protect MFLs, water quality, or future water supplies for a utility. *Id.* § 1.07(7) & cmt., at 107; *id.* § 2.02(3) & cmt., at 181.

302. Water has been reserved in at least three instances. First, the St. Johns River Water Management District has reserved water to avoid having to permit a restoration of flow to Paynes Prairie State Preserve. *See* FLA. ADMIN. CODE ANN. r. 40C-2.302 (1994); Final Order, Smith v. St. Johns River Water Mgmt. Dist., No. 94-0544, 1994 WL 1028139, at *26–27 (Fla. Div. Admin. Hrgs. July 13, 1994); Recommended Order, Smith v. St. Johns River Water Mgmt. Dist., No. 93-7109, 1994 WL 1028083, at *24 (Fla. Div. Admin. Hrgs. June 16, 1994). Second, the Southwest Florida Water Management District has reserved water to aid in the recovery of minimum flows and levels in the Lower Hillsborough River and has announced its intention to do the same in the Southern Water Use Caution Area. *See* FLA. ADMIN. CODE ANN. r. 40D-2.302(1) (1994). Third, the flow of the Apalachicola River and one of its major tributaries has been reserved by the Northwest Florida Water Management District as part of an interstate dispute. *See* JEFFREY L. JORDAN & AARON T. WOLF, INTERSTATE WATER ALLOCATION IN ALABAMA, FLORIDA, AND GEORGIA: NEW ISSUES, NEW METHODS, NEW MODELS (2006); Steven Leitman, *Apalachicola-Chattahoochee-Flint Basin: Tri-State Negotiations of a Water Allocation Formula*, *in* ADAPTIVE GOVERNANCE AND WATER CONFLICT 74–88 (John T. Scholz & Bruce Stiftel eds., 2005); Robert Haskell Abrams, *Broadening Narrow Perspectives and Nuisance Law: Protecting Ecosystem Services in the ACF Basin*, 22 J. LAND USE & ENVTL. L. 243, 244 (2007) (discussing interstate dispute regarding use of shared water basin). For a timeline of the ACF Basin conflict, see Apalachicola-Chattahoochee-Flint River System Timeline, http://www.dep.state.fl.us/mainpage/acf/timeline.htm (last visited May 8, 2009).

303. *See* Water Resources Development Act of 2000, Pub. L. No. 106-541, § 601, 114 Stat. 2572, 2680–93 (2000); FLA. STAT. ANN. § 373.470(3)(c) (West 2008). A reservation for the Picayune Strand Restoration project was recently adopted. *See* Recently Adopted Governing Board Rules,

3. Into the Future: Modernizing Florida Law

The fundamental purpose of an MFL is to prevent withdrawals from causing "significant harm" to the water resource values set forth in the Water Resource Implementation Rule.[304] The water management districts must determine the point at which harm becomes "significant." The Water Resource Implementation Rule provides no guidance for this decision. There has been debate over whether the determination of significant harm should be a purely scientific endeavor, i.e. based on an evaluation of impacts to ecological functions or other aspects of water resources, or should also consider balancing other demands for water resources, economic impacts, and similar factors in determining whether harm is significant. The South Florida Water Management District has determined that harm is "significant" if it takes more than two years of average conditions for the system to recover—a scientifically-based criterion.[305] One administrative law judge has ruled that the determination must include a "balancing of societal interest[s]" to determine if harm is significant.[306] It is virtually impossible in most cases to determine the extent to which "societal interests" have influenced the determination of significant harm. The better interpretation would be to define "significant harm" as meaning more than a *de minimis* or theoretical impact. Water quantity would thus have a non-degradation standard similar to that which protects water quality.[307] Whether the MFL is attainable could then be determined through the recovery plan. If a balancing approach is used, the context for harm should also be considered. If the affected land is a park, wildlife refuge, aquatic preserve, or other protected land classification, a lesser degree of harm should be considered significant.

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chapters 40E-10, 40E-2 excerpt and 40E-20 excerpt, *available at* http://www.sfwmd.gov/portal/page?_pageid=1874,9678097,1874_21152225:1874_22133505&_dad=portal&_schema=PORTAL. Additional reservations are under development for the St. Lucie estuary and the Kissimmee River and Upper Chain of Lakes.

304. FLA. ADMIN. CODE ANN. r. 62-40.473 (2005).

305. FLA. ADMIN. CODE ANN. r. 40E-8.021(31) (2006). *Compare id.* r. 40E-8.021(9) (defining "harm"), *with id.* r. 40E-8.021(30) (defining "serious harm").

306. Final Order, Charlotte County. v. Sw. Fla. Water Mgmt. Dist, No. 94–5742RP, 1997 WL 1052343, ¶ 1268 (Fla. Div. Admin. Hrgs. Mar. 27, 1997). A court declined to review that ruling because the rule had been withdrawn. Sw. Fla. Water Mgmt. Dist. v. Charlotte County, 774 So. 2d 903, 923 (Fla. 2d DCA 2001).

307. FLA. ADMIN. CODE ANN. r. 62-4.242, -303.300. Outstanding Florida Waters (OFW) are protected against any lowering of water quality by a direct discharge or a discharge that causes "significant degradation." *Id*. r. 62-242(2). No discharge or activity can cause lower water quality in an Outstanding National Resource Water (ONRW). *Id*. r. 62-242(3). A more generally applicable antidegradation policy allows water quality to be lowered when "necessary or desirable under federal standards and under circumstances which are clearly in the public interest." *Id*. r. 62-4.242(1).

One problem with the current statute is that reservations can be used only to "protect" fish and wildlife.[308] "Protection" does not include any increase in the population beyond that which is necessary to ensure "the health and sustainability of fish and wildlife communities through natural cycles of drought, flood, and population variation."[309] The use of reservations to implement restoration programs is thus subject to challenge in every instance based on the argument that the amount reserved exceeds the amount needed for "protection."[310] The obvious solution is to explicitly authorize reservations in such circumstances. Similarly, the use of reservations is limited to the protection of fish and wildlife and public health and safety. Other components of natural systems such as vegetative communities cannot be directly protected, absent the establishment of a link to the fish and wildlife they support.[311] Moreover, unless a reservation protects fish and wildlife, it cannot be used to protect the water needed to achieve recovery of an adopted MFL. Legislation could be adopted to authorize reservations for the protection or restoration of natural systems, or for the implementation of recovery plans for MFLs.

C. *Water for the Future: The Role of Planning*

Beyond guaranteeing that there is currently sufficient water supply for human use and for the environment, states must look into the future and take steps to ensure that sufficient water will be available for future needs of the public and environment. States struggle to plan for the future, providing sufficient water for anticipated growth, but resisting excessive hoarding or "speculation" in water rights. An additional challenge lies in providing appropriate links between land use planning (typically at the local level) and water resource planning (typically at the state level). Surprisingly fierce conflicts have developed as rapidly urbanizing regions of the states seek to capture the water resources of wetter, slower-growing areas.

1. The National Context

Although theoretically states may embrace the idea of water planning, few are willing to do so at the expense of issuing water permits. Nevertheless, in some instances states have been willing to cut back on new water permits in the interest of preserving water supplies for the future. Over time, water diversion works have become more elaborate, at times requiring ditches, tunnels, reservoirs, and other infrastructure that can take many years

308. Final Order ¶¶ 25, 28–30, 34, Ass'n of Fla. Cmty. Developers v. Dep't of Envtl. Prot., No. 04-0880RP (Fla. Div. Admin. Hrgs. Feb. 24, 1996), *aff'd*, 943 So. 2d 989, 992–93 (Fla. 1st DCA 2006).

309. Final Order, *supra* note 308, ¶ 103.

310. *Id.* ¶¶ 34, 108.

311. *Id.* ¶¶ 73–74, 80–81.

to construct.[312] This poses a problem for water officials, who must distinguish between projects designed to secure water for realistic future needs and projects merely designed to hoard water in excess of future needs.[313] The problem is exacerbated in the western states, where permitting agencies must decide whether the priority date should correlate to the initiation of construction, the actual application of water to beneficial use, or to some intermediate date.[314] Most western states address this tension through the "relation back" doctrine, allowing water users to secure priority dates that "relate back" to the formation of an intent to appropriate, provided that the users proceed with due diligence to put the water to beneficial use.[315] Colorado adds an additional safeguard against hoarding (or "speculating" in) water—the "can and will" doctrine.[316] That doctrine imposes an early diligence requirement, such that an applicant for a conditional water right must show "that there is or will be water available for diversion and that the applicants will divert that water."[317] The "can and will" requirement has been applied to deny early appropriation dates to applicants who cannot demonstrate, *inter alia*, the ability to obtain necessary land use permits for water storage[318] or the intent to build a reservoir."[319]

As a second method of planning for the future, some states have begun to link water use with land use planning. Prolonged population growth and increased consumptive water use of diminishing supplies are a reality for

312. *See, e.g.*, City of Denver v. N. Colo. Water Conservancy Dist., 276 P.2d 992, 1007–08 (Colo. 1954) (holding that Denver did not demonstrate "due diligence" in its development of a transmountain diversion over the Rocky Mountains).

313. In states that allow the sale of water rights, there may exist the temptation to "speculate" in water rights for monetary gain. *See infra* Part IV.E (discussing water markets).

314. *See supra* Part II.A.2 (discussing "priority" element of the prior appropriation doctrine).

315. *City of Denver*, 276 P.2d at 1008 (discussing due diligence requirement); *see also supra* note 27 and accompanying text (discussing "intent" requirement).

316. *See* Colo. River Water Conservation Dist. v. Vidler Tunnel Water Co., 594 P.2d 566, 568 (Colo. 1979), *superseded by statute*, COLO. REV. STAT. ANN. § 37-92-305 (West 2008), *as recognized in* FWS Land & Cattle Co. v. State, 795 P.2d 837 (Colo. 1990) (declaring that conditional water rights would not be granted for speculative purposes).

317. Se. Colo. Water Conservancy Dist. v. City of Florence, 688 P.2d 715, 717 (Colo. 1984); *see also City of Denver*, 276 P.2d at 1004 (discussing Colorado's recognition of "conditional" water rights). The statutory provision provides, "No claim for a conditional water right may be recognized or a decree therefor granted except to the extent that it is established that the waters can be and will be diverted, stored, or otherwise captured, possessed, and controlled and will be beneficially used and that the project can and will be completed with diligence and within a reasonable time." COLO. REV. STAT. § 37-92-305(9)(b).

318. *FWS Land & Cattle Co.*, 795 P.2d at 840.

319. Pub. Serv. Co. v. Bd. of Water Works of Pueblo, 831 P.2d 470, 477 (Colo. 1992); *see also* Gibbs v. Wolf Land Co., 856 P.2d 798, 802, 803 (Colo. 1993) (permitting property owner to rely on potential right of private commendation to satisfy "can and will" requirement). *See generally* Mark E. Hamilton, Comment, *The "Can and Will" Doctrine of Colorado Revised Statute Section 37-92-305(9)(b): Changing the Nature of Conditional Water Rights in Colorado*, 65 U. COLO. L. REV. 947, 949–56 (1994) (discussing the use of the "can and will" doctrine as a method to prevent speculation).

much of the United States. The arid American West, in particular, has always suffered from water scarcity concerns, but population booms[320] have driven many western states to consider coordinating the historically separate spheres of water planning and land use planning.[321] Early legislative attempts to link water and land use planning in California, for example, lacked teeth and were largely ignored, though subsequent legislation has given this collaborative approach the necessary bite.[322] Now, California's attempts to link water and land use planning are based on the view that development should be conditioned on availability of water supplies.[323] Before the "legislative body of a city or county or the advisory agency . . . conditionally approve, or disapprove" plans for a proposed subdivision of more than 500 dwelling units, the developer must prove that a "sufficient water supply" is available.[324] A sufficient water supply is defined as "the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses."[325] Despite this stringent requirement for proposed large subdivisions, other large water-consuming developments such as industrial parks, hotels, office buildings, new construction on unsubdivided property, residential projects in urbanized areas, and housing projects exclusively for low-income households are not required to provide proof of sufficient water supply.[326] Additionally, there are broad requirements for determining groundwater impacts for specified categories of land use planning projects.[327]

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320. Peter D. Nichols & Douglas S. Kenney, *Watering Growth in Colorado: Swept Along by the Current or Choosing a Better Line?*, 6 U. DENV. WATER L. REV. 411, 413–15 (2003).

321. A. Dan Tarlock & Sarah B. Van de Wetering, *Western Growth and Sustainable Water Use: If There Are No "Natural Limits," Should We Worry About Water Supplies?*, 27 PUB. LAND & RESOURCES L. REV. 33, 47–48 (2006).

322. Lincoln L. Davies, Just a Big, "Hot Fuss"? Assessing the Value of Connecting Suburban Sprawl, Land Use, and Water Rights through Assured Supply Laws, 34 ECOLOGY L.Q. 1217, 1247–48 (2007).

323. See id.

324. CAL. GOV'T CODE § 66473.7(b)(1) (West 2008); *see also id.* § 66473.7(a)(1) (defining subdivision) and *id*. § 66473.7(b)(1) (requiring proof of sufficient water supply). The local water permitting agency has the final word in determining whether a sufficient water supply exists for the proposed development. *Id*. § 66473.7(b)(1)–(b)(2).

325. *Id.* § 66473.7(a)(1)–(a)(2) (defining subdivision and requiring proof of sufficient water supply).

326. *Id.* § 66473.7(i) (discussing exemption of residential projects in urbanized areas and housing projects for low-income households); Davies, *supra* note 322, at 1248–49.

327. Davies, *supra* note 322, at 1250–51 (discussing the California Environmental Quality Act (CEQA), California's counterpart to the National Environmental Policy Act); *see also* CAL. WATER CODE § 10910(a) (West 2008) (requiring any CEQA review to comply with this part); *id.* at § 10910(f) (discussing groundwater use factors considered in every CEQA review).

Although the wetter eastern states do not suffer from the same scope of water scarcity as the west, some eastern states have also begun attempting to link land use and water planning. For example, Vermont has linked water use to land use planning predominantly through "concurrency" laws, which control the rate of development based on the availability of public facilities, in this case water.[328] The Regional District Environmental Commission (Commission), consisting of panels appointed by the governor, administers development permits in Vermont.[329] In order to obtain a permit, in addition to all the other permitting requirements, the developer must prove that a proposed development or subdivision[330] will: "have sufficient water available for the reasonably foreseeable needs of the . . . development";[331] "not cause an unreasonable burden on an existing water supply";[332] and "not place an unreasonable burden on the ability of the local governments to provide municipal or governmental services," such as providing water.[333] If the developer satisfies these requirements along with many other non-water-related requirements, the Commission must issue the permit.[334] Vermont's concurrency law, including those sections relating to water use, gives little discretion to the local governments in the permitting process. Due to this lack of local flexibility, Vermont's concurrency laws have come under fire.[335] Similar to Vermont, Maryland has concurrency laws that link land use and water law. Maryland's laws vary from Vermont's and Florida's in that Maryland's laws only encourage, rather than require, counties to adopt concurrency ordinances.[336]

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328. Adam Strachan, *Concurrency Laws: Water as a Land-Use Regulation*, 21 J. LAND RESOURCE & ENVTL. L. 435, 438–39 (2001).

329. *Id.* at 438.

330. VT. STAT. ANN. tit. 10, § 6001(3) (2008) (defining extensively the wide range of projects that qualify as "development").

331. *Id.* § 6086(a)(2).

332. *Id.* § 6086(a)(3).

333. *Id.* § 6086(a)(7).

334. Strachan, *supra* note 328, at 438–39 (considering non-water-related requirements of applicable laws, including title 10, section 6086 of the Vermont Statutes).

335. *Id.* at 439.

336. MD. ANN. CODE art. 66B, § 10.01(a)(1) (2008) provides:

> To encourage the preservation of natural resources or the provision of affordable housing and to facilitate orderly development and growth, a local jurisdiction that exercises authority granted by this article may enact, and is encouraged to enact, ordinances or laws providing for or requiring . . . [t]he planning, staging, or provision of adequate public facilities and affordable housing[.]

The editor notes for the statute explain that adequate public facilities "means public facilities determined by the county or municipal corporation to be adequate to service a development, including but not limited to water supply, sewers, roads, public schools, police, fire and rescue services, storm drainage, and utilities." *Id.* § 10.01. Because Maryland allows local jurisdictions to choose whether to enact concurrency laws, Maryland has a patchwork of different local ordinances.

2. The Florida Context

For decades, Florida has experienced, and continues to experience, dramatic population growth and urban and suburban development pressure. Attempts to manage growth have had very limited success. At the same time, regions of Florida are facing water shortage crises. Projections suggest that unless Florida develops alternative water supplies, sufficient water will not be available to accommodate anticipated growth in large areas of Florida.

Historically, Florida's growth management and water management have been governed by different laws, by different regulatory agencies, and with different policy objectives. Each has been considered to involve a unique set of considerations. Growth management is an exercise in *planning*, attempting to address the "what, where, and when" of new growth. In contrast, water management has been concerned primarily with *permitting*, addressing "how" water will be supplied to the new development. Water availability traditionally has not been a factor in determining whether a particular development should be constructed in a particular area at a particular time. Although steps have been taken to integrate the two, in their current form land use planning and water management regulation remain two distinct natural resource protection tools with very different objectives.

Growth management is a planning function carried out by local governments. It is the prerogative of the citizens of the local government to decide what their community will look like—that is, to formulate a vision for their future. Although land use planning is distinct from water resource management, there is some overlap. For example, in addressing the "what" and the "where" of future growth, planners look at a particular location and evaluate the water resources of that location, taking into consideration such characteristics as water quality, presence and quality of wetlands, flood potential, and importance of that location for water supply or aquifer recharge. Then local planners evaluate what land uses and what densities are appropriate at that particular location given the water resources' characteristics at that location. The "when" of planning is typically addressed through concurrency requirements.

In contrast to local governments, the water management districts engage in two primary functions—permitting and planning.[337] With respect to the former, the districts issue two types of permits: permits for consumptive water use (CUPs) and permits for land development (ERPs), looking at the potential adverse effects of particular development proposals on water resources.[338] In their permitting role, the districts must assume that a particular land use on a particular site is appropriate.[339] That is, the

337. *See supra* Part III.C (describing Florida's system of water management districts).

338. *See supra* Part III.C.

339. *See supra* Part III.C.

questions of "what," "where" and "when" have already been answered by the local government. Instead, during permitting the districts ask "how" a project proposed for a particular site can meet applicable permitting criteria to protect water resources, seeking to minimize and mitigate environmental impacts through technology and other measures. For example, ERP or CUP permitting asks: "how" the proposed project can be designed to ensure state water quality standards are met; "how" the proposed project can be designed to ensure there is compensation for flood-plain storage loss; "how" wetland impacts can be reduced or eliminated by design modifications; "how" remaining wetlands impacts can be mitigated; and "how" alternative lower-quality water supply sources can be developed and utilized.

The districts also engage in the function of water supply planning, envisioned by the *Model Water Code* as an important component of water resources management.[340] Although the districts have participated in limited water resources planning efforts for many years, it has not been until the past ten years that the districts have undertaken serious efforts to engage in comprehensive planning. In 1997, the Florida legislature required the districts to develop regional water supply plans for each region where sources of water are determined "not adequate to supply water for all existing and future reasonable-beneficial uses and to sustain the water resources and related natural systems."[341] The current statute requires the regional water supply plan to be based on a twenty-year planning horizon, to quantify water supply needs, and to develop a list of water supply development options, including traditional and alternative water supply project options.[342]

Notably, the Act is an expression of the legislature's intent that water supply should not limit future growth. Although the regional water supply plans identify water supply options and provide information to assist local governments in their planning, they are not in themselves "growth management" plans. Of course, to the extent that local governments and/or utilities fail to pursue these water supply options, sufficient water supply may not be available in high growth areas and such lack of water may in fact act as a limit to growth.

Prior to 1997, few linkages existed between the districts' water management planning and the local governments' comprehensive land use planning. In 1997, the Florida legislature began to take steps to promote improved long-term water resources planning and to link such planning with local government comprehensive planning. Today, water resource issues play a significant role in local government comprehensive planning—at least in theory.

340. *See supra* Part III.C.

341. FLA. STAT. ANN. § 373.0361(1) (West 2008).

342. *Id.* § 373.0361(2).

First, local governments must address a number of water resource issues in their comprehensive plans, including consideration of the water supply sources necessary to meet and achieve the existing and projected water use demand for the established planning period.[343] Comprehensive plans must also contain a future land use plan element that is based in part upon the availability of water supplies; a general sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge element that is correlated to the future land use element and indicates ways to provide for future potable water; a conservation element that assesses current and projected water needs and sources for at least a ten year period, considering the appropriate district regional water supply plan; and an intergovernmental coordination element that addresses coordination with regional water supply authorities.[344] Further, local governments must assess their current and projected water needs and sources, "considering the appropriate regional water supply plan."[345] By rule, local governments must satisfy specific minimum criteria for each of the elements required to be in the comprehensive plans, including a number of provisions that relate to the protection of water resources.[346]

Second, "concurrency" legislation links land use planning and water management. Historically, concurrency of development was governed by available water *facilities*, rather than available water *supplies*. The current statute requires that adequate water supplies, as well as potable water facilities, shall be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy.[347]

Third, legislation provides an opportunity for the districts to participate in local government comprehensive planning and plan amendment through a "review and comment" role. In particular, local governments must transmit proposed comprehensive plans and plan amendments to a number of reviewing agencies, including the appropriate water management district.[348] The districts, in turn, must provide comments to the Department of Community Affairs (DCA) for review.[349] The DCA uses the water management district comments to determine whether to comment on or to object to the proposed plan or plan amendment.[350]

Fourth, the districts must assist local governments in the development and future revisions of local comprehensive plan elements related to water resources.[351] To do so, the districts must provide a wide array of specified

343. *Id.* § 163.3167(13).
344. *Id.* § 163.3177(6)(c), (d), (h).
345. *Id.* § 163.3177(6)(d).
346. FLA. ADMIN. CODE ANN. r. § 9J-5.006 (2001).
347. FLA. STAT. ANN. § 163.3180(2)(a) (West 2008).
348. *Id.* §163.3184.
349. *See id.*
350. *Id.*
351. *Id.* § 373.0391(1).

technical information related to water resources.[352]

Finally, there are at least five specific instances where the districts' regulations require that local government land use regulations be integrated into ERP permitting decisions. For example, under the St. Johns River Water Management District ERP rules, local government land use regulations will be used, or taken into account, when making the following determinations with respect to an ERP application review: (a) the potential flood damages to a structure;[353] (b) secondary impacts;[354] (c) cumulative impacts;[355] and (d) preservation mitigation.[356] Finally, within the Wekiva River Protection Area, the district shall not issue an ERP until the appropriate local government has provided written notification to the district that the proposed activity is consistent with the local comprehensive plan and is in compliance with land development regulations.[357]

The Florida legislature has taken important preliminary steps—well in advance of many other states—to integrate water supply and land use planning. Despite the many improvements that have been made in recent years in linking water management planning and decision-making with local government land use planning, however, Florida's linkages still are limited and do not go far enough to ensure long-term protection of water resources and the public interest. The existing linkages continue to focus on making information about water resources available to local governments to incorporate into their planning processes, or ensuring that "water supply" will be available to accommodate anticipated growth. They stop short of supplying meaningful growth management. Continuing in the current vein will lead to increased urban sprawl and inappropriate land and water uses, bringing concomitant long-term erosion of water and other environmental resources. This phenomenon is evidenced by the fact that despite more than thirty-five years of implementation of Chapter 373 of the Florida Statutes, Florida continues to experience increased degradation of water quality, loss of wetlands, and increased strain and scarcity of water available for public water supply and other uses. No matter how good the ERP and CUP permitting criteria, they simply are not sufficient in themselves to protect Florida's water resources or to protect broader public interest concerns without better linkages to local government planning efforts.

352. *Id.* § 373.0391(2).

353. SJRWMD, APPLICANT'S HANDBOOK, *supra* note 231, § 10.2, at 10-1.

354. *Id.*

355. *Id.*

356. *Id.*

357. *See id.*, § 12.1.1, at 12-1 (based upon legislative authorization contained in FLA. STAT. § 369.305, unique to the Wekiva Basin).

3. Into the Future: Modernizing Florida Law

Despite the different goals of land use planning and water management, both are important complements to each other. To ensure appropriate growth management that meets the needs of local communities while protecting water resources, it is necessary to ensure that land use planning and water management decisions are adequately linked so that they do not work at cross purposes to one another. This could be accomplished through the adoption of "consistency" requirements.

The rules and statutes governing the water management districts should be amended to require the districts' permits to be consistent with local governments' comprehensive plans and land use regulations. In the absence of such a requirement, currently it is possible for permit applicants to manipulate the system. For example, the developer of a project that is not consistent with the local government comprehensive plan might first seek approval from the relevant water management district. After obtaining an ERP permit, the developer could then use this as leverage to convince the local government to change its plan to allow the land use. The developer may use the ERP approval as evidence that the project is "environmentally sound," ignoring the fact that meeting ERP permitting criteria does not necessarily mean the project is an appropriate land use type or density from a planning standpoint. At this point, it is typically too late for planning decisions to be made. All that can be done is to minimize environmental impacts through engineering technologies and mitigation. The burden has been passed on to the water permitting agency, rather than dealt with as a land use and natural resource protection policy. As discussed in the "Public Interest" section of this Article, a requirement that district permits be consistent with local government comprehensive plans and land development regulations could ensure that proposed water uses are consistent with the public interest in the broad sense as established through local government planning.[358]

Conversely, local governments should be required to demonstrate that their comprehensive land use plans are consistent with regional water supply plans. This would prevent a second type of manipulation, whereby developers of projects that are not consistent with the water supply plans first seek approval from the relevant local government. After obtaining a building permit, the developer could then use this as leverage to convince the water management district that a permit should be issued. To fully protect water resources, other environmental resources, and community goals, it is necessary to move beyond this compartmentalized approach, where each regulatory agency makes decisions in a virtual vacuum without concern for other governmental or community objectives, decisions, or planning visions.

358. *See supra* Part IV.A.

To implement this second consistency reform, the districts could be required to assist local governments in developing the elements of their comprehensive plans addressing water and conservation matters. This would ensure that the overall land use vision for the community is consistent with long-term water resource protection and with the maintenance of future water supply both for future human needs and for environmental protection. By actually integrating the two plans, local governments can better plan for growth, attracting business, and meeting other community goals in ways that are explicitly designed to protect water resources and other environmental resources for the future. For example, water management experts can assist local governments in determining which ecologically sensitive areas should be protected from intense development, which areas should be set aside for green space, which areas are well-suited for industrial, commercial, or residential development, and what types of development practices should be encouraged or required to protect water resources. Local governments could bring together the work done by water management experts in identifying water supply options and integrate it with their own community objectives for growth management and natural resource protection to ensure that growth is directed to appropriate locations with adequate water supply. In other words, the information developed in the water management districts' water supply plans can help local governments make smart land use decisions.

D. *Water Transfers: Crossing Watershed Boundaries*

Most water usage involves the withdrawal of water from a natural aquifer or surface water body for use at another location. Depending upon factors such as the distance between source and destination, water transfers can pose economic, engineering, environmental, hydrologic, legal, and/or political difficulties. To some degree, virtually all states rely upon water transfers to increase the reliability of water supplies. In some instances, the benefits of a secure water supply might outweigh the economic, environmental, and social costs. In other instances, the costs may be unacceptable, regardless of benefits.

1. The National Context

In the United States, there are thousands of diversions from one watershed to another.[359] Indeed, from its inception, the western prior appropriation doctrine has endorsed such transbasin diversions.[360] Transfers

359. S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians, 541 U.S. 95, 108 (2004) (noting thousands of "engineered diversion[s] of one navigable water into another . . . particularly by western [s]tates, whose water supply networks often rely on engineered transfers among various natural water bodies"). This section is drawn, in part, from Klein, *supra* note 63.

360. *See supra* note 25 and accompanying text.

can be of relatively small scale, involving the movement of water among drainage sub-basins just a few acres in size. At the other end of the spectrum, transmountain diversions across the Rocky Mountain continental divide may divert waters destined for the Pacific Ocean or the Atlantic Ocean, respectively, to ultimate destinations at the opposite side of the continent.[361] Long distance diversions also occur in the East. New York City, for example, relies upon pristine, upstate sources for its water supply—collecting water from a 1,972 mile watershed spanning eight counties in New York and one in Connecticut.[362] Although the traditional riparian "watershed rule" purports to forbid the use of water apart from the watershed of origin,[363] the rule is riddled with exceptions that allow transbasin diversions.[364]

Although superficially appealing, transbasin diversions fall far short of providing a panacea to community water shortages. Three limitations are particularly important. First, removing water from its source, depending on the quantity and timing, can trigger significant, negative environmental consequences.[365] These negative impacts are more pronounced where environmentally-protective minimum flows and water levels have not been rigorously established.[366] Second, the availability of water transfers encourages water managers to adopt a supply-side mentality. As a result, managers may overlook conservation measures—potentially the most efficient and cost-effective path to water security.[367] The history of western cities such as Los Angeles, Las Vegas, and Denver provides a cautionary tale, illustrating that water transfers alone can never satisfy unregulated

361. *See* City of Denver v. Fulton Irrigating Ditch Co., 506 P.2d 144, 146 (Colo. 1972) (considering transmountain diversions "from the Colorado River Basin, which naturally flows westerly from the west side of the Continental Divide to the Pacific Ocean" to "the South Platte River basin on the eastern side of the Continental Divide [which flows easterly to the Missouri River]"); *see also* Theo Stein, *Western Slope Fears Future Trickling Away as Front Range Slakes Thirst, Headwaters Towns are Forced to Limit Growth*, DENVER POST, Aug. 15, 2004, at A-1 (noting that communities to the west of the Continental Divide "chafe at being treated like [Denver's] water colony" and "worr[y] that [their] future is about to disappear down a long pipe to Denver").

362. New York City Dep't of Envtl. Prot., History of New York City's Water Supply System, http://www.nyc.gov/html/dep/html/drinking_water/history.shtml (last visited May 8, 2009) (describing upstate network of nineteen reservoirs, and three controlled lakes with approximate storage capacity of 580 billion gallons); New York City Dep't of Envtl. Prot., Watershed Protection, http://www.nyc.gov/html/dep/html/watershed_protection/home.html (last visited May 8, 2009).

363. For an extreme application of the rule, see Town of Gordonsville v. Zinn, 106 S.E. 508 513, 516 (Va. 1921) (enjoining as violation of watershed rule use of water only 175 to 225 feet downstream of diversion point).

364. *See* A. Dan Tarlock, *Reconnecting Property Rights to Watersheds*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 69, 86 (2000) (discussing judicial erosion of watershed rule).

365. *See* Klein, *supra* note 63, at 272.

366. *See id.* at 272–74 (describing the bed of the drained Owens Lake of California as a major source of toxic air pollution).

367. *Id.* at 263–64.

demand.[368] Third, water transfers can have profound social impacts. With every transbasin diversion there will be winners and losers. History has shown repeatedly that the losers in transbasin diversions typically are rural communities and the environment.[369] Increasingly, proposed large-scale transfers trigger citizen protests. Although this might represent mere parochial protectionism, it might also suggest widespread concern and evolving social values worthy of deeper consideration.[370]

States have begun to acknowledge these negative impacts. Overall, the realization came first in the arid western states, where large-scale transbasin diversions have been a fact of life for close to a century.[371] In an attempt to protect "areas of origin," states have implemented a variety of measures, including the prohibition of interbasin water transfers; reserving water for the future needs of the basin of origin; and providing compensation (generally financial) to source watersheds.[372] A fourth measure—the water budget—has been used primarily as a planning tool that assists communities in determining the amount of water available within their watersheds.[373] Coupled with restrictions limiting the extent to which a community's water expenditures can exceed its water "income," the budget could also function as a tool that would limit transbasin diversions.[374]

2. The Florida Context

Periodically, proposed water transfers have sparked conflict in Florida. In the 1980s, Brevard County sought a consumptive use permit, allowing it to transport groundwater across water management district boundaries.[375] In upholding an administrative rule authorizing such interdistrict transfers—subject to a public interest review of numerous specified factors—the Florida Supreme Court observed in *Osceola County v. St. Johns River Water Management District* that "[p]olitical boundaries are artificial divisions that

368. *See, e.g.*, *id.* at 264–68 (describing Los Angeles' century-long expansion of its network of transbasin diversions in a never-ending quest for more water).

369. *Id.* at 268–74.

370. *Id.* at 260–63.

371. See Lawrence J. MacDonnell & Charles W. Howe, Area-of-Origin Protection in Transbasin Water Diversions: An Evaluation of Alternative Approaches, 57 U. COLO. L. REV. 527, 527–28 (1986).

372. *Id.* at 530–38.

373. *See generally* Richard W. Healy et al., U.S. Dep't of the Interior, Circular 1308: Water Budgets: Foundations for Effective Water-Resources and Environmental Management (2007), *available at* http://pubs.usgs.gov/circ/2007/1308/pdf/C1308_508.pdf (discussing scientific basis for water resources and environmental management and the efficient use of water budgets).

374. *Id.*

375. Brevard County, located solely within the St. Johns River Water Management District, sought a permit to transfer water from Osceola County, located within the South Florida Water Management District. Osceola County v. St. Johns River Water Mgmt. Dist., 504 So. 2d 385, 387 (Fla. 1987). Because the water management districts are aligned with surface watershed boundaries, this would constitute an interbasin transfer of water. *See supra* note 145 and accompanying text.

may and sometimes should be transcended when planning for the most beneficial use of our state's water resources."[376] The legislature responded in 1987, confirming its intention to authorize interdistrict transfers of groundwater.[377]

A decade later, a long-simmering conflict erupted into litigation, involving water transfers among three counties located within the Southwest Florida Water Management District. About 1992, the City of St. Petersburg (in Pinellas County) sought to renew its consumptive use permits.[378] Among other things, St. Petersburg wanted to continue importing water from wellfields located in adjacent Hillsborough and Pasco Counties.[379] The two source counties and the water management district resisted, arguing that operation of the wellfields was causing unacceptable environmental impacts to lakes and wetlands in the source counties.[380] The so-called "Tampa Bay Water War" followed, including five years of litigation.[381] In 1998, a negotiated settlement created a new regional water supply entity—Tampa Bay Water (a direct successor of the West Coast Regional Water Supply Authority)—charged with distributing water to its member governments.[382] The Florida legislature responded by enacting the so-called "local sources first" provision, specifying a number of factors that must be considered when determining whether or not proposed water transfers are in the "public interest" when they cross county lines, but exempting regional water supply authorities from the "local sources first" analysis for transfers within their jurisdiction.[383]

Yet another dispute involving water transfers began to develop in 2006, this time involving proposed transfers of surface water. Unlike most states, Florida relies heavily upon groundwater, satisfying some 90% of its

376. *Osceola County*, 504 So. 2d at 388 (quoting Osceola County v. St. Johns River Water Mgmt. Dist., 486 So. 2d 616, 619 (Fla. 5th DCA 1986)).

377. Notably, the statutory provision addresses only groundwater transfers, remaining silent on the related issue of surface water transfers. *See* FLA. STAT. ANN. § 373.2295(1) (West 2008) (regulating applications for "interdistrict transfer and use" of groundwater, defined as "a consumptive water use that involves the withdrawal of groundwater from a point within one water management district for use outside the boundaries of that district, but does not include a withdrawal and use within the same county"); *see also* Wayne Flowers, *Moving Water for Consumptive Uses in Florida— North vs. South (and East vs. West*) at 1.4–1.5, Rural Lands: Land Use Issues, 2007 Update, Florida Bar Continuing Legal Education Program, Sept. 28, 2007 (manuscript on file with author).

378. RAND, *supra* note 168, at 23, 65 (noting that some trace the roots of the Tampa Bay conflict as far back as the 1920s); Daniel P. Fernandez, *The Tampa Bay Water Wars: Turning Lemons into Lemonade*, American Bar Association Section of Environment, Energy, and Resources, Eastern Water Resources Conference, May 1–2, 2008 (manuscript on file with author).

379. RAND, *supra* note 168, at 22–26.

380. *Id.*

381. *See generally* RAND, *supra* note 168 (detailing the conflict).

382. Fernandez, *supra* note 378, at 7–9.

383. FLA. STAT. ANN. § 373.223(3) (West 2008); *see* Flowers, *supra* note 377, at 1.6–1.7.

drinking water needs from underground sources.[384] But in some parts of the state—including central Florida—it has become increasingly clear that groundwater supplies will be unable to satisfy future demand. One such critical area has been delineated as the Central Florida Coordination Area. As the Southwest Florida Water Management District explains,

> the growth in public water supply over the next 20 years within the area from traditional groundwater sources is not sustainable. Recent water supply plan updates and permitting experience confirms that if traditional groundwater sources continue to be developed to meet growing public water supply demands in the area, harm to the water resources (rivers, streams, lakes, wetlands and aquifer quality) will occur.[385]

In fall 2006, the water management districts with boundaries converging in Central Florida jointly developed an "action plan."[386] Under that plan, implemented through rulemaking, additional groundwater withdrawals in the vulnerable coordination area will be limited severely after the year 2013.[387] Instead, after 2013 users must develop "supplemental water supplies," defined as inclusive of "surface water, stormwater, water that is reused after one or more public supply, municipal, industrial, commercial or agricultural uses, and saltwater."[388]

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384. In 2005, Florida withdrew 4,242 million gallons per day of fresh [non-saline] groundwater, supplying 90% of the state's population with drinking water. RICHARD L. MARELLA, U.S. DEP'T OF INTERIOR, FACT SHEET 2008-3080, WATER USE IN FLORIDA, 2005 AND TRENDS 1950–2005 (2008), *available at* http://pubs.usgs.gov/fs/2008/3080/fs2008_3080.pdf. Overall, groundwater was the source of 62% of all freshwater withdrawn in Florida in 2005. *Id.* Nationally, groundwater supplies only about 37% of drinking water needs, and only 21% of total withdrawals for all categories of use. SUSAN S. HUTSON ET AL., U.S. DEP'T OF INTERIOR, USGS CIRCULAR 1268, ESTIMATED USE OF WATER IN THE UNITED STATES IN 2000 1 (2004), *available at* http://pubs.usgs.gov/circ/2004/circ1268/pdf/circular1268.pdf.

385. Southwest Florida Water Management District, *Central Florida Coordination Area Action Plan*, http://www.swfwmd.state.fl.us/projects/cfca/ (describing fall 2006 plan developed by the Southwest Florida, St. Johns River, and South Florida Water Management Districts).

386. *Id*.

387. *Id.* The Southwest Florida Water Management District describes the plan's three key provisions as follows: (1) "Additional groundwater withdrawals are limited to no more than that needed to meet year 2013 demands"; (2) "Permit duration is limited to year 2013 unless a commitment is made to use supplemental water supplies (SWS) after 2013 to meet additional demands"; and (3) The districts "[m]ust develop SWS . . . or use water from another SWS, unless demonstrated to be infeasible." *Id*.

388. SW. FLA. WATER MGMT. DIST., WATER USE PERMIT INFORMATION MANUAL: PART B BASIS OF REVIEW B3-35 (2009), *available at* http://www.swfwmd.state.fl.us/rules/files/wup_basis_of_review.pdf. "Brackish groundwater" may also qualify as a supplemental water supply "if it can be developed in a manner that will not cause or contribute to harmful impacts from cumulative groundwater withdrawals in the CFCA [Central Florida Coordination Area]." *Id.*

The plan and proposed rulemaking created a rift between north and south Florida, divided roughly along the Interstate Four corridor.[389] Approximately 80% of Florida's population is located south of the highway, making the north a tempting source of additional water supplies.[390] In response to the action plan and rulemaking, public supply water providers south of the line began to explore the potential for importing surface water from northern streams, which would qualify as permissible post-2013 "supplemental water supplies."[391] In particular, the utilities considered water transfers from the St. Johns River and the Ocklawaha River, triggering a bitter firestorm of controversy.[392]

Conflicts such as these are governed by a mosaic of statutes, administrative rules, and judicial opinions. In general, Florida law authorizes the movement of water (both surface and groundwater) across both hydrologic (interdistrict) and political (inter-county) boundaries.[393] However, the scope of that authority is clouded by a variety of provisions that create subtle distinctions between the treatment of surface water and groundwater, and between the treatment of interdistrict and inter-county transfers.

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389. Interstate Four runs northeast from Tampa, through Orlando, terminating near Daytona Beach and the Atlantic Ocean.

390. FLA. COUNCIL OF 100, *supra* note 180, at 17.

391. *See supra* note 387. The utilities are also motivated to explore surface water supplies because surface water is afforded certain advantages under Florida law. *See, e.g.*, FLA. STAT. ANN. § 373.019(1) (West 2008) (defining "alternative water supplies" to include surface water); *id.* § 373.1961(3) (providing significant financial incentives for the development of "alternative water supplies"); *id.* § 373.223(5) (creating limited presumption that certain alternative water supplies satisfy the "public interest" permitting requirement).

392. *See, e.g.*, Owen Holmes, *Plan to Withdraw Water from a Fla. River Sucks Literally*, FOLIO WKLY., Oct. 2, 2008, http://www.altweeklies.com/news/plan_to_withdraw_water_from_a_fla_river_sucks_literally_/Story?oid=194843 ("The government agency charged with managing the region's water supply has given its blessing to an $800 million to $1.2 billion plan—half funded by the state—to drain Northeast Florida's chief natural resource for the benefit of Central Florida developers. Worse yet, according to a growing chorus of opponents, the district is doing so without having made an earnest effort to promote water conservation."); Kevin Spear, *Osceola County Joins Fight over St. Johns River Water*, ORLANDO SENTINEL, Apr. 10, 2008, at B1. *But see* St. Johns River Water Management District, *The St. Johns River as a Drinking Water Source, Frequently Asked Questions (FAQs), available at* http://sjr.state.fl.us/surfacewaterwithdrawals/FAQs.html (refuting criticism and asserting that "limited quantities of water [up to 262 million gallons per day] can be withdrawn from the St. Johns and Lower Ocklawaha rivers without causing harm to the water resources of these areas").

393. *See* FLA. STAT. ANN. § 373.223(2) (West 2008); *see also* Osceola County v. St. Johns River Water Mgmt. Dist., 504 So. 2d 385, 388 (Fla. 1987) (interpreting FLA. STAT. § 373.223(2) as providing sufficient authority to support administrative rule allowing water transfers under specified conditions).

	Interdistrict	Inter-County
Ground-water	Approval: Source district must approve (with comments from receiving district) Public interest: District must consider projected population and future needs of both source and use areas. Permit "shall be issued" if: 1) proposed transfer satisfies requirements of Chapter 373, and 2) future needs of source and use areas can be satisfied If within same county: Streamlined procedures apply (for example, receiving district receives notice, but does not comment)[394]	Local sources first: Public interest analysis requires districts to "consider" additional factors when transfers cross county lines[395]
Surface Water	Approval: Both source and receiving districts must approve Public interest: Additional factors apply to surface water transfers, including conservation efforts in the receiving area and present/future needs of source area[396]	Local sources first: Public interest analysis requires districts to "consider" additional factors when transfers cross county lines[397]

394. Regulations relevant to interdistrict groundwater transfers appear at FLA. STAT. ANN. §§ 373.2295, .223(2) (West 2008); FLA. ADMIN. CODE ANN. r. 62-40.422 (2005).

395. Regulations relevant to inter-county groundwater transfers appear at FLA. STAT. ANN. § 373.223(2), (3), (5) (West 2008).

396. Regulations relevant to interdistrict surface transfers appear at FLA. STAT. ANN. § 373.223(2), (5) (West 2008); FLA. ADMIN. CODE ANN. r. 62-40.422 (2005).

397. Regulations relevant to inter-county surface transfers appear at FLA. STAT. ANN. § 373.22(2), (3), (5) (West. 2008).

For example, in the case of interdistrict transfers of *surface* water, both the source and receiving districts must give their approval. Moreover, the "public interest" test for such surface transfers includes an expansive list of factors.[398] In contrast, in the case of interdistrict *groundwater* transfers, approval is required only from the source district (with the receiving district's participation limited to the provision of comments),[399] and the expanded list of "public interest" factors does not apply.[400]

The law also provides inconsistent treatment of transfers, depending upon whether they cross district or county boundaries. In general, inter-county transfers are more highly regulated than interdistrict transfers, a requirement that makes little hydrological sense (although it may make political sense). For example, Florida's "local sources first" policy mandates a list of factors that must be considered before inter-county transfers can be approved, a list that is inapplicable to interdistrict transfers.[401]

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398. According to administrative rule:

> In deciding whether the transfer and use of surface water across District boundaries is consistent with the public interest pursuant to Section 373.223, F.S., the Districts shall consider the extent to which:
>
> (a) Comprehensive water conservation and reuse programs are implemented and enforced in the area of need;
>
> (b) The major costs, benefits, and environmental impacts have been adequately determined including the impact on both the supplying and receiving areas;
>
> (c) The transfer is an environmentally and economically acceptable method to supply water for the given purpose;
>
> (d) The present and projected water needs of the supplying area are reasonably determined and can be satisfied even if the transfer takes place;
>
> (e) The transfer plan incorporates a regional approach to water supply and distribution including, where appropriate, plans for eventual interconnection of water supply sources; and
>
> (f) The transfer is otherwise consistent with the public interest based upon evidence presented.

FLA. ADMIN. CODE ANN. r. 62-40.422(2) (2005).

399. FLA. STAT. ANN. § 373.2295(2), (5)(b) (West 2008).

400. *Compare* FLA . STAT. ANN. § 373.2295 (West 2008) (governing interdistrict transfers of groundwater), *with supra* note 396 and accompanying text.

401. FLA. STAT. ANN. § 373.223 (West 2008). The local sources first provisions apply specifically to inter-county transfers of both surface and groundwater, but do not mention interdistrict transfers. For inter-county transfers, the Districts "shall consider:"

> (a) The proximity of the proposed water source to the area of use or application.

3. Into the Future: Modernizing Florida Law

Florida's position on water transfers is ambiguous. In some instances, the law seems to promote them,[402] while in other cases it imposes numerous constraints upon transfers.[403] This ambiguity is not surprising, given the controversial nature of transfers within the state.[404] Nevertheless, an important first step toward reform in Florida would require clarification of the state's position on water transfers. Although transfers produce both benefits and detriments, one can make a strong argument that in Florida—one of the wettest states in the nation—it is premature for water managers to consider large-scale or large-volume water transfers. Before embarking down such an expensive and likely irreversible path, Florida should rigorously enforce and strengthen its existing laws, giving the innovative and far-sighted provisions of the Act a chance to work.

At least three such laws should be strengthened or applied more rigorously. First, Florida's innovative "local sources first" provisions should be strengthened.[405] Currently, the law requires the districts to consider the

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> (b) All impoundments, streams, groundwater sources, or watercourses that are geographically closer to the area of use or application than the proposed source, and that are technically and economically feasible for the proposed transport and use.
>
> (c) All economically and technically feasible alternatives to the proposed source, including, but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and stormwater, and aquifer storage and recovery.
>
> (d) The potential environmental impacts that may result from the transport and use of water from the proposed source, and the potential environmental impacts that may result from use of the other water sources identified in paragraphs (b) and (c).
>
> (e) Whether existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for existing legal uses and reasonably anticipated future needs of the water supply planning region in which the proposed water source is located.
>
> (f) Consultations with local governments affected by the proposed transport and use.
>
> (g) The value of the existing capital investment in water-related infrastructure made by the applicant.

§ 373.223(3).

402. *See supra* notes 376-77 and accompanying text; *see also* FLA. STAT. § 373.223(2) (West 2008) (explicitly authorizing interdistrict transfers).

403. *See supra* note 398 and accompanying text.

404. *See supra* note 392 and accompanying text.

405. These provisions were not in the statute as originally enacted, nor did they appear in the

use of "local sources first" when evaluating potential inter-county water transfers.[406] If made applicable also to interdistrict transfers, this provision could provide an important tool to curb undesirable transfers across hydrologic boundaries.

Second, although Florida law currently authorizes water managers to set minimum flows and levels, this authority has been under-utilized. Although the districts have established more than 250 minimum flows and levels since 1998, they acknowledge that there are still many thousands of waterbodies in Florida for which such MFLs have not been established.[407] To ensure that watersheds are fully protected, a statutory amendment could forbid the funding or implementation of water transfers across district or county boundaries unless minimum flows and levels first have been established for all affected watercourses and aquifers in the source area.[408]

Third, Florida has gone farther than many states in rejecting artificial distinctions that can needlessly complicate state water policy. For example, Florida law recognizes the intimate relationship between surface and groundwater, resisting the temptation to impose legal distinctions unsupported by hydrologic reality.[409] Similarly, Florida has organized water management along watershed lines, rather than political boundaries.[410] Despite these progressive provisions, however, Florida's water transfer statutes stray from this wisdom. In particular, existing law creates arguably unnecessary distinctions and complications, evaluating potential interdistrict transfers differently than potential inter-county transfers, and evaluating

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Model Water Code. *See* Fla. Session Laws, chs. 98–88 (1998) (adding § 373.016(a) (encouraging the use of water from sources nearest the area of use or application whenever practicable) and § 373.223(c)(3) (establishing criteria for evaluating potential transport of ground- or surface water across county boundaries)).

406. *See supra* note 401 and accompanying text (considering § 373.223(3)).

407. Florida law requires the districts to prepare and annually update a priority list for the establishment of minimum flows and levels. FLA. STAT. ANN. § 373.042(2) (West 2008). In discussions with the authors, some have argued that this suggested modification might create excessive pressure on the districts to establish minimum flows and levels at a pace beyond that called for by the priority list. Instead, these commentators suggest, withdrawals above a certain threshold (perhaps defined as "major") could be restricted to permits of fairly short duration (perhaps five or ten years). This would allow time, the argument goes, for the waterbody to be considered for inclusion on the annual priority list, as well as for periodic reexamination of whether the withdrawal causes harm to water resources. The authors are sympathetic to the concerns underlying this argument. However, no prudent water utility would be willing to proceed with infrastructure-intensive water transfers unless granted permits of longer duration. In such circumstances, restricting the length of permits would not be a realistic option, and would function as a *de facto* prohibition on water transfers prior to the establishment of minimum flows and levels—the same proposal advanced by the authors in this Article.

408. Minimum flows and levels are discussed *supra* Part IV.B.2.

409. *See supra* notes 148–50 and accompanying text; *see also* FLA. STAT. § 373.019(20) (West 2008) (defining "water" to include both surface and groundwater).

410. *See supra* note 147 and accompanying text.

surface water transfers differently than groundwater transfers.[411] Statutory amendments could eliminate this unnecessary complexity. In some cases, this would make water transfer authorization more difficult to obtain.[412]

An additional potential reform would go beyond existing Florida law, forbidding the funding or implementation of water transfers unless the proposed destination area demonstrates that its efficiency of water use exceeds by a specified percentage that of the contemplated source district or county.[413] This would go beyond existing considerations of source and destination, under which the districts are required to "consider . . . [a]ll economically and technically feasible alternatives to the proposed source" including conservation.[414] Such reform would take advantage of the widely varying per capita use rates among counties in Florida, from a low of 54 gallons per day to a high of 172 gallons per day,[415] encouraging a "race to the top" and stimulating conservation efforts.[416]

E. *Water Markets: The Commodification of Water*

Water markets are a mechanism through which the holders of consumptive use permits (or water rights) transfer all or a portion of their permitted water allocations to other water users, often in exchange for financial compensation. Markets are merely a means to an end: they are designed to *reallocate* water away from existing uses in order to achieve various state policies. Typical goals include moving water from lower- to higher-value uses; promoting conservation and eliminating wasteful practices; and freeing up water for environmental protection.[417] Markets transactions are a fairly straightforward proposition when they change only the identity of the water user, as where one farmer sells both farm and water rights to another farmer.

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411. *See supra* notes 384–92 and accompanying text.

412. Statutory sections that could be targeted for amendment include FLA. STAT. § 373.223(3) (potential amendment would apply "local sources first" considerations to interdistrict transfers in addition to inter-county transfers); FLA. ADMIN. CODE ANN. r. 62-40.422(2) (2005) (potential amendment would apply interdistrict surface water transfer criteria also to transfers involving groundwater and to inter-county transfers).

413. This proposal builds upon, but goes beyond, the recommendation of the delegates to the Florida Water Congress of 2008 to set per capita targets for water consumption. *See supra* Part III.D.

414. FLA. STAT. ANN. § 373.223(3)(c) (West 2008).

415. RICHARD L. MARELLA, U.S. DEP'T OF THE INTERIOR, WATER WITHDRAWALS, USE, DISCHARGE, AND TRENDS IN FLORIDA, 2000 16 tbl.5 (2004), *available at* http://pubs.usgs.gov/sir/2004/5151/pdf/20045151.pdf. The U.S. Geological Survey reported per capita water withdrawals for domestic residential use in all Florida counties, ranging from 54 gallons per day (Sarasota and Union counties) to 172 gallons per day (Lake county). *Id.*

416. Accompanying statutory amendments could affect FLA. STAT. §§ 373.2295(4), 373.223(2)–(3), (5) (West 2008); FLA. ADMIN. CODE ANN. r. 62-40.422(2)(a) (2005).

417. *See* Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 ARIZ. L. REV. 235, 255–56 (2007).

More often, however, water markets involve a complex mixture of changes that can impact other water users and the natural environment. Such potential changes include the type of use (as from agricultural to urban use), the time of use (as from the irrigation season to year-round use), the amount of use (as where the consumptive use of the transferee is greater or less than that of the transferor), and the pattern of return flows (as where changes occur to the timing and location of unused water discharges). The place of use may also change. If the new user plans to transport water across county or hydrologic lines, then the "water transfer" considerations of the previous section also become relevant.

1. The National Context

A common problem faced by all states is how to reallocate water from existing uses to new uses. In eastern states, supplies of inexpensive water are likely to decrease in the future; and in western states, water supplies are often allocated to the last drop, if not over-appropriated. To reallocate water to different regions and for new uses, states may consider a combination of water transfer and marketing legislation, as well as strengthening existing elements of state common law.

In the eastern states, true water markets are rare or nonexistent. Common law riparianism—viewing water rights as an adjunct to the ownership of riparian land—imposes numerous obstacles to the sale of water rights apart from the riparian land.[418] At most, the "sale" of water rights likely amounts to little more than a covenant that the seller will not sue the buyer for alleged unreasonable use of water, leaving other riparians free to sue for alleged unreasonable water uses.[419] Even in riparian jurisdictions that have adopted modern permit systems, water markets continue to face significant hurdles. Offering only a renewable permit—averaging twenty years in duration[420]—regulated riparianism systems lack the secure, long-term

418. *See supra* notes 12-14 and accompanying text (discussing on-tract and watershed rules).

419. TARLOCK ET AL., *supra* note 6, at 144–45. As the authors explain,

> It is not clear whether a contract between a riparian owner-seller and a nonriparian owner-buyer is a covenant by the riparian not to sue for infringement of riparian rights or is a transfer of the riparian right itself, such right having been severed from the riparian land. The riparian owner who purports to transfer the full right to make use of the supply to a nonriparian thereafter has no right to complain of the nonriparian's use and, further, has no right to make use of the water supply over the objection of the transferee. . . .
>
> Other riparians not party to the transfer contract, however, remain unaffected by the transfer.

Id.; *see also* Robert Haskell Abrams, *Interbasin Transfer in a Riparian Jurisdiction*, 24 WM. & MARY L. REV. 591, 599 (1983).

420. *See* Dellapenna, *supra* note 11, § 7.02(a), at 219.

property rights essential to an effective market.[421] Moreover, water markets may not be necessary in the eastern states. Limited-term permits afford water regulators the recurrent opportunity to assess whether an existing water use is inefficient, harmful to the environment, or inconsistent with the public interest. If necessary, the water supply can be reallocated to another user and/or to another use, or reduced in amount to promote efficiency. Such periodic administrative review may also be more cost-effective than water markets, eliminating the need for "water marketers"—intermediaries that bring together buyers and sellers.[422]

Arguably, the need for water markets is more pressing in the West than in the East. Under the prior appropriation doctrine, in times of shortage, the oldest water right receives its full allotment before the next oldest right receives a single drop.[423] Thus, the most "senior" and valuable water rights are those that were established during the nineteenth century for uses such as agricultural irrigation and mining. In areas of water scarcity (including much of the West), perpetual water rights "lock in" a vast majority of the states' water for such traditional uses. As a result, relatively junior users find it difficult to obtain water for purposes recognized as valuable by modern society, such as urban water supply, recreation, and environmental protection. Moreover, current allocations may be inequitable if concentrated in the hands of a few, making it difficult to distribute water across a wider spectrum of users.

As a result of these factors, markets are more common in the western states, facilitating sales and leases, both permanent and temporary. One report documented 3,232 water sales or leases between 1987 and 2005 in twelve western states.[424] The largest source of transferred water is the agricultural sector, which constitutes nearly 80% of the consumptive use of water in the West.[425] Transfers from agriculture to urban uses made up the majority of transfers but only 18% of the total water transferred.[426] Also significant were transfers from agriculture and urban uses to environmental uses, initiated by federal and state governments, aimed primarily at wetlands restoration, fish and wildlife habitat preservation, and enhancing in-stream flows.[427]

Although western water markets hold promise, they have yet to overcome significant, potentially insurmountable, problems. Advocates note

421. *See* Brewer et al., *supra* note 64, at 1025–34 (noting that even under western systems, the lack of secure, precisely-defined water rights serves as an impediment to the development and function of water markets).

422. Such marketers do not obviate the need for administrative review, but merely add an additional participant to the process of water reallocation.

423. *See supra* Part II.A.2.

424. Brewer et al., *supra* note 64, at 1038.

425. *Id.* at 1038–39.

426. *Id.* at 1039.

427. *Id.*

that markets provide powerful financial incentives to overcome resistance to government regulation. As one commentator noted, "The quickest way to reform agricultural water use in the United States is to give farmers a financial incentive to use less: that is, let them sell the water to thirsty cities."[428] But, the fledging western markets have not proved to be a panacea for terminating water uses that are outdated, wasteful, inefficient, or contrary to the public interest. One report lists numerous impediments to water markets, including the lack of secure, precisely-defined water rights; regulatory exemptions for small domestic users; and various federal laws that subsidize inefficient water use.[429] In addition, water markets are potentially inefficient. The conventional faith in the efficiency of free markets does not hold true when the relevant commodity is a water right.[430] Water rights command high market prices, and intermediary water brokers may receive a significant share of the sales price. Thus, there may be three parties to the transaction: buyer, seller, and broker (usually assisted by attorneys and water engineers). Moreover, the transaction is still subject to the approval of state regulators, who must ensure that the water right—as modified by the new user and new use—continues to conform to the requirements of state law, and that existing water users suffer no harm from the change of water right.[431]

The promise of water markets is also blunted by the recognition that water can be reallocated through existing non-market mechanisms. For example, the common law doctrine of beneficial use prohibits wasteful practices, at least in theory.[432] Copious quantities of water are lost through inefficient transportation or irrigation practices. For example, the Imperial Irrigation District in California's Imperial Valley diverts three million acre-feet of water, one third of which ends up flowing into the Salton Sea as wastewater.[433] However, the doctrine of waste is not a technology-forcing standard but a customary standard, and courts have been reluctant to prohibit one wasteful use in a sea of wasteful uses.[434] A second common law

428. *Id.* at 1022–23.

429. *See id.* at 1025–34.

430. TARLOCK ET AL., *supra* note 6, at 231 (noting existence of significant externalities and transaction costs in water markets).

431. The so-called "no injury" rule, common in virtually all western states, permits the conveyance of water rights "only in such instances as it is specifically shown that the rights of other users from the same source are not injuriously affected by such change, and . . . the burden of proof thereof rests upon [the party requesting the change in use]." Green v. Chaffee Ditch Co., 371 P.2d 775, 783 (Colo. 1962). This rule "benefits junior appropriators, since senior appropriators have a prior call on the stream in any event." TARLOCK ET AL., *supra* note 6, at 232; *see also Chaffee Ditch Co.*, 371 P.2d at 783 (noting the principle "that junior appropriators have vested rights in the continuation of stream conditions as they existed at the time of their respective appropriations").

432. The antithesis of beneficial use is waste. *See supra* note 29 and accompanying text (discussing the requirement of beneficial use without waste).

433. Brewer et al., *supra* note 64, at 1022.

434. *See* TARLOCK ET AL., *supra* note 6, at 178. The authors observe,

doctrine, that of abandonment, holds more promise for the reallocation of water. That is, where users fail to put their full water right to beneficial use for a significant period of time, it may be lost (in whole or in part) through abandonment.[435] Comparing these two doctrines, commentators observe that "[a]ppropriators have operated under the specter of 'use it or lose it,' not 'use it efficiently or lose it.'"[436]

2. The Florida Context

Florida recognizes the public nature of water—moreso than many other states—by explicitly defining water as a public resource and by limiting water rights to renewable permits.[437] Accordingly, permit applicants must demonstrate, among other things, that their proposed water use is consistent with the public interest.[438] Although Florida recognizes a preference for the renewal of existing permits over the issuance of new permits, existing permit holders have no absolute property right in the continuation of established water uses.[439] Moreover, the public interest limits the rights of permit holders in times of water shortage or emergency, preventing permittees from consuming their entire allotment of water.[440] Finally, the public's paramount control over water resources can be asserted through the revocation of permits for a variety of reasons, including nonuse for a period of two years or more.[441] This emphasis on the public, rather than private, aspects of water was a deliberate policy choice. The inspiration for Florida's

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> [A] common theme running through the cases is that wasteful uses were not beneficial. This judgment can only be made in the context of surrounding use patterns. Theoretically, every water user operates under a threat that a water use can be challenged as wasteful and thereby held to be in excess of a decreed appropriative right. . . . Such challenges have been rare, and successes even rarer.

Id.; *see also* Neuman, *supra* note 29, at 933. In a survey of one hundred years of waste cases, Professor Neuman found only a handful of practices that the courts considered wasteful. *Id.*

435. "Abandonment is a common law concept that requires proof of intent to relinquish dominion and control over a property interest and the proponent of abandonment bears the burden of proving the requisite state of mind." TARLOCK ET AL., *supra* note 6, at 257. Intent may be inferred from extended periods of non-use. *See, e.g.*, Cundy v. Weber, 300 N.W. 17, 22 (S.D. 1941) (failure to exercise water right for forty-seven years constituted prima facie showing of intent).

436. TARLOCK ET AL., *supra* note 6, at 178.

437. FLA. STAT. ANN. § 373.016(4)(a) (West 2008) (declaring that "water constitutes a public resource benefiting the entire state"); *see also id.* § 373.236 (providing for limited-duration permits, typically twenty years or less).

438. *See supra* Part IV.A.2.

439. In contrast, water use permits in the West are more likely to constitute private property protected under the "just compensation" clause of the Fifth Amendment. *See, e.g.*, *In re* Hage, 82 Fed. Cl. 202, 216 (2008) (awarding $4.2 million to rancher in compensation for regulatory taking of water right).

440. FLA. STAT. ANN. § 373.246 (West 2008).

441. FLA. STAT. ANN. § 373.243(4) (West 2008).

water law—the *Model Water Code*—explains that western rights under the prior appropriation doctrine "are granted in perpetuity and can be lost only by abandonment or statutory forfeiture. This element of inflexibility prevents more effective use by subsequent landowners. A periodic administrative review appears workable and more beneficial to the welfare of the entire community."[442]

Straying from these historical roots, Florida has flirted occasionally with arrangements that bear some resemblance to water markets.[443] In 1994, the Southwest Florida Water Management District proposed a "voluntary reallocation" rule that would have allowed the transfer of permitted historic consumptive use from existing to new permittees within the "Southern Water Use Caution Area."[444] The proposed rule was subsequently struck as exceeding the scope of the district's authority.[445] In 2000, failed House and Senate bills would have authorized limited transfers of consumptive use permits.[446] Two years later, the Department of Environmental Protection proposed evaluation of measures to emphasize market "principles" in the transfer of water. The Department noted, however, the controversial nature of water markets and emphasized that "[w]ater must continue to be a public resource and water resources must be sustained for future generations."[447] Accordingly, the Department acknowledged that markets were just one of a range of possible measures to accomplish the goals of "establish[ing] an appropriate price for water," increasing the efficiency of water use, and providing "equitable access to water from restricted sources."[448]

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442. MALONEY ET AL., *supra* note 8, at 159.

443. In limited instances, agency rules allow water permits to be "transferred" from one party to another, provided the source, use, withdrawal quantities, and permit terms and conditions remain the same. *See, e.g.*, FLA. ADMIN. CODE ANN. r. 40C-1.612 (1995) (rule promulgated by St. Johns River Water Management District allowing permit transfer where the transferee will be bound by all terms and conditions of the original permit); FLA. ADMIN. CODE ANN. r. 40D-2.351 (2007) (rule promulgated by the Southwest Florida Water Management District); FLA. ADMIN. CODE ANN. r. 40E-1.6107 (2008) (rule promulgated by the South Florida Water Management District allowing permit transfer, provided that transferee provides reasonable assurances that conditions of the existing permit will be met). The rules do not address the issue of financial compensation from the transferee to the original permit holder.

444. FLA. PUB. SERV. COMM'N, WATER ALLOCATION MARKETS, 4–5 (Sept. 2001) (discussing proposed rulemaking under Chapter 40D-2, Florida Administrative Code), *available at* http://www.psc.state.fl.us/publications/pdf/pai/wallmarkets.pdf.

445. Charlotte County, No. 94-5742RP, 1997 WL 1052343 (Div. of Admin. Hrgs. 1997), at 235–53, 585–90 (rejecting Southwest Florida Water Management District's proposed Rules 40D-2.331(3) and 40D-2.801(3)(b)(7), which would have allowed potential new users in the Southern Water Use Caution Area to obtain a permit for groundwater by negotiating a reallocation with an existing permit holder provided the new withdrawal complies with existing permitting rules).

446. *Id.* at 5 (discussing Senate Bill 1698); *see also* CYNTHIA BARNETT, MIRAGE: FLORIDA AND THE VANISHING WATER OF THE EASTERN U.S. 159–60 (2007) (discussing 2000–2001 lobbying efforts by Azurix, former subsidiary of Enron, to amend Florida law to permit water markets).

447. Fla. Dep't of Envtl. Prot., Florida Water Conservation Initiative 1, 65–66 (2002).

448. *Id.* at 66.

Some claim that unofficial "gray markets" in water have developed within water-stressed areas of the Southwest Florida Water Management District,[449] and perhaps elsewhere within the state. In general terms, current permit holders forego the use of a portion of their allotted consumptive use. Part of the "excess" water remains in the designated source aquifer or surface water body, yielding potential environmental benefits. The original permittee then sells the remaining portion of the allotment to a new water user, reportedly for sums that may reach millions of dollars.[450] It is likely, however, that any monetary exchange remains outside the purview of the water management district, and that new uses must meet all applicable permitting criteria.

3. Into the Future: Modernizing Florida Law

Under existing Florida law, it is likely that private water markets are not legal because they circumvent the statutory requirement that all potential water users (with limited exceptions) demonstrate that a proposed use of water is a reasonable-beneficial use, will not interfere with any presently existing legal use of water, and is consistent with the public interest.[451] Furthermore, water markets violate district rules governing the modification of permits.[452]

As with the case of water transfers,[453] exploration of water markets is premature at this time. The conditions that have given rise to water markets in some western states currently do not exist in Florida. Many "senior" western water rights date back to the nineteenth century, potentially locking vast quantities of water into uses that are no longer social priorities. In contrast, Florida's permit system allows the water management districts to reevaluate water permits at intervals of twenty to fifty years in most cases. It is easy to overstate the virtues of markets, and to underestimate their difficulties. Before embarking on such a new venture, Florida should first derive maximum advantage from its existing laws and policies, relying upon non-market mechanisms to promote efficient water use, environmental protection, and equity.

At least two reforms are desirable in Florida, and potentially in other states as well. First, state law should be amended to clarify that water marketing is currently illegal. Unless and until Florida develops water markets, it is unacceptable for some permittees to engage in water trading, while most refrain from doing so (perhaps out of fear of engaging in an unlawful activity). The law should clarify that water permits may not be

449. BARNETT, *supra* note 446, at 161–63 (describing "gray market over which lawmakers have no control").

450. *Id.*

451. *See* FLA. STAT. ANN. § 373.2232(2) (West 2008).

452. *See* FLA. ADMIN. CODE ANN. r. 40D-2.331 (2007).

453. *See supra* Part IV.D.3.

transferred to other users, except in the narrow circumstances accompanying the sale or conveyance of "permitted water withdrawal facilities or the land on which the facilities are located," where "the source, use or withdrawal quantities," remain the same.[454]

Second, permitting requirements should be strengthened to require specifically that districts reject applications for inefficient water use. Florida has one of the highest annual precipitation rates in the nation, yet faces imminent water shortages in some areas. Inefficient practices undoubtedly contribute to excessive rates of consumption in some cases.[455] Inefficient water use can be minimized through Florida's existing permit process, rather than embarking on a market experiment. For example, Florida law currently defines the "reasonable-beneficial use" permitting criterion to mean "the use of water in such quantity as is necessary for economic and efficient utilization."[456] That requirement could be strengthened, for example by reference to specific best-management practices and efficiency standards.[457]

V. CONCLUSION

Water law is both old and new. More than perhaps any other area of the law, state water law is firmly and proudly rooted in tradition. As a result, traditional water users and practices benefit from numerous preferences, both explicit and implicit. But water law is also new. Society now views natural resources—including water—as something to be protected as well as consumed, and as something to be shared, sustaining future users and the environment, as well as existing users. This Article identifies five critical challenges that water law must address in order to meet the needs of the future: (1) satisfying evolving public interest standards; (2) protecting water resources and the natural environment; (3) planning for the future, in part by integrating water and land use; (4) protecting basins of origin without sacrificing the legitimate needs of distant watersheds; and (5) deciding whether market principles should assist in reallocating water to its most desirable uses. At their core, these issues force us to grapple with the unique nature of water—neither pure private property, nor a true public commons. It will take courage to address these issues surrounding the most precious resource of all, but the process will no doubt reveal fascinating lessons about the values most cherished by society.

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454. FLA. ADMIN. CODE ANN. r. 40D-2.351 (2007) ("Transfer of Permits" rule of the Southwest Florida Water Management District).

455. FLA. DEP'T OF ENVTL. PROT., *supra* note 447, at 11 (projecting in 2002 a "surprising increase in per capita use from 158 gallons per capita per day (gpcd) in 1995, to 162 gpcd in 2020"). In other cases, gains in efficiency have been realized. *See* U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, A WIN-WIN APPROACH TO WATER PRICING AND WATERSHED CONSERVATION, *available at* http://water.usgs.gov/wrri/02-03grants_new/prog-compl-reports/2002HI2B.pdf.

456. *See* FLA. STAT. ANN. § 373.019 (16) (West 2008).

457. *Id.*