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THE INFLUENCE OF THE MODEL WATER CODE ON WATER RESOURCES MANAGEMENT POLICY IN FLORIDA

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INTRODUCTION

Increasing demands of municipal, industrial, and agricultural water users have taxed existing water supplies in many parts of the Eastern United States.¹ Larger rivers and lakes have not been severely threatened, but recurrent drought conditions in some areas have impaired stream flows and lake levels in smaller water-courses.² Groundwater problems have also arisen as more users have turned to groundwater sources to meet water needs.³ These problems include interference between wells, overdraft of groundwater aquifers, salt water intrusion, and subsidence.⁴

Water quality is also a problem in many states. Although secondary sewage treatment has increased dramatically in recent years, municipal sewer systems still discharge pollutants into the nation's rivers and streams.⁵ In addition, stormwater runoff from urban areas continues to impair surface water quality.⁶ While in-

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1. Ausness, *Water Rights Legislation in the East: A Program for Reform*, 24 WM. & MARY L. REV. 547, 547 (1983).

2. Butler, *Allocating Consumptive Water Rights in a Riparian Jurisdiction: Defining the Relationship Between Public and Private Interests*, 47 U. PITT. L. REV. 95, 98-99 (1985).

3. Municipal use of groundwater is especially significant. Approximately 80% of the water used by cities is groundwater. Note, *Hazardous Waste Injection Wells: The Need for State Controls*, 19 TULSA L.J. 250, 252 (1983).

4. Lukas, *When the Well Runs Dry: A Proposal for Change in the Common Law of Ground Water Rights in Massachusetts*, 10 B.C. ENVTL. AFF. L. REV. 445, 452-57 (1982).

5. COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY — 15TH ANNUAL REPORT 84-85 (1985) [hereinafter ENVIRONMENTAL QUALITY — 15TH ANNUAL REPORT].

6. Maloney, Hamann & Canter, *Stormwater Runoff Control: A Model Ordinance for Meeting Local Water Quality Management Needs*, 20 NAT. RESOURCES J. 713, 713-19 (1980).

dustrial users have invested heavily in waste treatment facilities and thus reduced their discharges of organic pollutants,⁷ more needs to be done to reduce the discharge of chemicals, heavy metals, and other toxic substances into surface waters.⁸ Agricultural users also contribute to pollution through animal wastes, processing wastes, sediments, fertilizers, and pesticides.⁹

According to the Council on Environmental Quality, groundwater pollution is now on the increase.¹⁰ This is a matter of great concern because groundwater pollution is almost impossible to reverse once it has occurred.¹¹ As with surface water, municipal, industrial and agricultural users all contribute to the pollution problem. In urban areas septic tanks, municipal waste facilities, landfills, and contaminated surface water runoff impair groundwater quality.¹² Industrial users also pollute. Sources of pollution from industrial activities include seepage from industrial waste treatment ponds and lagoons, as well as waste from mining and oil and gas recovery operations.¹³ However, the disposal of hazardous wastes into the ground by means of injection wells is the most serious form of groundwater pollution by industrial users.¹⁴ Finally, agricultural operations also threaten groundwater quality. Nitrogen in plant fertilizers percolates down through the soil during irrigation and eventually reaches underground aquifers.¹⁵ Pesticides seeping into the soil may also come into contact with groundwater.¹⁶

7. ENVIRONMENTAL QUALITY — 15TH ANNUAL REPORT, *supra* note 5.

8. *Id.* According to the Council, compliance by industrial users with applicable water quality standards increased from 36% in 1972 to 78% in 1982.

9. Street, *Agriculture and the Pollution Problem*, 1970 UTAH L. REV. 395, 396-400; Hines, *Farmers, Feedlots and Federalism: The Impact of the 1972 Federal Water Pollution Control Act Amendments on Agriculture*, 19 S.D.L. REV. 540, 550 (1974); Jurgens, *Agricultural Nonpoint Source Pollution: A Proposed Strategy To Regulate Adverse Impacts*, 2 J. LAND USE & ENVTL. L. 195, 195 (1987).

10. ENVIRONMENTAL QUALITY — 15TH ANNUAL REPORT, *supra* note 5.

11. Note, *Federal Law, Irrigation and Water Pollution*, 22 S.D.L. REV. 553, 564 (1977); Lukas, *supra* note 4, at 457.

12. Tripp & Jaffee, *Preventing Groundwater Pollution: Towards a Coordinated Strategy to Protect Critical Recharge Zones*, 3 HARV. ENVTL. L. REV. 1, 4-8, 35 (1979); English, *Hazardous Waste Regulation: A Prescription for Clean Water*, 13 SETON HALL L. REV. 229, 251 (1983).

13. Tripp & Jaffe, *supra* note 12, at 4-8, 35; English, *supra* note 12, at 251.

14. Note, *supra* note 3, at 253.

15. Montgomery, *Control of Agricultural Water Pollution: A Continuing Regulatory Dilemma*, 1976 U. ILL. L.F. 533, 536.

16. Note, *Draft Proposal for Legislation to Control Water Pollution from Agricultural Sources*, 59 CORNELL L. REV. 1097, 1102 (1974); Hopping & Preston, *The Water Quality Assurance Act of 1983—Florida's "Great Leap Forward" into Groundwater Protection and*

Florida, like many other states, has significant water resource management problems. Although Florida is a water rich state,¹⁷ the southern portion of the state faces a chronic water shortage.¹⁸ Groundwater resources have been heavily drawn upon and, in some areas, seriously harmed by salt water intrusion as a result of excessive pumping.¹⁹ Furthermore, surface water and groundwater supplies in Florida have been threatened by pollution from municipal, industrial, and agricultural sources.²⁰

The Florida Legislature has responded to these problems by enacting water resource management statutes. The cornerstone of this regulatory scheme is the Florida Water Resources Act of 1972.²¹ To a large extent, the 1972 Act is patterned after a legislative proposal known as the Model Water Code drafted at the University of Florida between 1967 and 1972 by Dean Frank E. Maloney, Professor J. Scott Morris and myself.²² This article will examine the Code's underlying principles and consider the extent to which these principles are reflected in Florida's water management legislation.

I. HYDROLOGY AND WATER MANAGEMENT POLICY

Water, part of the hydrologic cycle,²³ falls to the earth as rain, flows over the land as diffused surface water, enters a surface watercourse or percolates into the soil, and becomes groundwater. Later, water may be returned to the atmosphere by means of evaporation or transpiration.²⁴

Hazardous Waste Management, 11 FLA. ST. U.L. REV. 599, 602 (1983).

17. For a detailed discussion of Florida's water resources see F. MALONEY, S. PLAGER & F. BALDWIN, *WATER LAW AND ADMINISTRATION--THE FLORIDA EXPERIENCE* § 11 (1968) [hereinafter *WATER LAW AND ADMINISTRATION*].

18. See generally Drurik, *Water Use and Public Policy in Florida*, 110 J. WATER RESOURCES PLAN. & MGMT. 167 (1984); Toomey & Woehlcke, *An Analysis of Water Requirements and Water Demands for the South Florida Water Management District* (Tech. Pub. 79-3, Dec. 1979).

19. Fleming, *Water Allocation: The Reasonable and Beneficial Use Standards*, 53 FLA. B.J. 25, 25 (1979).

20. Hopping & Preston, *supra* note 16, at 602; FLORIDA GROUNDWATER PROTECTION TASK FORCE, ANNUAL REPORT FOR SFY '85-86, at 20 (1986) (groundwater contamination from underground petroleum storage tanks); FLA. DEP'T OF ENVTL. REG., 1986 FLA. WATER QUALITY ASSESSMENT 305(b) TECHNICAL REP. at iii (June 1986) (municipal surface water pollution).

21. 1972 Fla. Laws ch. 72-299 (codified as amended at FLA. STAT. ch. 373 (1985)).

22. F. MALONEY, R. AUSNESS & J. MORRIS, *A MODEL WATER CODE* (1972) [hereinafter *MODEL WATER CODE*].

23. Weston, *Gone with the Water—Drainage Rights and Stormwater Management in Pennsylvania*, 22 VILL. L. REV. 901, 903 (1977).

24. See Maloney, *Florida's New Water Resources Law*, 10 U. FLA. L. REV. 119, 121-22

Surface water and groundwater are hydrologically linked so that interference with one may affect the other.²⁵ Thus, if water is impounded in a reservoir, groundwater flow may increase in nearby areas. In the same manner, regulation of surface water flows by means of reservoirs may affect groundwater recharge downstream. Further, withdrawals of groundwater may reduce the base flow of a stream that is normally supplied by groundwater sources, thus making less surface water available for use downstream.²⁶ Likewise, since surface water and groundwater are closely related, contamination of one often leads to degradation of the other within the same hydrologic system.²⁷

Water supply and water quality are part of water management. Water quality affects the availability of water for a variety of municipal, industrial, and agricultural purposes.²⁸ Pollutants in a water supply increase the cost of treatment, which reduces opportunities for reuse.²⁹ Some pollutants, like chemicals or toxic substances, may render a water source unfit for drinking or other domestic consumptive uses.³⁰

Water quality can also affect the amount of water required to accomplish a particular purpose. The amount of water necessary for irrigating many crops increases as the concentration of dissolved solids in the water increases.³¹ There are also more subtle links between water quality and water availability. Sewer systems often remove water from its original watershed and transport it to a remote plant for treatment and disposal, thus reducing the amount of water available for recharge.³²

Consumptive uses of water can significantly affect water quality. Physical withdrawal of water from a watercourse can affect the

(1957); Bryan, *Water Supply and Pollution Control Aspects of Urbanization*, 30 LAW & CONTEMP. PROBS. 176, 177-78 (1965).

25. Murphy, *The Recurring State Judicial Task of Choosing Rules for Groundwater Law: How Occult Still?*, 66 NEB. L. REV. 120, 136-37 (1987).

26. Bower, *Some Physical, Technological, and Economic Characteristics of Water and Water Resources Systems: Implications for Administration*, 3 NAT. RESOURCES J. 215, 218 (1963).

27. Lukas, *supra* note 4, at 457; Tripp & Jaffee, *supra* note 12, at 4.

28. Schramm, *Integrated River Basin Planning in a Holistic Universe*, 20 NAT. RESOURCES J. 787, 795 (1980); Davis, *Groundwater Pollution: Case Law Theories for Relief*, 39 MO. L. REV. 117, 118 (1974).

29. Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality, Part I: State Pollution Control Programs*, 52 IOWA L. REV. 186, 188-90 (1966).

30. Bryan, *supra* note 24, at 187; ENVIRONMENTAL QUALITY — 15TH ANNUAL REPORT, *supra* note 5.

31. Bower, *supra* note 26, at 219.

32. Lukas, *supra* note 4, at 458; Tripp & Jaffee, *supra* note 12, at 35.

amount of water in the stream and the rate of flow.³³ Similarly, heavy withdrawals can lower water levels in fresh water lakes. Reduced rates of flow and lowered water levels often diminish the concentration of dissolved oxygen in the watercourse, impairing its ability to assimilate organic pollutants and to support fish and other aquatic life.³⁴

The physical withdrawal of groundwater can also affect water quality. In coastal areas, large withdrawals of groundwater may induce salt water to flow further inland and replace fresh water in the aquifer. Salt water intrusion is very difficult to reverse and can seriously impair drinking water sources for cities along the coast.³⁵

Many consumptive uses of water alter the physical or chemical character of the water that is used. Therefore, the quality of the receiving waters is inevitably affected when water is returned to the watercourse after being used consumptively. Effluent produced by municipal and industrial water users provides an obvious example of this principle. However, consumptive uses such as irrigation also influence water quality. When water used for irrigation is returned to a watercourse, its mineral content is usually high because suspended materials in irrigation water remain in solution and do not evaporate.³⁶ Return flows from irrigation may also contain sediments, pesticides, organic residues, heavy metals, bacteria, and other pollutants.³⁷

Finally, water development projects, typically intended to meet consumptive water use needs, can have a detrimental effect on water quality. Dams lower the level of dissolved oxygen, increase the level of dissolved minerals and nutrients, affect water temperature, and increase sediment load in the watercourse.³⁸

The existence of the hydrologic cycle and the connection between the availability of water for consumptive purposes and the level of water quality have implications for water management policy. At this point, it is sufficient to observe that substantive rules,

33. Lilly, *Protecting Streamflows in California*, 8 *ECOLOGY L.Q.* 697, 697-98 (1980).

34. Attey & Liebert, *Clean Water, Dirty Dams: Oxygen Depletion and the Clean Water Act*, 11 *ECOLOGY L.Q.* 703, 705 (1984).

35. Lukas, *supra* note 4, at 455. For a discussion of the mechanics of salt water intrusion see Maloney & Plager, *Florida's Ground Water: Legal Problems in Managing a Precious Resource*, 21 *U. MIAMI L. REV.* 751, 760-61 (1967).

36. Note, *supra* note 11, at 557.

37. Hines, *Agriculture: The Unseen Foe in the War on Pollution*, 55 *CORNELL L. REV.* 740, 754 (1970).

38. Comment, 7 *SUFFOLK TRANSNAT'L L.J.* 513, 515-16, n.13 (1983). See also *National Wildlife Fed'n v. Gorsuch*, 693 F.2d 156, 161-64 (D.C. Cir. 1982).

either common law doctrines or administrative regulations, must recognize hydrologic realities if they are to be effective. In addition, if water is to be managed by water resources agencies, it is desirable that a single agency regulate both surface water and groundwater.³⁹ Jurisdiction over consumptive water uses and water quality control should also be placed in the same agency.⁴⁰ If this cannot be achieved, then the regulatory statutes must provide for close coordination between water resources and water quality control agencies.

II. FLORIDA WATER LAW PRIOR TO 1972

Many of today's water management problems have existed for years. In the late 1960s, some areas of south and central Florida were beginning to experience periodic water shortages.⁴¹ In addition, overpumping was causing salt water intrusion in the Pinellas peninsula and along the lower east coast of Florida.⁴² Municipalities in these areas had to transport water from distant areas, a practice which sometimes caused disputes among existing water users.

Water pollution was also causing concern in Florida at that time.⁴³ A 1966 study found that raw sewage discharges from the city of Jacksonville were impairing water quality in the St. Johns River.⁴⁴ Phosphate mining and pulp mills were the leading industrial polluters at that time.⁴⁵ A large-scale fish kill on the Peace River in 1967 was caused by a phosphate company pipeline.⁴⁶ Farming activities also caused pollution, as illustrated by the eutrophication of Lake Apopka due to the nutrient content of agricultural runoff.⁴⁷

The Model Water Code addressed these conditions. Drafters of

39. Bower, *supra* note 26, at 219

40. Trelease, *New Water Legislation: Drafting for Development, Efficient Allocation and Environmental Protection*, 12 LAND & WATER L. REV. 385, 401 (1977); Bower, *supra* note 26, at 220.

41. Neitzke, *Salt Water Intrusion: Florida's Legal Response*, 55 FLA. B.J. 759, 759 (1981).

42. *Id.*

43. See generally Maloney, Plager & Baldwin, *Water Pollution—Attempts to Decontaminate Florida Law*, 20 U. FLA. REV. 131, 132-35 (1967).

44. ST. JOHNS RIVER VALLEY ADVISORY COMM., REPORT TO THE GOVERNOR OF FLORIDA 1-2 (Dec. 20, 1966).

45. WATER LAW AND ADMINISTRATION, *supra* note 17, at § 111.2(b).

46. *Id.*

47. See generally FLA. BD. OF HEALTH, BIOLOGICAL, PHYSICAL & CHEMICAL STUDY OF LAKE APOPKA, 1962-1964 (1965).

the Code felt that the existing system of water allocation needed to be extensively modified if it was to function effectively in the face of increasing demand for clean water. While the Code was being drafted, regulatory authority over water resources in Florida was spread among a variety of administrative agencies, each of which had limited jurisdiction. We believed a single agency with comprehensive regulatory authority was needed. Further, we felt that common law allocation doctrines were neither efficient nor hydrologically sound and common law principles were inadequate to protect water quality.

A. Common Law Water Allocation Doctrines

Florida, like many other eastern states, adhered to outmoded common law water allocation doctrines⁴⁸ which largely ignored the hydrologic cycle.⁴⁹ Consumptive rights to water in lakes and streams differed significantly from those which applied to percolating groundwater.⁵⁰ Under the reasonable use rule, which governed the allocation of surface water in the majority of eastern states,⁵¹ each riparian landowner could withdraw water from the watercourse and use it for a beneficial purpose as long as the use did not unreasonably interfere with the legitimate water uses of other riparian owners.⁵²

The reasonable use rule also applied to underground streams.⁵³ However, in most American jurisdictions, either the absolute ownership doctrine or the American rule determined consumptive

48. These doctrines included the riparian natural flow and reasonable use rules, which determined consumptive rights to surface waters, and the absolute ownership and American rules, which defined consumptive rights to percolating groundwater. See *infra* notes 49-52 and accompanying text.

49. Ausness, *supra* note 1, at 553.

50. See *infra* notes 51-64 and accompanying text.

51. Only Georgia, New Jersey, Pennsylvania, and West Virginia still adhere to the natural flow doctrine. All other eastern riparian jurisdictions follow the reasonable use rule. See Ausness, *Water Use Permits in a Riparian State: Problems and Proposals*, 66 Ky. L.J. 191, 199 n.54 (1977).

52. E.g., *Gehlen Bros. v. Knorr*, 101 Iowa 700, 705-08, 70 N.W. 757, 758-59 (1897); *Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 85, 103 N.E. 87, 88 (1913); RESTATEMENT (SECOND) OF TORTS § 850A (1977); Ausness, *supra* note 51, at 199-200; Hanks, *The Law of Water in New Jersey*, 22 RUTGERS L. REV. 621, 630-33 (1968); Maloney, Capehart & Hoofman, *Florida's "Reasonable Beneficial" Water Use Standard: Have East and West Met?*, 31 U. FLA. L. REV. 253, 254-62 (1979).

53. *Nourse v. Andrews*, 200 Ky. 467, 471, 255 S.W. 84, 86 (1923); *Gagnon v. French Lick Springs Hotel Co.*, 163 Ind. 687, 72 N.E. 849 (1904); *Weston, Law of Ground Water Rights in Missouri—A Need for Clarification*, 37 Mo. L. Rev. 357, 358 (1972); Comment, *The Law of Underground Water: A Half-Century of Huber v. Merkel*, 1953 Wis. L. Rev. 491, 499.

rights to percolating groundwater.⁵⁴ These doctrines were essentially rules of capture which gave little protection to existing water users.⁵⁵

Diffused surface water⁵⁶ was also treated as a distinct water category. Disposal of diffused surface water was governed by an elaborate set of legal doctrines.⁵⁷ However, in most states, there were no rules for allocating diffused surface waters.⁵⁸ Landowners were free

54. Underground streams flow beneath the surface of the ground in well-defined channels. *Olson v. City of Wahoo*, 124 Neb. 802, 810, 248 N.W. 304, 307 (1933). Percolating groundwaters, on the other hand, seep or filter through the soil beneath the surface and have no defined channel. *Clinchfield Coal Corp. v. Compton*, 148 Va. 437, 446, 139 S.E. 308, 311 (1927).

55. Tarlock, *Supplemental Groundwater Irrigation Law: From Capture to Sharing*, 73 Ky. L.J. 695, 703 (1985). According to the English, or absolute ownership rule, a landowner may pump an unlimited quantity of percolating groundwater from beneath his land and use it on overlying or distant land, regardless of injury to adjacent landowners. *Stoner v. Patten*, 132 Ga. 178, 63 S.E. 897 (1909); *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176 (1899); *Hanks & Hanks, The Law of Water in New Jersey: Groundwater*, 24 RUTGERS L. REV. 621, 631-33 (1970).

The American, or groundwater reasonable use rule, also allows a landowner to extract as much groundwater as he needs, notwithstanding any adverse effects on neighboring landowners, if the use is reasonably related to the natural uses of his overlying land. However, the landowner is not permitted to transport ground water beyond overlying land, if this would cause injury to other water users. *Forbell v. City of New York*, 164 N.Y. 522, 58 N.E. 644 (1900); *Sycamore Coal Co. v. Stanley*, 166 S.W.2d 243, 249 (Ky. 1942); *Aiken, Nebraska Ground Water Law and Administration*, 59 NEB. L. REV. 917, 924-25 (1980); *Harnsberger, Oeltjen & Fischer, Ground Water: From Windmills to Comprehensive Public Management*, 52 NEB. L. REV. 179, 205 (1973).

A few states applied the correlative rights doctrine to percolating ground water. Under this approach, each landowner over a common groundwater pool has an equal and correlative right to make a beneficial use of water on his overlying land. *Katz v. Walkinshaw*, 141 Cal. 138, 70 P. 663 (1902), adhered to 141 Cal. 116, 74 P. 766 (1903); *Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 306 S.W.2d 111 (1957); *MacArator v. Graylyn Crest III Swim Club, Inc.*, 41 Del. Cas. 26, 187 A.2d 417 (1963); *Nashville, C. & S. L. Ry. v. Rickert*, 19 Tenn. App. 446, 89 S.W.2d 889 (Tenn. 1936); *Hanks & Hanks, supra* at 637-39.

56. Diffused surface water includes waters from falling rain or melting snow, as well as rising to the surface from springs, which have not yet reached a lake or stream. *Sullivan v. Hoffman*, 207 Neb. 166, 172, 296 N.W.2d 707, 710 (1980); RESTATEMENT (SECOND) OF TORTS § 846 (1979); *Maloney & Plager, Diffused Surface Water: Scourge or Bounty?*, 8 NAT. RESOURCES J. 72, 72 (1968). Flood waters which have become detached from a natural watercourse are also characterized as diffused surface water. *Hengelfelt v. Ehrmann*, 141 Neb. 322, 3 N.W.2d 576 (1942); *Crawford v. Rambo*, 44 Ohio St. 279, 7 N.E. 429 (1886).

57. Most states followed either the common enemy rule, the civil law rule, or the reasonable use rule. For a discussion of these doctrines see Note, *Diffused Surface Water Problems and A Current of Anomalous Remedies*, 1 J. MIN. L. & POL'Y 299, 304-12 (1985); Note, *Landowner's Right to Fight Surface Water: The Application of the Common Enemy Doctrine in Indiana*, 18 VAL. U.L. REV. 481, 483-91 (1983-84); *Weston, supra* note 23, at 906-11; *Maloney, Capehart & Hoofman, supra* note 52, at 265 nn.75-81.

58. Florida's common law water allocation doctrines at this time were somewhat more unified than those of other eastern states. Florida courts applied the riparian reasonable use rule to surface waters and underground streams. *Taylor v. Tampa Coal Co.*, 46 So. 2d 392,

to use as much diffused surface water as they could capture.⁵⁹

Place-of-use restrictions also caused problems, particularly for users of surface water. Generally, only riparian owners were allowed to withdraw water from a lake or stream and water use was largely confined to riparian land,⁶⁰ a practice which often led to inefficient water use patterns.⁶¹ Florida's 1957 Water Resources Law⁶² gave the State Board of Conservation the power to authorize withdrawal of surplus waters in some circumstances.⁶³ However, the statute was not successful since apparently no water user ever applied for a permit from the Board.⁶⁴

394 (Fla. 1950); *Tampa Waterworks Co. v. Cline*, 37 Fla. 586, 595, 20 So. 780, 782 (1896); *Lake Gibson Land Co. v. Lester*, 102 So. 2d 833 (Fla. 2d DCA 1958). Additionally, the rule was applied to percolating groundwater. *Cason v. Florida Power Co.*, 74 Fla. 1, 7, 76 So. 535, 536 (1917); *Koch v. Wick*, 87 So. 2d 47, 48 (Fla. 1956). See also Maloney & Plager, *supra* note 35. Several other states have applied reasonable use principles to percolating ground water. Hanks & Hanks, *supra* note 55, at 638-39.

59. *Taylor v. Fickas*, 64 Ind. 167 (1878); *Pettigrew v. Village of Evansville*, 25 Wis. 223 (1869); *Washington County Irr. Dist. v. Talboy*, 55 Idaho 382, 43 P.2d 943 (1935); WATER LAW AND ADMINISTRATION, *supra* note 17, § 57.1. According to one commentator, this rule favors agricultural users who are often able to capture diffused surface water before it reaches a stream or lake. Davis, *The Law of Diffused Surface Waters in Eastern Riparian States*, 6 CONN. L. REV. 227, 238-40 (1973-74).

60. *Bank of Hopkinsville v. Western Ky. Asylum for the Insane*, 108 Ky. 357, 56 S.W. 525 (1900); *Butler*, *supra* note 2, at 105-06; Kemp, *Interbasin Transfers of Water in Florida: Common Law and Water Resources Act*, 56 FLA. B.J. 9, 9-13 (1982). For a discussion of the legal definition of riparian land see Maloney & Plager, *Florida's Streams: Water Rights in a Water Wonderland*, 10 U. FLA. L. REV. 294, 306-07 (1957); Farnham, *The Permissible Extent of Riparian Land*, 7 LAND & WATER L. REV. 31, 43-58 (1972); Levi & Schneeberger, *The Chain and Unity of Title Theories for Delineating Riparian Lands: Economic Analysis as an Alternative to Case Precedent*, 21 BUFFALO L. REV. 439, 439-42 (1972).

Some states also limited the use of water to riparian land that lay within the same watershed. E.g., *Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 85, 103 N.E. 87, 88 (1913); *Harrell v. City of Conway*, 224 Ark. 100, 104, 271 S.W.2d 924, 927 (1954); *Sturtevant v. Ford*, 280 Mass. 303, 182 N.E. 560 (1932); *McCarter v. Hudson County Water Co.*, 70 N.J. Eq. 695, 708-09, 65 A. 489, 494-95 (1906); *Town of Gordonsville v. Zinn*, 129 Va. 542, 558, 106 S.E. 508, 514 (1921). See also Ausness, *supra* note 51, at 203-04; Johnson & Knippa, *Transbasin Diversion of Water*, 43 TEX. L. REV. 1035, 1036 (1965).

61. Davis, *Australian and American Water Allocation Systems Compared*, 9 B.C. INDUS. & COM. L. REV. 647, 680 (1968); Farnham, *Improvement and Modernization of New York Water Law Within the Framework of the Riparian System*, 3 LAND & WATER L. REV. 377, 413 (1968); Marquis, Freeman & Heath, *Movement for the New Water Rights Laws*, 23 TENN. L. REV. 797, 832 (1955).

62. FLA. STAT. §§ 373.071-.241 (1967) (repealed by 1972 Fla. Laws ch. 72-299).

63. The 1957 Act allowed a nonriparian to withdraw only when the amount of water in the stream exceeded the average minimum flow at the point of capture. Lake diversion was permitted only in excess of the average minimum level. Ground water users were allowed to extract water only above the mean low level at the point of capture, unless depletion below that level would not harm the aquifer. FLA. STAT. § 373.141(1) (1967). See also Maloney, *supra* note 24, at 132-33.

64. See WATER LAW AND ADMINISTRATION, *supra* note 17, at § 62.3(b).

B. Common Law Water Pollution Control Doctrines

Common law doctrines also failed to provide sufficient protection against water pollution.⁶⁵ Suits by landowners against surface water polluters were usually based on riparian rights or private nuisance theories. Riparian owners generally claimed that the discharge of pollutants into a lake or stream constituted an unreasonable use, and therefore, infringed upon their riparian rights.⁶⁶ However, the courts normally allowed such discharges to continue as long as they were considered reasonable.⁶⁷ A discharge was not regarded as unreasonable, unless the harm to the lower riparian landowner outweighed the utility of the defendant's activity.⁶⁸

However, most courts applied private nuisance principles rather than riparian rights theories in surface water pollution cases.⁶⁹ To constitute a private nuisance, the defendant's conduct had to amount to a substantial interference with the use and enjoyment of the plaintiff's land.⁷⁰ The utility of the defendant's conduct was balanced against the plaintiff's harm.⁷¹

The courts applied the surface water riparian doctrines⁷² or nuisance principles⁷³ in cases where underground streams were allegedly polluted, while both negligence⁷⁴ and nuisance⁷⁵ were used in

65. Hines, *supra* note 29, at 196-201.

66. Note, *Private Remedies for Water Pollution*, 70 COLUM. L. REV. 734, 735-36 (1970); Hanks, *supra* note 52, at 628-29.

67. Davis, *Theories of Water Pollution Litigation*, 1971 WIS. L. REV. 738, 753.

68. *E.g.*, State *ex rel.* Harris v. City of Lakeland, 141 Fla. 795, 193 So. 826 (1940); Parsons v. Tennessee Coal, Iron & R. Co., 186 Ala. 84, 64 So. 591 (1914); Clark v. Lindsay Light & Chem. Co., 341 Ill. App. 316, 93 N.E.2d 441 (1950); Panther Coal Co. v. Looney, 185 Va. 758, 40 S.E.2d 298 (1946); Maloney, *Judicial Protection of the Environment: A New Role for Common-Law Remedies*, 25 VAND. L. REV. 145, 151 (1972).

69. *E.g.*, American Cyanamid Co. v. Sparto, 267 F.2d 425 (5th Cir. 1959); Newton v. Grundy Center, 246 Iowa 916, 70 N.W.2d 162 (1955); Livezey v. Bel Air, 174 Md. 568, 199 A. 838 (1938); Thomas v. Clear Lake, 270 Wis. 630, 72 N.W.2d 541 (1955). *See also* Davis, *supra* note 28, at 138.

70. RESTATEMENT (SECOND) OF TORTS §§ 821A-832 (1977).

71. Note, *supra* note 66, at 738-44; Maloney, *supra* note 68, at 146-49.

72. *E.g.*, Rose v. Socony-Vacuum Corp., 54 R.I. 411, 173 A. 627 (1934), overruled on other grounds in Wood v. Picillo, 443 A.2d 1244 (R.I. 1982); Tampa Waterworks v. Cline, 37 Fla. 586, 20 So. 780 (1896); Kevil v. Princeton, 118 S.W. 363 (Ky. 1909); Masten v. Texas Co., 194 N.C. 540, 140 S.E. 89 (1927); Good v. Altoona, 162 Pa. 493, 29 A. 741 (1894).

73. *E.g.*, Swift & Co. v. People's Coal & Oil Co., 121 Conn. 579, 186 A. 629 (1936); Love v. Nashville Agricultural & Normal Inst., 146 Tenn. 550, 243 S.W. 304 (1921).

74. *E.g.*, O'Brien v. Primm, 243 Ark. 186, 419 S.W.2d 323 (1967); Adams v. Weingarten, 156 Colo. 402, 399 P.2d 774 (1965); Gagnon v. Landry, 103 R.I. 45, 234 A.2d 674 (1967). *See also* Davis, *supra* note 28, at 150-52.

75. *E.g.*, Hodge v. Marmaduke, 255 Ark. 789, 503 S.W.2d 174 (1973); Kostyal v. Cass, 163 Conn. 92, 302 A.2d 121 (1972). *See also* Davis, *supra* note 28, at 152-55.

connection with pollution of percolating groundwater.

Water pollution cases were rare in Florida. In *Tampa Waterworks Co. v. Cline*,⁷⁶ which involved pollution of an underground stream, the Florida Supreme Court applied the riparian reasonable use rule. Alternatively, suits were brought against surface water polluters based on public or private nuisance.⁷⁷

However, common law tort liability was not an effective tool for controlling water pollution. Plaintiffs often had difficulty proving that the defendant's conduct caused harm.⁷⁸ Defendants successfully raised statute of limitations, laches, prescription, and consent defenses. Even when pollution was shown to have caused harm, courts frequently applied the balance of convenience doctrine and denied injunctive relief.⁷⁹

C. Fragmentation of State Regulatory Authority

A third concern was the jurisdictional fragmentation that typically existed among state and local water resources regulatory agencies. In many states, water management authority was spread among a multitude of state, regional, and local administrative agencies. Moreover, responsibility for water resource development and conservation was often divorced from control over water quality. The situation in Florida at that time was similar to that which prevailed in other states.

In Florida, the Board of Conservation⁸⁰ administered various water resources programs. For example, the Division of Water Resources and Conservation enforced the 1957 Water Resources Laws,⁸¹ the artesian well regulation statutes,⁸² and Florida's salt water barrier legislation.⁸³ Other divisions within the Board dealt with salt water fisheries, geology, waterways development, and

76. 37 Fla. 586, 20 So. 780 (1896).

77. *North Dade Water Co. v. Adken Land Co.*, 130 So. 2d 894 (Fla. 3d DCA 1961); *State ex rel. Harris v. City of Lakeland*, 141 Fla. 795, 193 So. 826 (1940).

78. Note, *Groundwater Contamination: A Demonstrated Need for Legislative Action*, 62 U. DET. L. REV. 697, 698-99 (1985).

79. WATER LAW AND ADMINISTRATION, *supra* note 17, at § 112.3.

80. The Board of Conservation was an ex officio board composed of the Governor, Secretary of State, Attorney General, Comptroller, State Treasurer, Superintendent of Public Instruction, and the Commissioner of Agriculture. See FLA. STAT. § 370.02(1) (1967).

81. FLA. STAT. § 373.141 (1967). See also WATER LAW AND ADMINISTRATION, *supra* note 17, at § 94.4(a).

82. FLA. STAT. §§ 373.021-.051 (1967); Maloney & Plager, *supra* note 35, at 775-76.

83. FLA. STAT. §§ 373.194-.221 (1967). See also WATER LAW AND ADMINISTRATION, *supra* note 17, at § 94.3.

beaches and shores.⁸⁴ In addition, single-purpose districts were created to construct and operate drainage ditches and canals.⁸⁵ Two multi-purpose flood control districts, the Central and Southern Florida Flood Control District and the Southwest Florida Water Management District, constructed and operated flood control structures and engaged in other water development activities.⁸⁶ Finally, the 1957 Water Resources Law authorized the creation, where necessary, of water regulatory districts with the power to control consumptive uses of water.⁸⁷

The State Board of Health was primarily responsible for enforcement of state water pollution control legislation.⁸⁸ The Board had jurisdiction over natural watercourses, ditches and canals, groundwater, and coastal waters, but its primary focus was on the health aspects of water quality.⁸⁹ However, in 1967 the Florida Legislature enacted the Air and Water Pollution Control Act.⁹⁰ The 1967 Act created a new agency, the Florida Air and Water Pollution Control Commission,⁹¹ and gave it greater enforcement powers over polluters than those of the Board of Health.⁹² However, the act had shortcomings. Responsibility for water quality and responsibility for water conservation and development continued to be vested in two separate state agencies.⁹³ The Board of

84. FLA. STAT. § 370.02(2) (1967). See also WATER LAW AND ADMINISTRATION, *supra* note 17, at §§ 90.2-93.5.

85. WATER LAW AND ADMINISTRATION *supra* note 17, at § 100. Drainage districts were authorized by the General Drainage Act of 1913, FLA. STAT. ch. 298 (1967). County level drainage activities were authorized by the Drainage of Swamps and Overflowed Lands Act of 1893, FLA. STAT. ch. 156 (1967), and the Drainage by Counties Act of 1901, FLA. STAT. ch. 157 (1967).

86. The powers of multi-purpose districts are discussed in WATER LAW AND ADMINISTRATION, *supra* note 17, at § 101.

87. Under the 1957 Water Law, either the State Board of Conservation or a water management district could create a water regulatory district. FLA. STAT. § 373.142(1) (1967). These districts were authorized to regulate consumptive uses of water. FLA. STAT. § 373.171(1) (1967). See Maloney, *supra* note 24, at 144-46.

88. The Board was composed of five members appointed by the Governor. Membership included two medical doctors, one dentist, one pharmacist, and a "discreet citizen." FLA. STAT. § 381.011 (1967).

89. FLA. STAT. § 381.251 (1965). For a discussion of the Board's jurisdiction and enforcement powers see Maloney, Plager & Baldwin, *supra* note 43.

90. 1967 Fla. Laws ch. 67-437, §§ 1-27.

91. The Commission was composed of the Governor, Secretary of State, Attorney General, Commissioner of Agriculture and two discreet citizens appointed by the Governor and confirmed by the state Senate. 1967 Fla. Laws ch. 67-436, § 5.

92. WATER LAW AND ADMINISTRATION, *supra* note 17, at § 113.7(a).

93. However, some ex officio members of the Air and Water Pollution Control Commission also served in an ex officio capacity on the Board of Conservation. *Id.* at § 113.7.

Health, however, retained its jurisdiction over groundwater pollution.⁹⁴ Thus, authority over pollution control remained fragmented at the state level, notwithstanding the reforms of the 1967 Act.

III. THE MODEL WATER CODE

The drafters of the Model Water Code wanted to establish a regulatory structure at the state level that would take account of the hydrologic cycle. In addition, the drafters wanted to encourage states, like Florida, to seek an integrated solution to water supply and water quality problems. Consequently, the Code contained provisions that were designed to meet these goals. First, we recommended the creation of a state agency which would have authority to regulate consumptive uses and water pollution. Second, the Code provided for a comprehensive planning process that would address water supply and water quality issues. Finally, the Code created a permit system which would enable planning decisions to be implemented at the operational level.

A. Regulatory Structure

Section 1.05 of the Model Water Code called for the creation of a State Water Resources Board.⁹⁵ The Board was to exercise a number of research, planning, and cooperative functions.⁹⁶ In addition, it was authorized to supervise the activities of the water management districts.⁹⁷ Under the Code's regulatory scheme, the water management districts, rather than the Board, administered most of the permit programs. Thus, activities such as waste withdrawals,⁹⁸ well drilling,⁹⁹ construction of dams, reservoirs and impoundments,¹⁰⁰ construction of waste treatment or discharge facilities,¹⁰¹ and the discharge of pollutants into surface watercourses¹⁰² or groundwater aquifers¹⁰³ were all regulated at the local level. Weather modification operations were the only activities regulated

94. FLA. STAT. ch. 387 (1967).

95. MODEL WATER CODE, *supra* note 22, § 1.05.

96. *Id.* §§ 1.06-.08.

97. *Id.* § 1.05(10).

98. *Id.* § 2.01(1).

99. *Id.* §§ 3.10(1), 3.11(1).

100. *Id.* §4.04(1).

101. *Id.* § 5.07(1).

102. *Id.* § 5.08(1).

103. *Id.* § 5.09(1).

exclusively at the state level.¹⁰⁴

At first blush, delegation of extensive regulatory authority to the various water management districts appears to be inconsistent with the Model Water Code's goal of consolidating water management responsibility in the hands of a single agency. The Code's drafters yielded somewhat to political expediency in choosing this approach. At the time the Code was being written, the Florida Legislature had shown little interest in providing substantial amounts of funding at the state level for water management purposes. On the other hand, the water management districts had both the financial resources and the political will to initiate a major water resources regulation effort. Water management districts were established political entities in Florida and their staffs were already familiar with local water resource characteristics and use patterns.¹⁰⁵ Consequently, we felt that the water management districts could effectively carry out regulatory activities, subject to supervision at the state level, as long as the State Board remained responsible for planning and policymaking.

B. Comprehensive Planning

The drafters of the Model Water Code believed that comprehensive water resources planning was an essential prerequisite to effective regulation.¹⁰⁶ Planning would have to be done on a hydrologically sound basis and take account of the interrelationship between consumptive uses and activities that affect water quality.¹⁰⁷ The Code's drafters concluded that planning responsibility should be concentrated within a single state agency.¹⁰⁸ Provisions of the Code would require the State Board to develop a State Water Plan which would include water use and water quality elements.¹⁰⁹ The Code made it clear that these respective portions of the State Water Plan would constitute a single unified plan for water resources use, conservation, and development.¹¹⁰

104. *Id.* § 6.08(1).

105. The Central and Southern Florida Flood Control District, predecessor of the Florida Water Management District, was created by a special act in 1949. See 1949 Fla. Laws ch. 25-270. The Southwest Florida Water Management District was created in 1961. See 1961 Fla. Laws ch. 61-691, § 1.

106. MODEL WATER CODE, *supra* note 22, at 74-75.

107. Maloney & Ausness, *Administering State Water Resources: The Need for Long-Range Planning*, 73 W. VA. L. REV. 209, 213-14 (1971).

108. *Id.* at 213.

109. MODEL WATER CODE, *supra* note 22, §§ 1.07, 1.08, and 5.04.

110. *Id.* § 1.08.

1. The State Water Use Plan

The Code imposed a duty on the State Water Resources Board to develop a State Water Use Plan to achieve (1) reasonable beneficial use¹¹¹ of available water supplies; (2) proper economic development of the state's water resources; (3) control of public waters for navigation, drainage, sanitation, and flood control; and (4) adequate water quality as expressed in the State Water Quality Plan.¹¹²

The Code provided that the State Water Use Plan be supported by appropriate studies¹¹³ and that it contain minimum flows and levels for surface water and ground water.¹¹⁴ Water withdrawal permits issued under chapter two were to be conditioned in such a way as to preserve these minimum flows and levels.¹¹⁵ The Code also authorized the State Board to prohibit or restrict activities on designated watercourses to protect recreational or environmental values.¹¹⁶

2. The State Water Quality Plan

The Code directed the State Water Resources Board to formulate a State Water Quality Plan.¹¹⁷ This Plan was to contain: (1) water quality standards and, where necessary, effluent standards; (2) water quality objectives for the improvement of existing water quality; and (3) an implementation program for those waters that failed to meet established water quality standards.¹¹⁸ The Code also provided that the water management districts would not be allowed to issue any discharge permit that would cause water quality to fall below established water quality standards or contravene the Plan's water quality improvement objectives.¹¹⁹

The drafters of the Code also attempted to ensure that the planning process would adequately reflect the interrelationship of

111. For a discussion of the reasonable beneficial use concept in the Model Water Code see Maloney & Ausness, *A Modern Proposal for State Regulation of Consumptive Uses of Water*, 22 HASTINGS L.J. 523, 533-36 (1971); Maloney, Capehart & Hoofman, *supra* note 52, at 269-70; Fleming, *Water Allocation: The Reasonable and Beneficial Use Standards*, 53 FLA. B.J. 25, 25 (1979).

112. MODEL WATER CODE, *supra* note 22, § 1.07(1).

113. *Id.*

114. *Id.* §§ 1.07(4), (5).

115. *Id.* § 1.07(6).

116. *Id.* § 1.07(7).

117. *Id.* § 5.04.

118. *Id.* § 5.04(1). Water quality standards were described in section 5.05 of the Code.

119. *Id.* § 5.08(2).

water use and water quality issues. Thus, the Code specifies that each portion of the State Water Use Plan and the State Water Quality Plan be developed together to achieve maximum coordination.¹²⁰ In addition, the State Board was expressly required to address water quality concerns in the State Water Use Plan¹²¹ and was to consider under the State Water Quality Plan, the effect of water development projects on water quality.¹²² Finally, the Code included existing and potential consumptive water uses to be taken into account by the State Board when it established water quality standards for a particular watercourse.¹²³

C. Coordination of Water Use and Water Quality Regulations

State programs to regulate water resources must take into account the hydrologic cycle and must recognize the physical relationship between water use and water quality. The Code's system of permits was intended to implement this objective at the operational level.

This policy was exemplified by the Code's regulation of consumptive water uses. According to the Code, the governing board of the appropriate water management district had to authorize virtually all withdrawals, diversions, or impoundments of water.¹²⁴ The Code's definition of water included: contained surface water, diffused surface water, and groundwater.¹²⁵ The Code's regulatory provisions extended to all forms of water, except coastal waters,¹²⁶ and also required all water users, except domestic users, to obtain a permit.¹²⁷

Additionally, the Model Water Code's regulatory provisions addressed water quality concerns. The governing board of each water management district was assigned the responsibility for regulating the construction or modification of new discharge outlets, sewage disposal systems, and waste treatment facilities.¹²⁸ A permit from the governing board was also required for any discharges that

120. *Id.* § 1.08(2). Because of the magnitude of the state water plan, the drafters of the Code contemplated that work on the Plan would proceed step by step on a geographical basis. *See id.* § 1.07(1).

121. *Id.* §§ 1.07(2)(d). *See also id.* §§ 1.07(7), (8).

122. *Id.* § 5.04(1)(b).

123. *Id.* § 5.05(3)(c).

124. *Id.* § 2.01(1).

125. *Id.* § 1.03(8).

126. *Id.* § 2.01(3).

127. *Id.* § 2.01(1).

128. *Id.* § 5.07(1).

would affect existing water quality.¹²⁹ Injection wells and other devices that discharged pollutants into groundwater aquifers were also regulated.¹³⁰

Other regulatory provisions of the Code were directed at water quality problems. The governing boards of the various water management districts were authorized to license well drillers¹³¹ and establish well construction standards.¹³² In addition, well drillers were required to obtain a permit from the governing board before beginning the construction of a well.¹³³ These provisions were designed, in part, to prevent contamination of groundwater aquifers.¹³⁴ Finally, governing boards were authorized to establish a salt water barrier line to combat contamination of surface waters from the intrusion of salt water.¹³⁵

The drafters of the Code attempted to ensure that water use and water quality problems were not segregated at the regulatory level. Some coordination was assured simply because the governing boards of the water management districts administered consumptive use and water pollution permit systems. However, the Code's regulatory provisions also contained some explicit cross-referencing as well. Thus, the Code declared that each applicant for a water use permit must establish that the proposed use was consistent with the public interest and the State Water Plan.¹³⁶ Because the State Water Plan included a Water Quality Plan, this provision would allow a governing board to deny a consumptive permit when the proposed water withdrawal would impair water quality.

Another subsection authorized governing boards to reserve water from use by new applicants to implement a provision of the State Water Plan.¹³⁷ This authority, for example, would allow a governing board to maintain existing water quality standards in a watercourse by limiting future withdrawals.

In the same manner, the Code enabled governing boards to consider water use concerns when issuing discharge permits. Thus, the

129. *Id.* § 5.08(1).

130. *Id.* § 5.09(1).

131. *Id.* § 3.04.

132. *Id.* §§ 3.14(1)-(3).

133. *Id.* § 3.10.

134. *Id.* at 197. *See also* Aiken, *supra* note 55, at 941.

135. MODEL WATER CODE, *supra* note 22, § 1.24. The Code authorized the governing boards to fight salt water contamination of groundwater by recharging the aquifer with water from other sources. *See id.* § 3.16(2).

136. *Id.* § 2.02(1).

137. *Id.* § 2.02(3).

governing board could revoke or modify a discharge permit to protect any domestic consumptive water use or one authorized by a water use permit.¹³⁸ Presumably, the governing board could refuse to issue a discharge permit for the same reason.

D. The Model Water Code and the 1972 Florida Water Resources Act

In 1972, the Florida Legislature repealed the 1957 Water Resources Law¹³⁹ and replaced it with a more comprehensive statute. This statute, known as the Florida Water Resources Act of 1972,¹⁴⁰ was largely based on the Model Water Code. Like the Code, the Florida Water Resources Act provided for the creation of a state water regulatory agency with supervisory authority over the water management districts¹⁴¹ and directed it to formulate a state water plan.¹⁴² In addition, the Act authorized water management districts to regulate consumptive uses of water,¹⁴³ well-drilling activities,¹⁴⁴ and the construction of dams, reservoirs, and impoundments.¹⁴⁵

However, the Florida Water Resources Act did not exactly follow the Model Water Code.¹⁴⁶ A few deviations were inconsistent with the Code's underlying regulatory philosophy. One such change was the omission of all sections of the Code which dealt with water pollution control.¹⁴⁷ By failing to enact the Code's provisions on water quality, the legislature effectively divided authority over water management between two state agencies. The Department of Natural Resources, the successor to the old Board of Conservation, assumed responsibility for administering the provisions of the 1972 Water Resources Act,¹⁴⁸ while the Air and Water Pollution Control

138. *Id.* § 5.08(5)(f).

139. 1972 Fla. Laws ch. 72-299.

140. FLA. STAT. § 373.013 (1985).

141. FLA. STAT. § 373.026(7) (Supp. 1986).

142. FLA. STAT. § 373.036(1) (1985).

143. FLA. STAT. § 373.216 (1985).

144. FLA. STAT. § 373.309 (1985).

145. FLA. STAT. §§ 373.413(1) (1985).

146. For example, the 1972 Florida Water Resources Act omitted language in the Code's declaration of policy that stated that all waters of the state were held in trust for the benefit of its citizens. See F. MALONEY, S. PLAGER, R. AUSNESS & B. CANTER, *FLORIDA WATER LAW—1980*, 223 n.173 (1980) [hereinafter *FLORIDA WATER LAW*].

147. See generally, *MODEL WATER CODE*, *supra* note 22, §§ 5.01-16.

148. The Governmental Reorganization Act of 1969, 1969 Fla. Laws ch. 69-106, § 25 (codified at FLA. STAT. ch. 20 (1985)), created the Department of Natural Resources, abolished the State Board of Conservation, and transferred the Board's functions to the new

Authority retained its jurisdiction over water quality.¹⁴⁹

In fairness to the legislature, the enactment of the Code's water quality provisions would have made little sense in light of what was then taking place at the federal level. At the same time the 1972 Water Resources Act was under consideration by the Florida Legislature, Congress was engaged in passing the 1972 Federal Water Pollution Control Act.¹⁵⁰ This statute replaced the 1965 Federal Water Quality Act¹⁵¹ and greatly enhanced the federal role in water pollution control. The Model Water Code's water quality provisions were designed to mesh with the regulatory framework of the 1965 federal Act,¹⁵² but, the Code's approach to water pollution control was out of harmony with the regulatory philosophy of the 1972 federal Act.¹⁵³

Department. The Florida Water Resources Act of 1972 gave the Department of Natural Resources authority over water management planning and regulation. FLA. STAT. § 373.026 (Supp. 1972).

149. The Florida Air and Water Pollution Control Act, 1967 Fla. Laws ch. 67-436 (codified at FLA. STAT. ch. 403 (1985)), created the Florida Air and Water Pollution Control Commission and transferred to it most of the State Board of Health's pollution control jurisdiction. See Maloney, Plager & Baldwin, *supra* note 43, at 145-49.

150. Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified at 33 U.S.C. §§ 1251-1376 (1985)). For an overview of the 1972 Federal Water Pollution Control Act see generally Comment, *The Federal Water Pollution Control Act Amendments of 1972*, 14 B.C. INDUS. & COM. L. REV. 672 (1973); Comment, *The Federal Water Pollution Control Act Amendments of 1972*, 11 LAND & WATER L. REV. 1 (1976); W. RODGERS, HANDBOOK ON ENVIRONMENTAL LAW §§4.2-4.21 (1977); ZENER, *The Federal Law of Water Pollution Control* 682, 682-770, in FEDERAL ENVIRONMENTAL LAW (E. Dolgin & T. Guilbert ed. 1974).

151. Pub. L. No. 89-234, 79 Stat. 903 (1965) (codified at 33 U.S.C. § 466 (1985)). For a discussion of the 1965 Water Quality Act see Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality, Part III*, 52 IOWA L. REV. 799, 825-59. The 1965 Act was amended in 1970. Pub. L. No. 91-224, 84 Stat. 91 (1970). These amendments are discussed in Barry, *The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act: A Study of the Difficulty in Developing Effective Legislation*, 68 MICH. L. REV. 1103, 1126-29 (1970).

152. The Model Water Code, like the 1965 Water Quality Act, relied heavily on water quality standards as an enforcement technique. Compare MODEL WATER CODE, *supra* note 22, § 5.05 with 33 U.S.C. § 466g(c) (1985). The federal Act also relied heavily on state efforts to control water pollution, and federal enforcement authority was largely limited to interstate waters. 33 U.S.C. § 466g(c)(5) (1985). See also Barry, *supra* note 151, at 1118-19. The Model Water Code also envisioned a regulatory system in which the state assumed primary responsibility for water quality. MODEL WATER CODE, *supra* note 22, § 1.02(4).

153. Water quality standards proved to be cumbersome and ineffective as a pollution control device. Hall, *The Control of Toxic Pollutants Under the Federal Water Pollution Control Act Amendments of 1972*, 63 IOWA L. REV. 609, 611-12 (1978). Consequently, the 1972 Water Pollution Control Act replaced water quality standards with technology-based effluent standards as its primary regulatory tool. Gaba, *Federal Supervision of State Water Quality Standards Under the Clean Water Act*, 36 VAND. L. REV. 1167, 1169 (1983). Water quality standards were left in the 1972 Act, but they served only a minor function. Fisher, *How Florida Can Simplify Water Pollution Control*, 52 FLA. B.J. 67, 68 (1978). In contrast,

The Florida Act allowed the state agency to delegate consumptive use permitting authority to the water management districts, rather than impose this responsibility on the districts, at the outset.¹⁵⁴ The Department of Natural Resources delegated permitting power to the water management districts, but did not compel them to exercise it.¹⁵⁵ Consequently, only the South Florida Water Management District and the Southwest Florida Water Management District immediately implemented the Act's regulatory scheme,¹⁵⁶ while the common law allocation doctrines continued to prevail in the remaining water management districts.¹⁵⁷

In retrospect, the Florida Water Resources Act of 1972, notwithstanding the deficiencies mentioned above, was a considerable improvement over the previous water regulatory system. Moreover, some of these weaknesses were subsequently remedied.

IV. WATER MANAGEMENT IN FLORIDA SINCE 1972

Enormous changes have taken place in Florida's water management system since the passage of the Water Resources Act in 1972. Among the problems remaining are the structure of the state regulatory agency and its relationship to the water management districts, the status of comprehensive water resources planning, the scope of permit systems, and the relationship between consumptive use and water quality concerns.

A. DER and the Water Management Districts

Shortly after passage of the 1972 Water Resources Act, the Florida Legislature passed the Florida Environmental Reorganization Act¹⁵⁸ to centralize the state's numerous environmental protection programs within a single agency.¹⁵⁹ The Act created a new agency, known as the Department of Environmental Regulation (DER),¹⁶⁰

effluent standards played a secondary role under the Model Water Code's regulatory scheme. See MODEL WATER CODE, *supra* note 22, § 5.05(6) (state may impose effluent standards when necessary to meet water quality goals).

154. See FLA. STAT. § 373.216 (1985).

155. FLORIDA WATER LAW, *supra* note 146, at 224 n.177.

156. *Id.* at 235-37.

157. *Id.* at 224.

158. 1975 Fla. Laws ch. 75-22 (codified at FLA. STAT. § 403.801 (1985)). See also Landers, Lotspeich & Osiason, *Environmental Regulatory Streamlining: A State Perspective*, 2 J. LAND USE & ENVTL. L. 1, 4-5 (1986).

159. Landers, *Function of the Department of Environmental Regulation*, 50 FLA. B.J. 269, 270 (1976).

160. The Legislature established three divisions within DER: (1) the Division of Envi-

and transferred to it the powers of various state agencies.¹⁶¹ The new agency assumed the powers of the old Department of Natural Resources¹⁶² and the Department of Pollution Control.¹⁶³

The Florida Environmental Reorganization Act gave DER the power to administer most of the state's environmental permitting programs.¹⁶⁴ Thus, the new agency assumed regulatory responsibility for air pollution, water pollution, drinking water standards, noise, solid waste, and power plant siting, as well as dredge and fill activities in navigable waters.¹⁶⁵

In addition, DER was authorized to supervise the activities of the water management districts.¹⁶⁶ However, DER found it difficult to exercise control over the districts. In the first place, the legislature directed DER to delegate its power "to the greatest extent practicable" to the governing boards of the water management districts.¹⁶⁷ Also short of funding, DER was forced to concentrate on air and water pollution control, where it had primary jurisdiction. On the other hand, two water management districts — South Florida and Southwest Florida — had the financial resources and the staff to undertake ambitious regulatory programs.¹⁶⁸ Finally, DER had no authority to review or rescind rules or orders of the water management districts.¹⁶⁹ Instead, this power was vested in the Land and Water Adjudicatory Commission.¹⁷⁰

At first, DER delegated a great deal of authority to the water

ronmental Permitting; (2) the Division of Environmental Programs; and (3) the Division of Administrative Services. *See id.* at 270-71; FLORIDA WATER LAW, *supra* note 146, at 106-19.

161. Earl & Kole, *The Environmental Regulation Commission*, 56 FLA. B.J. 805, 805 (1982); Wershow, *An Update—Legal Implications of Water Management in Florida's Future*, 54 FLA. B.J. 525, 527 (1980).

162. 1975 Fla. Laws ch. 75-22, § 11. *See also* Wershow, *Water Management: The Future of Florida Legal Implications*, 51 FLA. B.J. 136, 140 (1977).

163. 1975 Fla. Laws ch. 75-22, § 8. *See also* Wershow, *supra* note 161, at 527. The Governmental Reorganization Act of 1969, 1969 Fla. Laws ch. 69-106, had replaced the Air and Water Pollution Control Commission with the Department of Air and Water Pollution Control. This was later renamed the Department of Pollution Control. *See* Earl & Kole, *supra* note 161, at 805.

164. Shields, *How Reorganization Affected the Department of Natural Resources*, 50 FLA. B.J. 266, 267 (1976); Barron, *Environmental Reorganization Act—The Legislative Perspective*, 50 FLA. B.J. 264, 264 (1976).

165. FLA. STAT. § 403 (1985); Landers, *supra* note 159, at 270.

166. FLA. STAT. § 373.103 (1985).

167. FLA. STAT. § 373.016(3) (1985).

168. FLORIDA WATER LAW, *supra* note 146, at 235-40.

169. 1977 Op. Att'y Gen. Fla. 077-95 (1977); Kemp, *supra* note 60, at 16.

170. FLA. STAT. § 373.114(1) (1985). *See also* Rhodes, *Environmental Agency Reorganization: The Practitioner's Perspective*, 50 FLA. B.J. 272, 273 (1976).

management districts.¹⁷¹ In recent years, however, DER has attempted to assert more control over the districts. In 1983, DER issued a state water policy to "provide guidance to [DER] and the districts in the development of programs, rules, and plans."¹⁷² DER was also given the exclusive power to review district rules to assure consistency with the state water policy.¹⁷³

At the present time, DER and the water management districts seem to have achieved the sort of working relationship that was contemplated by the drafters of the Model Water Code.¹⁷⁴ DER and the districts have cooperated in such areas as water resources planning, wetlands protection, and land use planning.¹⁷⁵ In addition, DER and the districts seem to have resolved their earlier differences over water management policies and the respective roles of state and regional institutions in the implementation of such policies.¹⁷⁶

B. Comprehensive Planning

The 1972 Water Resources Act directed DER's predecessor, the Department of Natural Resources (DNR), to formulate a State Water Use Plan.¹⁷⁷ The Water Use Plan was supposed to establish a uniform water resources policy to ensure that the Act's regulatory provisions were administered consistently at the district level.¹⁷⁸ However, for the most part the Water Use Plan failed to achieve this goal.

One problem was that the State Water Use Plan was subsumed into a larger, more ambitious planning effort known as the State

171. See Christie & Jurgens, *The Legal Environment for Water Resources Planning in Florida*, in 5 COMPREHENSIVE REVIEW OF WATER RESOURCES POLICIES, PLANNING AND PROGRAMS IN FLORIDA 2-3 (June 1986) [hereinafter *Legal Environment for Water Resources*].

172. FLA. ADMIN. CODE ANN. r. 17-40 (1986).

173. FLA. STAT. § 373.114 (1985). DER is required to review the adoption or revision of any water management district rule within 30 days of its adoption or revision. However, if DER orders amendment or repeal of the rule because it is inconsistent with the State Water Policy, the district may appeal this decision to the Land and Water Adjudicatory Commission.

174. MODEL WATER CODE, *supra* note 22, §1.02.

175. May & Snaman, *A Critique of Water Planning in Florida—State, Regional, and Local*, in 4 COMPREHENSIVE REVIEW OF WATER RESOURCES POLICIES, PLANNING AND PROGRAMS IN FLORIDA 54 (Apr. 1986) [hereinafter *Water Planning in Florida*].

176. *Id.* at 55-56.

177. FLA. STAT. § 373.036(1) (1985).

178. Rea, *Drought in Florida: Nature's Response to "Comprehensive" Planning*, 57 FLA. B.J. 266, 266 (1983).

Comprehensive Plan.¹⁷⁹ The Comprehensive Plan was intended to provide "long-range guidance for the orderly social, economic, and physical growth of the state."¹⁸⁰ The Division of State Planning (DSP), a new agency established within the Department of Administration, was given the task of overseeing the preparation of the Comprehensive Plan.¹⁸¹ The Legislature directed DNR to cooperate with DSP, since it intended for the Water Use Plan to become a "functional element" of the Comprehensive Plan.¹⁸² Unfortunately, disagreements arose between DSP and other participants in the planning process, particularly the water management districts.¹⁸³

Inadequate funding also hampered the planning process.¹⁸⁴ Initially, the legislature failed to provide DNR with sufficient funding to carry out its planning mandate.¹⁸⁵ As a consequence, DNR did nothing to prepare a plan.¹⁸⁶ Instead, it delegated this responsibility to the water management districts.¹⁸⁷ The South Florida Water Management District and the Southwest Florida Water Management District responded by embarking on substantial planning programs with little or no oversight at the state level.¹⁸⁸ As a result, these districts developed strong, and somewhat divergent, views on water management policy.¹⁸⁹

DER attempted to assert some control over the planning process when it assumed DNR's water management responsibilities.¹⁹⁰ By 1976, DER had reached an agreement with the water management districts on a common set of assumptions and a common format to be used in preparing the Water Use Plan.¹⁹¹ As a result, a Water Use Plan was completed in 1978,¹⁹² but was never formally

179. The Plan was mandated by the Florida State Comprehensive Planning Act of 1972. See FLA. STAT. §§ 186.001-.031 and 186.801-.911 (1985).

180. FLA. STAT. § 186.007 (1985).

181. FLA. STAT. § 23.012(1) (1972). See Brindell, *Planning for Florida's Future*, 52 FLA. B.J. 247, 247 (1978).

182. Florida State Comprehensive Planning Act of 1972, 1972 Fla. Laws ch. 72-295 (codified at FLA. STAT. ch. 186 (1985)); *Water Planning in Florida*, *supra* note 175, at 23.

183. FLORIDA WATER LAW, *supra* note 146, at 217; Fleming, *Water Allocation: The Reasonable and Beneficial Use Standards*, 52 FLA. B.J. 25, 25-26 (1979).

184. *Water Planning in Florida*, *supra* note 175, at 24-25.

185. *Id.*

186. FLORIDA WATER LAW, *supra* note 146, at 215.

187. *Water Planning in Florida*, *supra* note 175, at 25.

188. *Id.* at 26.

189. Rea, *supra* note 178, at 266.

190. *Water Planning in Florida*, *supra* note 175, at 26.

191. *Id.*

192. Phase I, State Water Use Plan (Dec. 1978).

adopted by DER.¹⁹³ Meanwhile, DSP completed work on the rest of the State Comprehensive Plan. However, the Plan was rejected when it was submitted to the legislature for approval.¹⁹⁴

In 1984, a new attempt to draft a State Water Use Plan was begun under the Florida Regional Planning Council Act.¹⁹⁵ The 1984 Act called for the formulation of a new State Comprehensive Plan as well as state agency functional plans and comprehensive regional policy plans for each of the state's comprehensive planning districts.¹⁹⁶ The legislature directed DER to prepare a State Water Use Plan within six months.¹⁹⁷

The State Comprehensive Plan was prepared by the Governor's Office and was adopted by the legislature in 1985.¹⁹⁸ DER, with some assistance from the water management districts, completed a new State Water Plan and submitted it to the Executive Office of the Governor for review.¹⁹⁹

With the development of the state water policy and the State Water Use Plan, DER and the water management districts have taken the first step toward implementing a comprehensive planning process. This experience has not been without difficulties, but it seems to have reduced some of the tension between DER and the districts over water management policy.

C. *Coordination of Water Use and Water Quality Regulations*

1. *Consumptive Use Regulation at the District Level*

As mentioned earlier, the Model Water Code's permitting scheme for consumptive uses of water was carried over into the 1972 Water Resources Act.²⁰⁰ The authority to issue consumptive use permits was vested exclusively in DER and the water management districts.²⁰¹ DER then delegated this authority to the water management districts, as contemplated by the Act.²⁰²

193. FLORIDA WATER LAW, *supra* note 146, at 217.

194. FLA. STAT. § 23.013(2) (1972). FLORIDA WATER LAW, *supra* note 146, at 217 n.139.

195. 1984 Fla. Laws ch. 84-257 (codified at FLA. STAT. §§ 186.501-.513 (1985)).

196. *Id.*

197. FLA. STAT. § 186.021(3) (1985).

198. Viessman, *An Assessment of Water Resource Management Issues and Options*, in 1 COMPREHENSIVE REVIEW OF WATER RESOURCES POLICIES, PLANNING AND PROGRAMS IN FLORIDA 1 (Jan. 1986) [hereinafter *Water Resource Management*].

199. Legal Environment for Water Resources, *supra* note 171, at 16.

200. FLA. STAT. ch. 373 (1985).

201. 1976 Fla. Laws ch. 76-243, § 9. *See also* Wershow, *supra* note 162, at 140.

202. Each water management district now regulates consumptive water uses. *See* FLA.

For the most part, the consumptive use permit system appears to have functioned smoothly. At first, some of the districts experienced difficulty in applying the concept of reasonable-beneficial use.²⁰³ However, DER's state water policy has now provided additional guidance to the districts.²⁰⁴ Water shortage plans were another problem area.²⁰⁵ At the present time, though, each of the districts has developed a water shortage plan.²⁰⁶

The water management districts have shown considerable imagination and initiative in their responses to particular water management concerns. For example, several of the districts have enacted well-spacing regulations to protect against salt water intrusion.²⁰⁷ In addition, the South Florida Water Management District encourages wastewater reuse for irrigation purposes in certain instances as an alternative to groundwater use.²⁰⁸ Finally, several of the districts embarked on programs to identify and protect groundwater recharge areas.²⁰⁹

Of course, some consumptive use problems have not been fully resolved. One of the most controversial issues is whether interdis-

ADMIN. CODE ANN. FR. 40E-2 (SFWMD); 40A-2 (NFWMD); 40C-2 (SJRWD); 40B-2 (SRWMD); 40D-2 (SWFWMD) (1986).

203. Fleming, *Water Allocation: The Reasonable and Beneficial Use Standards*, 52 FLA. B.J. 25, 28-29 (1979). See also *City of St. Petersburg v. Southwest Florida Water Management Dist.*, 355 So. 2d 796 (Fla. 2d DCA 1976)(dispute over whether the "water crop" theory was consistent with the principle of reasonable-beneficial use).

204. FLA. ADMIN. CODE ANN. FR. 17-40.040(2) (1986). The water management district should take the following factors into account in order to determine if a requested use of water is a reasonable-beneficial one: (1) purpose of the use; (2) suitability of the use; (3) economic value of the use; (4) social value of the use; (5) extent and amount of harm the use causes; (6) ability of the user to avoid harm to others by adjusting the method of use; (7) ability of the user to avoid harm to others by adjusting the quantity of water used; (8) protection of existing values; (9) justice of requiring the user to compensate other users for causing harm; (10) whether the withdrawal will have an adverse impact on lands not owned by the user; (11) the method and efficiency of the use; (12) whether conservation measures are being taken; (13) whether water can be reused or water of poorer quality can be used; (14) the future demands of competing users; (15) the safe yield of the water body; and (16) whether the use would degrade water quality. The first nine factors are taken from RESTATEMENT (SECOND) OF TORTS § 850A (1977). THE REMAINING FACTORS WERE ADDED BY DER TO THE RESTATEMENT'S DEFINITION OF REASONABLE USE. KEMP, *supra* note 60, at 15.

205. FLORIDA WATER LAW, *supra* note 146, at 250-68.

206. Viessman, *Florida's Water Resources—Trends, Issues, Strategies*, in 2 COMPREHENSIVE REVIEW OF WATER RESOURCES POLICIES, PLANNING AND PROGRAMS IN FLORIDA 19 (Jan. 1986) [hereinafter *Trends, Issues, Strategies*].

207. Neitzke, *Salt Water Intrusion: Florida's Legal Response*, 55 FLA. B.J. 759, 761 (1981).

208. Niego, *Wastewater Re-Use in Florida: An Idea Whose Time Has Come*, 57 FLA. B.J. 337, 339 (1983).

209. *Water Resource Management*, *supra* note 198, at 9-10; Niego, *supra* note 208, at 341.

strict transfers of water should be allowed.²¹⁰ At the present time, DER's water policy provides that both districts must approve such a transfer.²¹¹ Presumably some other agency, such as DER or the Land and Water Adjudicatory Commission, would have to decide the issue if the donor district refused to approve a requested transfer.

2. Regulation of Water Quality by DER

Florida's primary water pollution control statute in 1972 was the Air and Water Pollution Control Act.²¹² Under this statute, an independent board administered the state's water pollution permit system.²¹³ The 1972 Water Resources Act did not change this regulatory scheme.²¹⁴ Later, the 1975 Environmental Reorganization Act gave DER the power to administer the state's water pollution control laws.²¹⁵

DER requires that any installation may reasonably be expected to be a source of pollution must obtain a permit.²¹⁶ Before DER issues this permit, it must determine that the installation is equipped with pollution control facilities that will enable the permittee to comply with applicable water quality standards.²¹⁷ DER also requires that domestic and industrial pollution sources obtain separate construction and operating permits.²¹⁸ Applicants for construction permits must comply with design criteria established by DER.²¹⁹ Applicants for operating permits must show that the proposed discharge will not cause water quality to fall below the classification established for the watercourse.²²⁰

DER has also adopted effluent standards and guidelines for domestic and industrial facilities which parallel those adopted by the United States Environmental Protection Agency under the Clean Water Act.²²¹ In addition, the 1967 Act has been amended to give

210. *Water Resource Management*, *supra* note 198, at 11-13.

211. FLA. ADMIN. CODE ANN. r. 17-40.050 (1986). *See also* Kemp, *supra* note 60, at 16.

212. 1967 Fla. Laws ch. 67-436 (codified at FLA. STAT. §§ 403.011-.261 (1967)).

213. FLA. STAT. §403.061(14) (1985).

214. 1972 Fla. Laws ch. 72-299.

215. FLA. STAT. § 403.087 (1985).

216. *Id.* For a general discussion of DER's pollution control activities see FLORIDA WATER LAW, *supra* note 146, at 377-92.

217. FLA. STAT. § 403.087(4) (1985).

218. FLA. ADMIN. CODE ANN. r. 17-4.210 to 17-4.240 (1986).

219. FLA. STAT. § 403.087(4) (1985).

220. FLA. STAT. § 403.088(2)(b) (1985).

221. Compare FLA. ADMIN. CODE ANN. r. 17-6.010 (1986) with Clean Water Act 33 U.S.C.

DER the power to adopt drinking water standards,²²² monitor groundwater sources,²²³ and regulate dredge and fill operations in wetland areas.²²⁴

3. Overlapping Authority between DER and the Water Management Districts

Neither the 1972 Water Resources Act nor the 1975 Environmental Reorganization Act gave the water management districts any direct pollution control authority.²²⁵ This has caused problems because water use and water quality issues cannot be separated at the operational level any more than at the planning level.

In the course of administering the provisions of the Water Resources Act, the water management districts make numerous decisions that affect water quality. The districts take water quality concerns into consideration when they issue consumptive use permits.²²⁶ This practice is supported by an opinion of the State Attorney General²²⁷ and by language in DER's state water policy.²²⁸ In addition, the districts can take water quality into account when issuing permits for the construction of dams, impoundments, and other surface water structures.²²⁹

The water management districts also engage in planning and other activities that involve water quality. They cooperate with local governments in developing hazardous and nonhazardous waste

§ 1311 (1982). Florida's pollution control program, which is based on the 1967 Air and Water Pollution Control Act, does not presently meet the requirements for participation in the federal NPDES program. Therefore, persons who discharge pollutants into Florida waters must obtain a permit from both EPA and DER. See generally Fisher, *supra* note 153, at 67.

222. Florida Safe Drinking Water Act, 1977 Fla. Laws ch. 77-337 (codified at FLA. STAT. §§ 403.850-.864 (1985)). See also Green & Preston, *Florida's New Groundwater Regulations*, 57 FLA. B.J. 345 (1983).

223. 1983 Fla. Laws ch. 83-310 (codified at FLA. STAT. § 403.063 (1985)).

224. Warren S. Henderson Wetlands Protection Act, 1984 Fla. Laws ch. 84-79 (codified at FLA. STAT. §§ 403.91-.929 (1985 & Supp. 1986)). See also Note, Warren S. Henderson Wetlands Protection Act of 1984, 9 NOVA L.J. 141 (1984); Smallwood, Alderman & Dix, *The Warren S. Henderson Wetlands Protection Act of 1984: A Primer*, 1 J. LAND USE & ENVTL. L. 211 (1985).

225. 1972 Water Resources Act, 1972 Fla. Laws ch. 72-299; 1975 Environmental Reorganization Act, FLA. STAT. § 403.801 (1985).

226. Wershow, *supra* note 161, at 528-29.

227. 1975 Op. Att'y Gen. Fla. Ann. Rep. 075-16.

228. FLA. ADMIN. CODE ANN. r. 17-40.040(2) (1986).

229. For example, the South Florida Water Management District requires an applicant to provide reasonable assurances that a proposed use of diversion or storage works will not degrade water quality. FLA. ADMIN. CODE ANN. r. 40E-6.301(1)(C) (1986). See also Landers, Lotspeich & Osiason, *supra* note 158, at 21.

management programs.²³⁰ The districts also participated with local governments in the formulation of Section 208 water quality plans,²³¹ and comprehensive plans for land use control purposes.²³² Finally, the water management districts provide technical assistance to regional planning councils in connection with developments of regional impact.²³³

The overlapping interests of DER and the water management districts in the water quality area may give rise to conflicts over regulatory policy. Where both agencies regulate a particular activity, water users may have to apply for two permits instead of only one. A serious problem would be presented if the regulatory standards of the two agencies were in conflict. However, even if they were consistent, a wasteful dual permitting system would still exist.²³⁴ Furthermore, planning and other nonregulatory activities of a district can undermine state water management efforts if the district and DER do not subscribe to common water quality goals.

There are two potential solutions to the problem of overlapping jurisdiction over water quality. Under the first, DER could delegate a substantial portion of its water quality permitting authority to the water management districts. Under the second approach, DER and the districts could apportion regulatory authority among themselves in a manner that avoids dual permitting.

The first response, delegation of permitting authority to the water districts, is similar to the Model Water Code's original scheme.²³⁵ It will be recalled that the 1972 Water Resources Act provided that DER should delegate its power "to the greatest extent practicable . . . to the governing board[s] of [the] water management district[s]."²³⁶ This provision, however, did not extend to water quality regulation.²³⁷ At one time, another statute authorized DER to delegate its water quality duties to a water management district if the district had sufficient financial and technical re-

230. *Water Resource Management*, *supra* note 198, at 60-61.

231. *Water Planning in Florida*, *supra* note 175, at 33-34.

232. Niago, *Water Management in South Florida: Setting the Record Straight*, 57 FLA. B.J. 337, 337-38 (1983). The Local Government Comprehensive Planning and Land Development Regulation Act requires local governments to formulate comprehensive plans to control the use of land. FLA. STAT. §§ 163.3161 (1985). This statute also mandates that these comprehensive plans include water supply and conservation elements. FLA. STAT. §§ 163.3177(6)(c)-(d).

233. *Legal Environment for Water Resources*, *supra* note 171, at 7-8.

234. Wershow, *supra* note 161, at 529.

235. MODEL WATER CODE, *supra* note 22, at 292-93.

236. FLA. STAT. § 373.016(3) (1985).

237. *Id.*

sources to assume such responsibilities.²³⁸ However, the legislature revised this provision in 1983 and limited potential DER delegation to stormwater regulation.²³⁹

The second alternative would allow DER and the water management districts to apportion regulatory responsibilities by agreement. Under one proposal, one agency would be designated the "primary" agency for a specific permitting function. The "secondary" agency would not regulate the same activity but would be entitled to comment on permit applications.²⁴⁰ This would allow DER and the districts to agree on a uniform water quality strategy, and it would eliminate duplicative permitting procedures. Shortly after its creation by the Environmental Reorganization Act, DER and the water management districts undertook a study to identify areas of overlapping responsibility and formulate a response to the problem.²⁴¹ However, it is not clear whether the parties reached any agreements with respect to regulation of water quality.

CONCLUSION

The drafters of the Model Water Code intended what its name suggested—a "model" statute for states to adapt to their unique situations.²⁴² The Florida Legislature used the Code as the model for the 1972 Water Resources Act, but also modified it to fit the needs of the state. Since that time, DER and the water management districts have fleshed out this basic statutory framework. The result of this process is a water management program that has adapted, and will continue to adapt, to changes in the physical environment, as well as to changes in popular attitudes about economic development and the environment.

A number of problems have been identified in this brief survey of Florida water management law. One problem is the relationship between DER and the water management districts.²⁴³ We conclude that this relationship is not that of superior and subordinate, but

238. FLA. STAT. § 403.812 (1975). DER is required to establish environmental districts and allow them to process permit applications. These district offices are supposed to be located in the same area as the central offices of the various water management districts. See FLA. STAT. § 403.809 (1985). However, environmental districts are equivalent to branch offices of DER and have no official ties to the water management districts.

239. 1983 Fla. Laws ch. 83-310, § 68. See also 1984 Fla. Laws ch. 84-79, § 6; 1985 Fla. Laws ch. 85-154, § 3. These provisions are now codified at FLA. STAT. § 403.812 (1985).

240. Wershow, *supra* note 162, at 142-43.

241. *Id.* at 141-42.

242. MODEL WATER CODE, *supra* note 22, § 1.02.

243. See *supra* notes 159-176 and accompanying text.

rather more like a partnership.²⁴⁴ A second area of concern is the status of water resources planning in Florida.²⁴⁵ Our conclusion is that water resources planning must be an ongoing process.²⁴⁶ Planning should not be confined to state agencies, but must be shared by DER and the water management districts.²⁴⁷ The final problem is the state's failure to integrate consumptive use regulation with water quality controls.²⁴⁸ Since water use and water quality issues are closely interrelated, ideally, the same agency should regulate both activities.²⁴⁹ If this does not occur, procedures must be developed to ensure coordination between consumptive use and water pollution permitting.²⁵⁰

Considerable progress has been made toward defining an appropriate relationship between DER and the water management districts.²⁵¹ The development of a state water policy provides a mechanism by which DER can establish statewide water management goals and policies. At the same time, since water resource problems vary from area to area, the districts must be given discretion to implement these statewide policies in their own way.

This approach makes sense from a managerial viewpoint. Moreover, it is consistent with political reality. Since the water management districts, at least in the southern half of the state, seem to have more financial, political, and technical resources than DER, it is likely that more would be accomplished if DER and the districts act together as partners, rather than compete for exclusive control over water management decisionmaking.²⁵² This was the approach to water management envisioned by the drafters of the Model Water Code.²⁵³

As was mentioned earlier, DER and the districts drafted a Water Use Plan as required by the State and Regional Planning Act.²⁵⁴ This plan is a good start. However, adequate water resource planning requires accurate technical information about the physical resources along with present and projected demands on resources.

244. *Id.*

245. *See supra* notes 180-199 and accompanying text.

246. *Id.*

247. *Id.*

248. *See supra* notes 200-225 and accompanying text.

249. *Id.*

250. *Id.*

251. *See supra* 159-170 and accompanying text.

252. *See supra* notes 171-176 and accompanying text.

253. MODEL WATER CODE, *supra* note 22, at 292-93.

254. FLA. STAT. ch. 187 (1985).

This data must then be classified and analyzed. Finally, planners must utilize this data to formulate policy choices and develop strategies for decisionmakers to employ to implement these choices.

This is an ongoing process that requires considerable financial resources and expertise. Consequently, no version of the State Water Use Plan should ever be regarded as a finished product. Furthermore, a water quality plan should be developed as part of the same process that produces a Water Use Plan. This was the original idea behind the Model Water Code's State Water Plan.²⁵⁵ If two separate plans are produced in Florida, at the very least, provisions should be made for proper coordination of the planning process.

It is not enough to acknowledge the interrelationship of water use and water quality concerns at the planning level; hydrologic reality must prevail at the operational level as well.²⁵⁶ Although some progress has been made, DER and the water management districts must resolve this issue once and for all. The best solution would be for DER to delegate water pollution permitting authority to those districts that have the technical and financial resources to administer such a program.²⁵⁷ DER should retain sufficient responsibility to ensure that statewide standards are enforced and that water quality regulations are administered uniformly throughout the state.

This article has emphasized the hydrological unity of water and the physical connection between water use and water quality.²⁵⁸ Of course, there are links between water resources management and other activities as well. However, it is undesirable to inject too many factors into the decisionmaking process of a particular agency. A water management agency should not be required to consider every possible problem before it grants a consumptive use permit. Not only would this concentrate too much power in one entity, but it would diffuse the agency's focus on water management issues. The better approach is to assign responsibility for these interests to other agencies but provide for DER or water management input or participation in agency decisionmaking.

Land development regulation provides a good example of how

255. MODEL WATER CODE, *supra* note 22, at 72-75.

256. See *supra* notes 95-138 and accompanying text.

257. See *supra* notes 235-239 and accompanying text.

258. See *supra* notes 225-234 and accompanying text.

this process can work.²⁵⁹ Obviously, there is a connection between land development and both water availability and water quality. Theoretically, DER or the water management districts could control urban development and protect environmentally sensitive areas by denying consumptive use or pollution control permits in certain situations. However, the Florida Environmental Land and Water Management Act of 1972²⁶⁰ provides a better mechanism for coordinating land use and water management decisions.²⁶¹ The act imposes regulation at the state level for "development of regional impact" (DRI).²⁶² The act also provides for the designation of "areas of critical state concern."²⁶³ Development in such areas is subjected to state oversight and may be restricted to protect delicate ecosystems.²⁶⁴ DER and the water management districts provide input into the decisionmaking process, but the final decisions are made by regional and state planning agencies. This allows water management issues to be considered along with other economic, social, and environmental concerns.

Given the complexity, scale, and changing nature of Florida's water resources problems, the present system seems to be functioning fairly well. Some problems have been identified and others no doubt exist. Nevertheless, Florida has made considerable progress in its water management program since 1972. Further improvements will be made in the coming years.

259. Rea, *supra* note 178, at 266.

260. 1972 Fla. Laws ch. 72-317 (codified at FLA. STAT. §§ 380.012-.10 (1985)).

261. See generally Finnell, *Saving Paradise: The Florida Environmental Land and Water Management Act of 1972*, 1973 URB. L. ANN. 103.

262. FLA. STAT. § 380.06 (1985). See generally, Pelham, *Regulating Developments of Regional Impact: Florida and the Model Land Development Code*, 29 U. FLA. L. REV. 789 (1977); Earl, Tarr & Smith, *Review of Proposed Development Under the Environmental Land and Water Management Act*, 35 U. MIAMI L. REV. 925 (1981); Frith, *Florida's Development of Regional Impact Process, Practice and Procedure*, 1 J. LAND USE & ENVTL. L. 71 (1985).

263. FLA. STAT. §380.05 (1985).

264. *Id.* See generally, Note, *Area of Critical State Concern: Its Potential for Effective Regulation*, 26 U. FLA. L. REV. 858 (1974); Martin, *Areas of Critical State Concern: Some Unsolved Issues*, 54 FLA. B.J. 381 (1980). Two areas, the Green Swamp Area and the Big Cypress Area, have been designated as areas of critical concern in order to protect ground-water recharge areas. FLA. STAT. § 380.0551 (Green Swamp Area), § 380.055 (Big Cypress Area) (1985).