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Considering Comprehensive Water Legislation: Pennsylvania as a Case Study

Basil S. Donnelly

Stephan A. Hartman

Cathleen M. Stryker

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Survey

CONSIDERING COMPREHENSIVE WATER LEGISLATION: PENNSYLVANIA AS A CASE STUDY

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I. INTRODUCTION

Many states are currently struggling with the outdated water allocation system of riparianism. The riparian method of allocation¹ requires persons wishing to acquire water rights to locate adjacent to a water source. This system no longer meets states' increasingly complex needs.

More frequent droughts and the growing demand² for water have combined to make the riparian water allocation system inad-

1. For a discussion on riparianism, see *infra* notes 17-29 and accompanying text.

2. Increased demand for water has resulted from population growth, high per capita use, and population concentration in urban areas. Richard C. Ausness, *Water Use Permits in a Riparian State: Problems and Proposals*, 66 Ky. L.J. 191 (1977). In addition:

[e]xpanding municipal and industrial demand, along with increasing use of supplemental irrigation, have escalated consumptive water use dramatically in the Eastern United States since World War II. This escalated use already has caused water shortages in some parts of the East, and experts predict more widespread water supply problems in the future.

Richard C. Ausness, *Water Rights Legislation in the East: A Program for Reform*, 24 Wm. & Mary L. Rev. 547 (1983) [hereinafter Ausness]. Water's several uses often compete for attention, putting stress on the water supply. Some of the consumptive uses of water include: agriculture, domestic, commercial, and public facilities. 1 ROBERT E. BECK, *WATERS AND WATER RIGHTS* 29-36 (Robert E. Beck ed., 1991) [hereinafter BECK]. While some of water's non-consumptive uses include: recreation, wildlife, navigation, hydropower, and waste disposal. *Id.* at 36-37. Because these many uses strain the water distribution system, especially in times of drought, and because of the relatively small amount of water, water must be allocated between these dueling uses. For a general discussion of water's scarcity and the need for an allocation system, see CHARLES W. HOWE, *WATER AND THE AMERICAN WEST* 53 (David H. Getches ed., 1988) [hereinafter HOWE]. A water allocation system must lessen the effects of scarcity. Some field practitioners suggest that there will continue to be a problem until emphasis is taken off supply and put on demand. TERRY L. ANDERSON, *WATER RIGHTS* 2 (1983) [hereinafter ANDERSON]. By raising prices, water use per person has leveled off, and in some cases declined. *Id.* at 2-3. However, the same practitioners also believe that this type of demand management is not likely to occur because political agencies set water prices. *Id.*

Others reason that scarcity can be dealt with by comparing water supply development to the uses of existing supplies. See HOWE, at 53. Comparison involves more than a cost-benefit analysis. Environmental objectives such as species preservation and social objectives such as protecting traditional cultures must be included in the water policy evaluation. *Id.* The courts and state legislatures must use an equitable and consistent method for allocating water between

equate.³ By requiring water users to determine rights through litigation, riparianism lacks predictability. In addition, because riparianism fails to allocate water prospectively, allocation among competing users is inefficient and wasteful.⁴ Moreover, users are unable to rely on availability in times of great need. Finally, as society has expanded and moved away from water sources, a system which allocates based upon proximity to a water source is no longer practical.⁵

The inadequacies of riparianism will require states to develop new allocation systems. Consequently, many states have enacted comprehensive water legislation.⁶ In Pennsylvania, the Department of Environmental Resources (DER) has proposed comprehensive water legislation.⁷ Although water traditionally has not been a scarce resource in Pennsylvania,⁸ the state needs a comprehensive water allocation system to efficiently and effectively meet users' needs.

This article first analyzes current water law in Pennsylvania, focusing upon the inadequacies of the riparian system. Next, it examines the viability of other states' water systems which include prior appropriation, dual (hybrid) systems, permit systems, and comprehensive regulation. Moreover, the article argues that a comprehensive regulated system is the most efficient and effective water allocation system for Pennsylvania and similarly situated states. Finally, the article examines DER's proposal for legislation in Pennsylvania, and its potential impact on various interest groups including agriculture, water companies, domestic and commercial water users, thermoelectric power users, industry,

the various users. The scarcity of water must be dealt with because there is not enough water to meet existing demands. ANDERSON, at 1.

3. For a discussion of the inadequacies of riparianism in general, see *infra* notes 100-107 and accompanying text.

4. Riparianism is inefficient in that it fails to effectively allocate water among present users based on need. See *infra* notes 100-07 and accompanying text. In addition, riparianism fails to efficiently allocate water between present and future uses. To address this problem, many states have adopted constitutional amendments which require conservation and protection of water resources. See *infra* note 42. However, these states often have not fulfilled their obligation under these provisions. *Id.*

5. It is not practical for all water users to locate themselves next to water sources and modern technology no longer requires it.

6. For the states that have adopted comprehensive regulation, see *infra* note 145.

7. For the text and discussion of the proposal, see *infra* notes 174-98 and accompanying text.

8. As a result, there has not been a tremendous urgency toward developing a modern water allocation method.

conservationists, and the Department of Environmental Resources.⁹

II. WATER LAW IN PENNSYLVANIA

Water law in Pennsylvania is an unusual mixture of old and new.¹⁰ It is close to a “pure riparian” system of water allocation because of its heavy reliance upon the common law.¹¹ However, the state has superimposed a limited number of regulatory statutes upon this antiquated riparian foundation.¹²

Although DER¹³ enforces many of the state water statutes, it is not the sole agency responsible for administering water law. The authority over water allocation and use lies with a number of agencies including the Delaware River Basin Commission,¹⁴ the Susquehanna River Basin Commission,¹⁵ and the Public Utility Commission.¹⁶ The following sections will discuss the various aspects of water law in Pennsylvania as it currently exists.

A. Riparianism

Riparianism is a legal method of allocating and enforcing water rights through the common law.¹⁷ Riparian rights arise

9. For a discussion of the impact of comprehensive regulation on the various interest groups, see *infra* notes 199-253 and accompanying text.

10. Pennsylvania water law is unusual because a majority of eastern states have adopted a regulated riparian system. See *infra* note 145. In Pennsylvania, common law is still the primary basis of water allocation. See *infra* notes 146-51 and accompanying text.

11. 6 JOSEPH W. DELLAPENNA, WATER AND WATER RIGHTS 363 (Robert E. Beck ed., 1991) [hereinafter 6 WATER AND WATER RIGHTS]. Because Pennsylvania has some statutes and administrative bodies controlling water allocation, it is not a “pure riparian” system. However, it is closer to a pure system than most other states because of its lack of centralized authority and legislation. *Id.*

12. Timothy Weston & Joseph R. Gray, *Legal Control of Consumptive Water Use in Pennsylvania Power Plants*, 80 DICK. L. REV. 353, 363 & n.67 (1976).

13. 71 PA. STAT. ANN. § 510-8 (1990).

14. Delaware River Compact, 32 PA. STAT. ANN. §§ 815.101-.106 (1967 & Supp. 1991).

15. Susquehanna River Basin Compact, 32 PA. STAT. ANN. §§ 820.1-.8 (Supp. 1991).

16. 66 PA. CONS. STAT. ANN. § 102-1314 (1979 & Supp. 1991). There also exists an Ohio River Valley Water Sanitation Compact. The Ohio River Valley Water Sanitation Commission, however, does not hold the broad powers of the Delaware Commission or the Susquehanna Commission. 32 PA. STAT. ANN. § 816.1-.7 (1967 & Supp. 1991).

17. Riparianism developed from English and American common law. 1 JOSEPH W. DELLAPENNA, WATER AND WATER RIGHTS 207 (Robert E. Beck ed., 1991) [hereinafter DELLAPENNA]. However, there is some conflict over its exact origin.

from the ownership of land bordering on lakes or streams.¹⁸ Neighboring riparian owners have equal rights amongst themselves to use water.¹⁹ Among water uses under the riparian rights doctrine, domestic uses are considered most important.²⁰ After domestic uses, equal priority is given to irrigation, and to industrial and commercial uses.²¹ Lastly, the diversion of water for use off riparian land is accorded the lowest priority.²²

Before riparian rights vest in a landowner, the land must qualify as riparian. Land qualifies as riparian if it touches a water body, is within the relevant watershed, and meets one of two tests regarding title.²³ After determining that the land is riparian, there are two theories to establish a landowner's right to use water. The two theories are the reasonable use and natural flow theories.²⁴

"The debate over the source of riparian rights doctrine will continue to be important." *Id.*

18. See WILLIAM GOLDFARB, *WATER LAW* 21 (2d ed. 1988) [hereinafter *GOLDFARB*]. The basic requirement for land to be riparian is for the land to be in contact with the water. DELLAPENNA, *supra* note 17, at 220. For a discussion of the tests to determine whether land is riparian, see *infra* note 23 and accompanying text. Riparianism is found predominantly in the East. See Ausness, *supra* note 2, at 548. However, most eastern states have also supplemented riparianism with the permit system. See GOLDFARB, *supra* 18 at 21.

19. DELLAPENNA, *supra* note 17, at 218.

20. PENNSYLVANIA ACADEMY OF SCIENCE, *WATER RESOURCE IN PENNSYLVANIA: AVAILABILITY, QUALITY AND MANAGEMENT* 222 (Majumdar, Miller and Parizek 1990) [hereinafter *WATER RESOURCES IN PENNSYLVANIA*].

21. *Id.* Commercial and industrial uses are sometimes referred to as extraordinary uses. *Id.* See also *Palmer v. Lehighton*, 124 A.2d 747 (Pa. 1924).

In Pennsylvania, these priorities are subject to emergency regulatory schemes by the basin commissions which may preempt a riparian land owner's rights. *WATER RESOURCES IN PENNSYLVANIA*, *supra* note 20, at 222. For a discussion of the basin commissions, see *infra* notes 87-97 and accompanying text.

22. *Id.*

23. DELLAPENNA, *supra* note 17 at 220. The two title tests are the restrictive 'source of title' test and the more inclusive 'unity of title' test. For a detailed discussion of the two riparian title tests, see *Id.* at 223-24. See also GOLDFARB, *supra* note 18, at 22. Under the 'source of title' theory, riparian rights are limited to the smallest parcel held under one title in a chain of title that has never been severed from a water body. *Id.* This test is burdensome because it requires extensive title searches. DELLAPENNA, *supra* note 17, at 224. Furthermore, under this test, the amount of land possessing riparian rights shrinks each time a tract is subdivided or sold. GOLDFARB, *supra* note 18, at 22.

Under the 'unity of title' theory, riparian rights belong to the owner of land held in a single title bordering a watercourse. *Id.* This is the more inclusive of the two tests because riparian land increases as parcels adjacent to existing riparian tracts are acquired. *Id.*

24. *Id.* Originally riparian rights were defined by the 'natural flow' doctrine, however, since 'natural flow' is anti-development it has been replaced with the 'reasonable use' rule. *Id.* at 22-23. Under the natural flow theory each riparian owner was entitled to have water flow across or rest on his land in its natural

A majority of jurisdictions use the reasonable use theory.²⁵ Under this theory, each riparian landowner may use water for any beneficial purpose if reasonable with respect to other riparian needs and if the use does not interfere unreasonably with other legitimate riparian water uses.²⁶ Water rights are interdependent among riparian owners, and are not based on a benefit to a single user.²⁷ The reasonable use theory requires courts to weigh the benefit of one use against the benefit of another inconsistent use to determine what is reasonable.²⁸ The Restatement (Second) of Torts lists modern factors which courts can use to decide whether a particular use is reasonable in relation to other uses.²⁹

condition, without interference by others. DELLAPENNA, *supra* note 17, at 233. A change in the rate of flow or the quantity or quality of the water constitutes interference.

Chancellor Kent stated that: “[e]very proprietor of lands on the banks of a river, has naturally an equal right to the use of the water which flows in the stream adjacent to his lands, as it was wont to run (*curren solebat*) without diminution or alteration.” Eva M. Hanks, *The Law of Water in New Jersey*, 22 RUTGERS L. REV. 621, 628-29 (1968) (quoting 3 KENT, COMMENTARIES 439 (2d ed. 1832)).

The reasonable use theory was first developed in the eastern states. Early riparian theory was based on three premises: (1) a right to receive water in its natural condition; (2) equal rights against every other riparian owner; and (3) a right to make reasonable use of water as it flowed across, by, or lay upon the land. DELLAPENNA, *supra* note 17, at 241. During “the Industrial Revolution . . . these three uses were incompatible [with each other], and courts moved rapidly, explicitly or tacitly, to abandon the supposed right of riparian landowners to receive the natural flow of a waterbody.” *Id.*

25. DELLAPENNA, *supra* note 17, at 241.

26. Ausness, *supra* note 2, at 549. “Each riparian owner has a right to divert water for any purpose if the use is reasonable with respect to other riparians.” GOLDFARB, *supra* note 18, at 23. Under the reasonable use rule, a landowner can alter the drainage on the land in any way as long as the altered drainage does not unreasonably injure neighboring land. Joseph W. Dellapenna, *The Legal Regulation of Diffused Surface Water*, 2 VILL. ENV'T L.J. 285, 314 (1991) [hereinafter Dellapenna, *Legal Resolution*].

27. GOLDFARB, *supra* note 18, at 23.

28. DELLAPENNA, *supra* note 17, at 251. One of the earlier enumerations of the considerations to determine reasonableness is found in the case *Red River Roller Mills v. Wright*, 30 Minn. 249 (1883). The Minnesota court stated in pertinent part, as follows:

In determining what is reasonable use, regard must be had to the subject-matter of the use; the occasion and manner of its application; the object, extent, necessity, and duration of the use; the nature and size of the stream; . . . the importance and necessity of the use claimed by one party, . . . the extent of the injury to the other party; [and] the state of improvement of the country in regard to mills and machinery. . . .

Id. at 253.

29. This list of factors to determine if a use is reasonable includes purpose, suitability to the water body, economic value, social value, harm it causes, potential for coordinating with competing uses, temporal priority, and fairness of restricting a use. RESTATEMENT (SECOND) OF TORTS § 850A (1977).

B. The Riparian Foundation of Pennsylvania Water Law

Riparian rights, as applied through the reasonable use theory,³⁰ are still dominant in Pennsylvania. The doctrine is firmly rooted in Pennsylvania cases reaching back for over two centuries.³¹ As a result, Pennsylvania uses an ancient doctrine to resolve some of the most sophisticated water law cases arising in the state.

A recent example of the application of the riparian rights doctrine to a modern water use controversy is illustrated by the 1988 case of *Alburger v. Philadelphia Elec. Co.*³² In this case, the Philadelphia Electric Company used a secondary source river to increase the flow of a non-navigable river.³³ By doing so, the flow of the non-navigable river increased from 1.4 cubic feet per second (cfs) to over 71 cfs.³⁴ A lower riparian owner brought suit against the electric company seeking to enjoin the discharge of the additional water into the river.³⁵ The court granted an injunction preventing the electric company from increasing water flow across the lower riparian owner's land.³⁶ Consequently, the

30. For a discussion of reasonable use theory, see *supra* notes 24-29 and accompanying text.

31. For a general discussion on riparian rights, see *supra* notes 17-29 and accompanying text. The following are examples of Pennsylvania cases discussing riparian rights. Most of the principles of Pennsylvania riparianism were developed over one hundred years ago.

In *Brown v. Kistler*, 42 A. 885 (Pa. 1899), the Supreme Court of Pennsylvania held that the owner of property through which a natural water course flows has the right to make reasonable use of that water. In addition, persons owning land down stream from other riparian owners have rights which entitle them to the continued flow of the existing watercourse in the same channel and in the same quality and quantity as the watercourse previously flowed. *Fiedler v. Coen*, 505 A.2d 286 (Pa. Super. 1986).

The Pennsylvania Supreme Court in *Palmer v. Lehighon Water Supply Co.*, 124 A. 747 (Pa. 1924), held that "[e]very riparian owner is entitled to use so much of a stream running by or through his lands as may be necessary for domestic needs or other similar purposes. The use for extraordinary purposes must be such as will not sensibly or materially diminish the quantity." *Id.* at 748.

32. 535 A.2d 729 (Pa. 1988).

33. *Id.* at 730. The court noted that there is a difference in riparian rights cases when the stream is non-navigable rather than navigable. When the stream is navigable, the state holds title to all land underneath the navigable waters. When the stream is non-navigable, the owners of the land abutting the waterway own the land underneath the water. *Id.* at 731 (citing *Philadelphia v. Pennsylvania Sugar Co.*, 36 A.2d 653 (Pa. 1944) and *Ransberry v. Broadhead's Forest & Stream Ass'n*, 174 A. 97 (Pa. 1934)).

34. *Id.*

35. *Id.* In the alternative, the appellants sought to compel the electric company to condemn a right of way in the stream and pay them just compensation. *Id.*

36. *Alburger*, 535 A.2d 729. The court noted that under normal circum-

court had to fit this complex fact pattern into the context of a constrictive riparian rights analysis.

This problem is also illustrated in *Fielder v. Coen*.³⁷ In this 1986 case, the Pennsylvania Superior Court used riparianism to resolve a dispute between two landowners over a man-made watercourse running through both properties.³⁸ The upstream owners cut off the flow of water to the lower property, defending their action on the theory that no riparian rights attach to a man-made water body.³⁹ In this case, the court extended riparian rights to the owners of the lower property. The court found that the length of time which the watercourse had existed (over eighty-six years) vested riparian rights in the landowners.⁴⁰ Here the court was forced to use creative analysis to justly decide a water law issue that was unforeseen when riparianism developed.

These cases are examples of how Pennsylvania courts have attempted to adapt laws formulated in much simpler times to the complex water issues of today. The law that determined water rights in an era when the concerns for water were drinking and bathing now determines the rights of users, such as thermo-electric power facilities and water companies, which withdraw millions of gallons of water per day.⁴¹

C. Statutes and Regulations

Although Pennsylvania is a riparian jurisdiction, it has enacted a handful of statutes⁴² to fill in the gaps which have materi-

stances, an upstream riparian owner has a flowage easement across a lower riparian owner's property for the discharge of all water that naturally arises in the watercourse. *Id.* at 732.

37. 505 A.2d 286 (Pa. Super. 1986).

38. *Id.*

39. *Id.*

40. *Id.*

41. In the recent cases of *Alburger*, 535 A.2d 729, and *Fiedler*, 505 A.2d 286, the courts rely on the very old cases of *Brown*, 42 A. 885 (Pa. 1899) and *Palmer*, 124 A. 747 (Pa. 1924).

42. In addition to the statutes which exist in Pennsylvania, Article I, section 27 of the Pennsylvania Constitution states as follows:

The people have a right to clean air, pure water and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

PA. CONST. art. I, § 27. The concept embodied in this constitutional provision is known as the public trust doctrine. Linda J. Bozung, *Recent Developments in State Constitutional Law*, in LITIGATION 1985, at 151 (PLI Litig. & Admin. Practice Course Handbook Series No. 277, 1985). Simply put, natural resources within

alized under riparianism in modern day water law. In addition, federal laws affect water allocation and use in Pennsylvania.

1. 1939 Water Rights Act

Under the 1939 Water Rights Act, a public water supply agency⁴³ must apply for a permit with DER in order to acquire water or water rights.⁴⁴ The purpose of the Act is to provide a

the state are considered to be held in trust for present and future generations to use. Similar provisions have been added to the constitutions of several other states. States with a constitutional provision embodying the public trust doctrine include the following: California, CAL. CONST. art. X. § 2; North Carolina, N.C. CONST. art. XIV. § 5; New Mexico, NEW MEXICO CONST. art. XX. § 21; and Massachusetts, MASS. CONST. art. XLIX.

Although on its face, the provision would appear to provide a cause of action for concerned citizens, the Pennsylvania courts have construed this provision very narrowly. *See, e.g.*, National Gettysburg Battlefield Tower, Inc., 302 A.2d 886 (Pa. Commw.), *aff'd*, 311 A.2d 588 (Pa. 1973) (holding that this provision would offer no legal rights without further legislation to support it - provision is not self-executing). *But see* Payne v. Kassab, 312 A.2d 86, 94 (Pa. Commw. 1973). However, in states such as California and North Dakota, the public trust doctrine has been interpreted broadly to provide citizens with a cause of action when their natural water resources are being abused. *See, e.g.*, National Audubon Society v. Superior Court of Alpine County, 658 P.2d 709 (Cal.), *cert. denied sub nom.*, City of Los Angeles Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983) (holding that public trust doctrine imposes duty of continuing supervision over taking of water allowed by state and use of appropriated water); United Plainsmen Assoc. v. North Dakota State Water Conservation Comm's, 247 N.W.2d 457 (N.D. 1976) (holding that water rights are subject to public trust doctrine and determining that public trust doctrine circumscribed state water commission's water allocation authority). Unless Pennsylvania adopts a similar approach, the constitutional provision will remain a strong statement of policy, but a moot issue for litigation. However, Pennsylvania can follow this constitutional requirement by adopting a regulated allocation system which embodies the policies of the doctrine.

43. A public water supply agency means "any corporation or any municipal or quasi municipal corporation, district, or authority, now existing or hereafter incorporated under the laws of . . . Pennsylvania . . . and vested with the power, authority, right, or franchise to supply water to the public . . ." 32 PA. STAT. ANN. § 631 (1967 & Supp. 1991).

44. 32 PA. STAT. ANN. §§ 631-41 (1967 & Supp. 1991). The power to grant permits to such agencies was formerly vested in the Water and Power Resources Board, but was transferred to the Department of Environmental Resources in 1971. 71 PA. STAT. ANN. § 510-8 (1990). An application for a permit must be submitted under the following circumstances:

An application for water allocation is required when a public water supply agency: 1) Does not have a current valid permit for an existing surface water source, including springs; 2) Plans to develop a surface water source of supply, including springs; 3) Wants to increase its rate of withdrawal from a surface water source above the rate permitted by a currently valid water allocation permit; 4) Acquires from another public water supply agency a water system that uses surface water sources, regardless of whether that public water supply agency has a valid water allocation permit; 5) Acquires water supply from another public water supply agency or person withdrawing water supply from a surface water

safe and adequate water supply to the public.⁴⁵

Under the Act, DER has the power to grant permits to water supply agencies if it finds that the following three criteria are present: 1) there is no conflict between the water or water rights sought and the rights held by another public water supply agency which would interfere with that agency's reasonable present and future needs; 2) the water or the water rights proposed to be acquired are reasonably necessary to the present proposed and future needs of the public water supply agency making the application; 3) the taking of the water or the water rights will not interfere with navigation, public safety, or cause substantial injury to the commonwealth.⁴⁶ The Act deals exclusively with surface water; it does not cover ground water.⁴⁷

2. *The Clean Streams Act*

Pennsylvania promulgated the Clean Streams Act⁴⁸ in 1937 and since then it has undergone considerable change. Under the Act,

[t]he discharge of sewage or industrial waste or any noxious and deleterious substances into the waters of this commonwealth, which is or may become inimical and injurious to the public health, or to animal or aquatic life or to the uses of such waters for domestic or industrial consumption, or for recreation, is hereby declared not to be a reasonable or natural use of such waters, to be against public policy and to be a public nuisance.⁴⁹

This provision of the Clean Streams Act is a codification of the applicable common law as it exists in Pennsylvania.⁵⁰ Under the Act, any person or entity seeking to discharge waste into a water body must obtain a permit from DER.⁵¹

source; 6) Expands its service area beyond the service area approved in its most recently issued water allocation permit.

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT, INSTRUCTIONS FOR COMPLETING APPLICATION FOR WATER ALLOCATION, Dated May 2, 1990.

45. 32 PA. STAT. ANN. § 631 (1967 & Supp. 1991).

46. 32 PA. STAT. ANN. § 637 (1967).

47. See 32 PA. STAT. ANN. § 631(e) (1967).

48. 35 PA. STAT. ANN. §§ 691.1-751.20 (1977 & Supp. 1991).

49. 35 PA. STAT. ANN. § 691.3 (1977 & Supp. 1991).

50. *Commonwealth v. Barnes & Tucker Co.*, 319 A.2d 871 (Pa. 1974) (stating that statute was codification of common law as it existed in Pennsylvania).

51. See 35 PA. STAT. ANN. § 691.5 (1977).

Pennsylvania courts have broadly interpreted the powers of DER to enforce the Clean Streams Act. For example, in *DER v. Borough of Carlisle*,⁵² the Commonwealth Court of Pennsylvania addressed whether, under the Act, DER had the power to issue a ban on any sewer discharge into a borough's sewer system until upgrading of the system took place.⁵³ This ban was issued without prior notice or hearing.⁵⁴ The court held that "the objective of the Clean Streams Law is to prevent further pollution of Commonwealth waters as well as to restore polluted water to their once clean state"⁵⁵ Therefore, the court found that where necessary, DER had the authority to issue orders to prohibit additional sewer connections.⁵⁶

Although this Act does not directly affect water allocation, it does affect the quality and cost of the water supply.

3. *Dam Safety Encroachment Act*

The Dam Safety Encroachment Act regulates dams, reservoirs, obstructions, and encroachments in the watercourses of Pennsylvania.⁵⁷ Anyone wishing to construct or modify any of the above, must apply to DER for a permit. Anyone failing to apply for a permit before taking action or anyone who violates her permit can be subject to criminal penalties including fines up to \$5,000 and imprisonment up to one year.⁵⁸

Since this statute not only affects watercourses but also wetlands and swamps, the Act can also be enforced by the other state agencies who have responsibility to maintain these areas of Pennsylvania.⁵⁹ As a result, although the Dam Safety Act does not directly affect water allocation and use, it does affect flow controls

52. 330 A.2d 293 (Pa. Commw. 1974).

53. *Id.*

54. *Id.*

55. *Id.* at 297.

56. *Id.*

57. 32 PA. STAT. ANN. § 693.2 (1967 & Supp. 1991). The term watercourse includes "[a]ny channel of conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow." *Id.* § 693.3.

58. 32 PA. STAT. ANN. § 693.22 (1967 & Supp. 1991).

59. *Pennsylvania Game Comm'n v. DER*, 555 A.2d 812 (Pa. 1989) (holding that Pennsylvania Game Commission had authority to enforce Dam Safety Encroachment Act by bringing action to compel DER to issue permit before water obstruction created). The court in *Pennsylvania Game Comm'n* allowed the action because the Commission and DER were sister agencies both with purpose of protecting the environment.

before dams and reservoirs.⁶⁰

4. 1923 Limited Power and Water Supply Act

The 1923 Limited Power and Water Supply Act⁶¹ regulates the diversion of water for use by power plants in Pennsylvania. Under this Act, anyone building any power dam or changing a stream flow to develop power “for the main purpose of storing, cooling, diverting, and using . . . water for steam raising or steam condensation, or both, in the generation of electric energy for use in public service,”⁶² must receive a permit from DER.⁶³ The Act mainly applies to hydroelectric plants and to thermal-electric facilities on non-navigable waters.⁶⁴ Under the Act, permits cannot be granted for periods in excess of fifty years.⁶⁵

5. Federal Pollution Control Act

On the federal level, DER is responsible for enforcing the Federal Water Pollution Control Act⁶⁶ (Clean Water Act) and the Safe Drinking Water Act⁶⁷ (SDWA). The Clean Water Act, the federal equivalent to the Clean Streams Act,⁶⁸ regulates the discharge of waste in the waters of Pennsylvania.⁶⁹ The SDWA addresses the quality of drinking water by regulating contaminants found in consumptive water systems.⁷⁰ In 1984, the United States Environmental Protection Agency gave DER the authority to administer the SDWA.⁷¹ The 1986 amendments to the SDWA regu-

60. See 32 PA. STAT. ANN. § 693.4 (1991).

61. 32 PA. STAT. ANN. §§ 591-625 (1967).

62. 32 PA. STAT. ANN. § 594 (1967).

63. 32 PA. STAT. ANN. § 592 (1967). This requirement does not apply to such activities occurring within navigable waterways falling within federal jurisdiction. *Id.*

64. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 226. Prior to 1939, the Act also dealt with water supply facilities and their ability to divert surface waters. This portion of the Act was superseded by the 1939 Water Rights Act. See *supra* notes 43-47 and accompanying text.

65. 32 PA. STAT. ANN. § 592 (1967).

66. 33 U.S.C. §§ 1251-1387 (1988).

67. 35 PA. STAT. ANN. § 721.1-.17 (1977 & Supp. 1991).

68. See *supra* notes 48-55 and accompanying text.

69. The Clean Water Act calls for restrictions on the amount, rates, and concentrations of waste discharged into watercourses. 33 U.S.C. § 1342(a). The Act further provides that a person must obtain a permit before discharging any waste into any water body. *Id.*

70. Nancy M. Norling, et al., *Safer Water at a Higher Price - Anticipating the Impact of the Safe Drinking Water Act*, 122 PUB. UTIL. FORT. 11, 13 (1988) [hereinafter Norling].

71. 35 PA. STAT. ANN. § 721.1-.17 (1977 & Supp. 1991). See also, WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 115.

late the presence of eighty-three different contaminants in America's drinking water.⁷² Implementation of these amendments in Pennsylvania has proven to be extremely challenging to water suppliers due to the exceedingly high costs of compliance.⁷³ Although these acts are not direct regulations on the allocation of water, they directly affect the quality of water resources.

D. Pennsylvania Public Utility Commission

Pennsylvania's Public Utility Commission (PUC) is "an independent, administrative, quasi-judicial agency vested with the responsibility to supervise and regulate all the public utilities conducting business in the Commonwealth."⁷⁴ Thus, the PUC has authority over public water utilities⁷⁵ in the state.

Water utilities provide water to customers who often do not have riparian rights themselves.⁷⁶ Approximately 13.5 percent of the water utilities in Pennsylvania are considered public and fall within the authority of the PUC.⁷⁷ As a result, these water utilities are regulated by both the PUC and DER under the 1939 Water Rights Act.⁷⁸ The PUC must grant a "certificate of convenience" for a water utility to begin or alter operations.⁷⁹ If the PUC finds that "the granting of such certificate is necessary or proper for the service, accommodation, convenience or safety of the public" then the PUC will issue a certificate.⁸⁰ Before issuing a certificate, the PUC is authorized to conduct public hearings, investigations and site inspections of the utility.⁸¹

In addition to these powers, the PUC also has rate setting

72. Norling, *supra* note 70, at 12-13.

73. See Ahmed Kaloko, *Economic Impact of the Safe Drinking Water Act*, NAWC WATER, Fall 1990 at 21. It is estimated that compliance could cost water supply companies millions of dollars. *Id.*

74. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 141.

75. Water utilities are private companies having rights to take, divert, store and distribute water to customers by means of owned facilities. D. GETCHES, WATER LAW 407 (1984). The utilities take the form of corporations, partnerships and sole proprietorships. *Id.* Some are municipally owned. *Id.*

76. See *id.* at 405. In riparian states such as Pennsylvania, it is necessary to pass special laws granting authority to water companies to provide water to non-riparian lands. See *supra* notes 43-47 and accompanying text.

77. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 143-44. There are 2,464 community drinking water systems in Pennsylvania. Three hundred and thirty four of these systems fall within the PUC authority. *Id.*

78. See *supra* notes 43-47 and accompanying text.

79. 66 PA. CONS. STAT. ANN. § 1103 (1979 & Supp. 1991).

80. *Id.*

81. *Id.*

authority over public utility services rendered by a municipal corporation or its agencies.⁸² Furthermore, no public utility can change its rates without giving sixty days notice to the PUC.⁸³ The PUC thereafter has the authority to hold hearings and conduct investigations regarding the proposed rate increase.⁸⁴ If a public water utility is not providing adequate service to its customers, the PUC may deny an application for rate increases.⁸⁵ In considering rate increases, the PUC balances the goal of providing customers with the lowest possible rates with the goal of enabling the water utility to maintain a financially operable business.⁸⁶

E. Inter-State Water Management

Under the authority of the United States Constitution, Pennsylvania has entered into water compacts with its neighboring states. Article I, Section 10 of the United States Constitution authorizes the creation of compacts between neighboring states over river basin areas.⁸⁷ To enact a compact, the states must obtain approval from Congress.⁸⁸ Under a compact, a commission may be created consisting of members from all states involved in the compact as well as an appointee from the federal government.⁸⁹

The Delaware River Basin Commission⁹⁰ and the Susquehanna River Basin Commission⁹¹ hold a great deal of power in allocating Pennsylvania's water resources. Since there is no centralized system in Pennsylvania, these two interstate agencies have retained authority over Pennsylvania waters that most other

82. 66 PA. CONS. STAT. ANN. § 1301.

83. *Id.* § 1308(a).

84. *Id.* § 1308(b).

85. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 144.

86. *Id.* at 143.

87. U.S. CONST., art. I, § 10. *See also* Susquehanna River Basin Commission, 1990 Annual Report.

88. U.S. CONST., art. I, § 10.

89. *See* Delaware River Compact, 32 PA. STAT. ANN. § 815.101 (1967 & Supp. 1991). The Delaware Commission is comprised of the following states: Pennsylvania, New Jersey, Delaware and New York. *See also* Susquehanna River Basin Compact, 32 PA. STAT. ANN. §§ 820.1-8. (1967 & Supp. 1991). The Susquehanna Commission is comprised of the following states: Maryland, New York and Pennsylvania.

90. Delaware River Basin Compact, 32 PA. STAT. ANN. §§ 815.101-106 (1967 & Supp. 1991).

91. Susquehanna River Basin Compact, 32 PA. STAT. ANN. §§ 820.1-8. *See also, infra* note 160-65.

state legislatures have vested in their centralized state water agencies.⁹² These two river basins and their commissions cover about one half of Pennsylvania.⁹³

The broad powers of both of these commissions are defined in the compacts as follows: “[t]he Commission shall develop and effectuate plans, policies and projects relating to the water resources of the basin. It shall adopt and promote uniform and coordinated policies for water resources conservation and management in the basin.”⁹⁴ One of the functions of these commissions is to plan for and control water supply in the basin areas.⁹⁵ The commissions have authority to regulate the allocation and use of water in emergency flood and drought situations.⁹⁶ Furthermore, the compacts specifically provide the commissions with the power to regulate the use of water in the basins for domestic, municipal, agricultural and industrial purposes.⁹⁷

F. Problems with Pennsylvania’s Current Water Allocation System

As illustrated by the preceding analysis, water law in Pennsylvania is reactionary: a scattered patchwork of statutes superimposed upon an antiquated common law foundation. Riparianism was once the dominant water allocation method in the East. However, because of the many problems associated with riparianism, several eastern states have either supplemented riparianism with a permit system,⁹⁸ or replaced it with comprehensive regulation (regulated riparianism).⁹⁹

The number of problems with a riparian system are evidence of Pennsylvania’s need to adopt a regulated riparian system. One of the riparianism’s greatest faults is that it is now based upon

92. 6 WATER AND WATER RIGHTS, *supra* note 11, at 368.

93. *Id.*

94. Delaware River Compact, 32 PA. STAT. ANN. § 815.101 (1967 & Supp. 1991); Susquehanna River Basin Compact, 32 PA. STAT. ANN. § 820.1 (1967 & Supp. 1991).

95. Susquehanna River Basin Commission, *Comprehensive Plan for Management and Development of the Water Resources of the Susquehanna River Basin*, 30 (June, 1987).

96. *Id.*

97. *See supra* note 94.

98. For a discussion on permit systems, see *infra* notes 130-44 and accompanying text.

99. The term regulated riparianism was developed by Villanova Law Professor Joseph W. Dellapenna in Joseph Dellapenna, *Owning Surface Water in the Eastern United States*, 6 PROC. E. MIN. L. FOUND. 1-1 at 1-33 to 1-34. For a discussion of regulated riparianism, see *infra* notes 145-51 and accompanying text.

reasonable use of water.¹⁰⁰ What is reasonable depends upon many factors which vary from case to case and are subject to constant change. Riparianism often produces uncertainty and even confusion,¹⁰¹ whereas water rights should clearly define the relative rights of all users.¹⁰² As a result, the riparian system has become inadequate.¹⁰³

In addition, there are a number of other problems with riparianism. It was developed at a time of low use, and assumes a water surplus. Thus, it is only designed to resolve occasional disputes between individual water users.¹⁰⁴ Furthermore, there is no efficient mechanism for resolving disputes between competing users.¹⁰⁵ Once the dispute gets to the courts, decisions are made without the expertise and administrative continuity to assure a predictable allocation system.¹⁰⁶ Finally, riparianism does not recognize the relationship between surface and ground water.¹⁰⁷

As a result of these problems, different states have developed different systems to cope with their increasing needs.¹⁰⁸ Considering the growing complexity of water issues in Pennsylvania and the obsolescence of the law now in effect, a more efficient, centralized, modern approach must be developed.

III. ALTERNATIVE METHODS OF WATER ALLOCATION

A. Prior Appropriation

Prior appropriation is an alternative system of water allocation developed by some western states.¹⁰⁹ There are two basic

100. For a discussion on the reasonable use theory, see *supra* notes 24-29 and accompanying text.

101. DELLAPENNA, *supra* note 17, at 415. The confusion and uncertainty acts as an impediment to resolving disputes arising from water shortages. *Id.* "[O]ne cannot be certain who may use the available water or how much and for what purpose. . . ." Ausness, *supra* note 2, at 552.

102. *Id.*

103. For a general discussion of the inadequacy of common law water rights, see Ausness, *supra* note 2, at 552-53.

104. GOLDFARB, *supra* note 18, at 24. The system does not establish comprehensive regulation and is not suitable in periods of chronic water shortages. *Id.*

105. "Generally, [competing] water users must resort to litigation to resolve disputes." Ausness, *supra* note 2, at 553.

106. GOLDFARB, *supra* note 18, at 25. "Case-by-case judicial decision making results in inconsistent and impermanent results." *Id.*

107. Ausness, *supra* note 2, at 553. However, this article will limit its discussion to surface water.

108. For a list of states which have adopted regulated riparianism to deal with the increased demand, see *supra* note 145.

109. The prior appropriation method developed in the western United

principles under prior appropriation. The first and most important principle is that water must be put to a publicly defined beneficial use and cannot extend beyond such use.¹¹⁰ The second principle is time. Priority of use is determined by first in time, first in right.¹¹¹ The doctrine's allocation method provides clear entitlement to water, allowing a user to perfect his rights against another if the supply of water cannot accommodate both users.¹¹² When the appropriative water right becomes vested,¹¹³ the right becomes a constitutionally protected property interest.¹¹⁴ Prior appropriation thus provides protection for those who put water to a beneficial use against interference by a later appropriator.¹¹⁵

Prior appropriation can only develop where there is no present water allocation method.¹¹⁶ In California, appropriative law developed before an effective government was established.¹¹⁷ In the East, there is not only a current effective formal government,

States to meet the special needs of water users in dry climates. Water management in the West differs from water management in the East. D. Craig Bell & Norman K. Johnson, *State Water Laws and Federal Water Uses: The History of Conflict, the Prospects for Accommodation*, 21 ENVTL. LAW 1, 4 (1991) [hereinafter Bell]. Where water is abundant, law and policy are aimed at navigation and protection against floods. *Id.* Where water is scarce, laws and policy are aimed at offstream water needs. *Id.* Prior appropriation first evolved in California to allocate water among gold miners, and soon extended throughout the West. A. Dan Tarlock, *Western Water Law, Global Warming, and Growth Limitations*, 24 LOY. L.A.L. REV. 979, 983 (1991) [hereinafter Tarlock]. Some commentators draw a parallel between prior appropriation and John Locke's *The Second Treatise of Government*. See generally ANDERSON, *supra* note 2, at 15. Locke describes how scarce resources should be distributed in a State of Nature according to the principles of priority of right and beneficial use. *Id.* Similarly, prior appropriation provides that the first person to apply water to a beneficial use is first in right against later appropriators. Heather B. Lee, *Forcing the Federal Hand: Reserved Water Rights v. States' Rights for Instream Protection*, 41 HASTINGS L.J. 1271, 1272 (1990) [hereinafter Lee].

110. Bell, *supra* note 109, at 5. "Although the definition of beneficial use changed over time, the necessity of using water beneficially has remained constant." *Id.*

111. *Id.* "The doctrine thus protects those who put water to beneficial use against impairment of their use by subsequent appropriators." *Id.*

112. Tarlock, *supra* note 109, at 982. Initially, prior appropriation granted water rights to individual holders in what was a "pure property" system. Bell, *supra* note 109, at 4. As the doctrine evolved, public rights have received more attention. *Id.*

113. The water right becomes vested when water is applied to a beneficial use. See generally Lee, *supra* note 109.

114. *Id.* at 5. This property interest can be sold, leased or otherwise alienated. *Id.*

115. *Id.*

116. Joseph W. Dellapenna, *Riparian Rights in the West*, 43 OKLA. L. REV. 51, 62 (1990) [hereinafter *Riparian Rights*].

117. *Id.* In California a government had not been established to survey and grant title to land. *Id.* at 56. The gold miners were unwilling to wait for the

but also a current water allocation system: riparianism. Because prior appropriation has to be the first system in place, before any claim or rights are established to land, it cannot be imported to the East where there is an existing government and a water allocation mechanism.

B. Dual or Hybrid Systems

A dual or hybrid system is a combination of riparianism and prior appropriation.¹¹⁸ Most dual or hybrid states¹¹⁹ treat appropriative water law as the primary system for determining water rights and riparianism as a deviation from that primary right.¹²⁰ Under the dual system, water rights for non-riparian land may be established by appropriation if the water supply is sufficient.¹²¹ Because riparian rights all have the same priority dates,¹²² the only basis for litigating disputes is to determine riparian reasonable use.¹²³

The practical results from riparianism vary greatly between dual system states.¹²⁴ This is because some dual states have stressed different aspects of the two systems, depending upon

government process, and simply sought gold as trespassers and took what water they needed. *Id.*

118. *Riparian Rights*, *supra* note 116, at 62.

119. For the west coast and some central states which are not high elevation arid land or low elevation land with substantial rainfall, neither the riparian nor the prior appropriation method of water allocation was feasible. Most of these states had at one time followed riparianism, but because of increasing settlers and water scarcity, riparianism no longer could resolve disputes adequately. *See generally* DELLAPENNA, *supra* note 17, at 345-50. Just as the riparian natural flow theory developed into the reasonable use theory to accommodate increased demand, so did reasonable use theory have to be retooled into a new system for some of these drier states in the West. For a discussion of early riparian theory, see *supra* note 24. "Reshaping was necessary because the received concepts were unable to cope with the demands that new water uses put on the available supply." DELLAPENNA, *supra* note 17, at 346.

120. *Riparian Rights*, *supra* note 116, at 62. Resolving water use disputes when one use is based on appropriation law and another inconsistent use is based on riparian law poses an "extraordinarily difficult problem." *Id.* at 61. The priority date is "the cutoff date which marks the formal transition from a primarily riparian system to a primarily appropriative system." *Id.* at 62.

121. *Id.*

122. Only prior appropriation rights use time as a basis for determining priority of use. *See supra* note 111 and accompanying text.

123. *Riparian Rights*, *supra* note 116, at 62.

124. DELLAPENNA, *supra* note 17, at 349. "Riparian rights continue to have considerable importance in California, Texas, and Washington . . . although in states like Oregon, . . . the riparian rights could be described as vestigial at best." *Id.*

their particular needs and uses.¹²⁵ The contrasting aspects of dual system states include theories about the relation of federal and state legal doctrine in water consumption, theories about the parameters of riparian rights, and theories about organizing riparian and appropriative rights in the same legal system.¹²⁶

Field experts believe that the dual system approach is not likely to be useful in the East.¹²⁷ This is because riparian rights developed differently under the western dual system than under the eastern riparian system.¹²⁸ Riparian rights under the dual system are primarily based on appropriative law, whereas riparian rights in the East are based solely on riparianism. Applying a dual system to the East is similar to, and as unworkable as, applying prior appropriation to the East.¹²⁹

C. Regulated Systems

1. Permit Approach

States which use a permit system to allocate water, enact statutory schemes designed to promote efficient distribution of water.¹³⁰ Some states require permits for new riparian uses as well as for existing uses.¹³¹ Failure to obtain a permit for an existing use can result in a loss of the right to begin using riparian rights at any time in the future.¹³² Under the permit approach,¹³³

125. The characteristics of dual systems do not coordinate fully between these states. These dual systems are characterized "by several particular aspects of the legal doctrine followed in each state." *Id.* at 350.

126. *Id.*

127. *Id.* at 411-12.

128. *Id.* The needs in the West and the East are so diverse, and the states' concepts of riparian rights are so different that precedent from one area must be used very cautiously as a guide for decisions in the other area. *Id.*

129. For a discussion of the problems of using prior appropriation in the East, see *supra* note 116-17 and accompanying text.

130. GETCHES, *supra* note 75, at 75.

131. *Id.* at 76.

132. *Id.*

133. As the population of the United States grew and moved West and outside the reach of eastern rivers, many riparian states enacted statutes designed to promote a more efficient allocation of water. As the riparian water law system became inadequate, many eastern states supplemented or replaced common law rules with some type of statutory system. Ausness, *supra* note 2, at 547. State legislatures responded to droughts early by enacting statutes which required permits for particular kinds of uses. During the nineteenth century, various statutory preferences were introduced into riparian states. DELLAPENNA, *supra* note 17, at 422. It is generally agreed that the first statutory regulation of riparianism began with the Mill Acts. See *id.* at 418. The Mill Acts began in colonial times, giving mill owners special water rights, when often the only source of power for industry was water power. *Id.* A problem which mill owners

certain users must obtain permits to use water from the state DER. Statutory regulation began as preferences¹³⁴ which benefited the public.¹³⁵ Since then they have extended from small scale uses of water to some large scale water impoundments, such as hydroelectric and other dams.¹³⁶

Courts and legislatures faced the same problems with the advent of flood-control, irrigation, and hydroelectric dams, as they had faced two hundred years earlier when mills first appeared.¹³⁷ What should be done to accommodate uses which benefit the public? Legislatures responded by enacting statutes designed to allow dams to interrupt consumptive and non-consumptive water uses, and also to provide a floor level of protection for public and other water interests.¹³⁸ All states have some permit statutes dealing with at least public water regulation.¹³⁹ In addition, federal law requires that all states regulate water quality.¹⁴⁰

Riparianism no longer covered state needs because of its associated problems.¹⁴¹ Neither prior appropriation¹⁴² nor the dual system could be applied to the eastern states.¹⁴³ For these reasons, all eastern riparian states developed some sort of permit system as their primary water allocation method.¹⁴⁴

faced was backflooding behind the mill reservoir. Without the mill acts, neighboring owners could enjoin the backflooding and cause the closing of the mill. *Id.* at 419. With the mill acts, towns competed to attract millwrights by granting mill sites on which to establish facilities. *Id.*

134. Most of the statutory preferences were mainly for agriculture. *Id.* at 422. Some state statutes also give broad preferences for agricultural uses, . . . "Missouri, for example, flatly exempts all agricultural dams from its regulatory scheme." DELLAPENNA, *supra* note 17, at 422. Some statutes give very narrow preferences for agriculture. *Id.* Other statutes give agricultural preferences only based upon certain criteria. *Id.* "Tennessee's statute exempts farm dams from regulation if the dam is not more than six feet in height regardless of storage capacity, or with a storage capacity of not more than 15 acre-feet regardless of height." *Id.*

135. *See id.*

136. *Id.* at 418.

137. *Id.* The problem was trying to accommodate uses that benefitted the public while still respecting individual riparian rights. The legislature responded by interpreting the mill acts as applying to larger and industrial dams as an early response to these problems. *Id.*

138. DELLAPENNA, *supra* note 17, at 247.

139. *Id.* at 217. Indeed, no state solely relies on pure riparian rights. *Id.*

140. *Id.*

141. For a discussion of the problems with riparianism, see *supra* notes 100-07 and accompanying text.

142. DELLAPENNA, *supra* note 17, at 417.

143. For a brief discussion of why the dual system could not work in the East, see *supra* notes 127-28 and accompanying text.

144. DELLAPENNA, *supra* note 17, at 445.

2. *Comprehensive Regulation*

Comprehensive regulatory statutes attempt to allocate water in the most efficient way, and to cover all potential disputes over water rights in order to minimize litigation and clarify the boundaries of water rights. Comprehensive regulation (regulated riparianism)¹⁴⁵ is a complete regulatory permit system based on riparian principles as the primary water allocation method to divert water from some or all sources.¹⁴⁶ All direct users of water must obtain a permit from a state administrative agency in order to use the water.¹⁴⁷ Typically the comprehensive riparian statutes regulate for the purpose of: 1) conserving water and other resources; 2) promoting the beneficial and/or efficient use of water; 3) assuring water use is consistent with public interest; 4) establishing comprehensive state planning; 5) protecting public water supplies; 6) preserving minimum stream flows; and 7) regulating interstate or interbasin diversions.¹⁴⁸ Although there are some similar provisions in many state water statutes, each state's regulated riparian statute is unique in some sense.¹⁴⁹

Even with permits covering all or most of water's uses, there remain problems with comprehensive regulation. Generally,

145. By 1990, over half of the eastern riparian states had adopted some type of comprehensive regulated riparianism statutes. *Id.* Seventeen of thirty-one states east of Kansas City had adopted such statutes. *Id.* The statutes of the seventeen states with comprehensive regulation are: ARK. CODE ANN. §§ 15-22-201 to 622 (Michie 1987 & Supp. 1991); CONN. GEN. STAT. ANN. §§ 22a-365 to -378 (West 1985 & Supp. 1991); DEL. CODE ANN. tit. 7, §§ 6001-31 (1991); FLA. STAT. ANN. §§ 373.012-619 (West 1988 & Supp. 1992); GA. CODE ANN. §§ 12-5-20 to 31, 12-5-43 to 53 (Michie 1987 & Supp. 1991); IND. CODE ANN. §§ 13-2-1-1 to 9, 13-2-6.1-1 to 1-9, 13-2-2.6-1 to 17 (West 1990 & Supp. 1991); IOWA CODE ANN. §§ 455B.261-.281 (West 1190 & Supp. 1992); KY. REV. STAT. ANN. §§ 151.010-.600 (Michie 1987 & Supp. 1990); ANN. CODE MD. §§ 8-101 to 204, 8-801 to 814 (Michie 1987); MASS. GEN. LAWS ANN. Ch. 21G, §§ 1-19 (West 1981 & Supp. 1992); MINN. STAT. ANN. §§ 105.37-.55 (West 1987); MISS CODE ANN. §§ 51-1-5 to 3-53 (1972); N.J. STAT. ANN. §§ 58:1A-1 to 17 (West 1982 & Supp. 1991); N.Y. ENVTL. CONSERV. LAW §§ 15-1501 to 1528 (McKinney 1984 & Supp. 1992); N.C. GEN. STAT. §§ 143-215.11 to 143-215.22 (Michie 1990 & Supp. 1991); VA. CODE ANN. §§ 62.1-242 to 253 (Michie 1950 & Supp. 1991); WIS. STAT. ANN. §§ 30.18, 30.28, 30.292, 30.294, 30.298, 144.026 (West 1989 & Supp. 1991).

146. DELLAPENNA, *supra* note 17, at 417. So far there has been little litigation under the new statutes, either because the systems are working well or because the systems are too new. *Id.* at 417-18.

147. *Id.* at 448. The permit systems differ from regulated riparianism in that the permit systems are not complete and leave some water consumers to resolve disputes under riparianism. *Id.*

148. *Id.* at 446-47.

149. *Id.* *But see* FRANK E. MALONEY ET AL., A MODEL WATER CODE (1972) [hereinafter MALONEY].

there are two types of problems with regulated riparianism: the protection of private values¹⁵⁰ and the furtherance of public values.¹⁵¹

Pennsylvania is an example of a state, without a regulated water system, which relies strongly on riparianism. Pennsylvania currently faces the question of whether it should hold on to its riparian system with all of its inadequacies or, like a majority of other eastern states, adopt a comprehensive regulation system which will accommodate its modern needs and provide protection in case of drought. This article recommends and urges the adoption of a comprehensive regulated water allocation system in Pennsylvania to resolve the problems associated with riparianism.

IV. THE ADOPTION OF A COMPREHENSIVE WATER REGULATION STATUTE

A. The Problem in Pennsylvania

One of the greatest impediments to developing a more efficient water allocation system in Pennsylvania, ironically, is the abundant supply of water.¹⁵² Because the availability of water is rarely an issue, Pennsylvania, like most eastern states, has not made water planning a priority.¹⁵³ Thus, comprehensive water resource management has only been considered in an emergency context. However, Pennsylvania needs such proactive management of water resources for reasons independent of emergency

150. DELLAPENNA, *supra* note 17, at 448. The system may not provide adequate security of investment in the face of such a high degree of administrative discretion. *Id.*

151. *Id.* The issue is whether the new system would be able to create effective comprehensive planning mechanisms, define and protect minimum stream flows, manage and direct public uses, and respond to serious water shortages. *Id.*

152. It has long been recognized that the impetus for comprehensive change in water law required a more desperate water situation. *See, e.g.,* Timothy Weston & Michael W. Gang, *Law of Groundwater in Pennsylvania*, 81 DICK. L. REV. 11 (1976). Weston and Gang, in their 1976 law review article, concluded "[i]t is a familiar expression that 'you never miss the water till the well runs dry.'" The expression applies to today's water laws and institutions. The public will not miss a rational, comprehensive water law until it needs that law to resolve conflicts in water use." *Id.* at 62. The fact that this quote is just as timely today, sixteen years later, is additional evidence that the impetus for change in water law requires dire circumstances.

153. Water users in eastern states have thought of water as a free resource. Peter N. Davis, *Eastern Water Diversion Permit Statutes: Precedents For Missouri*, 47 MO. L. REV. 429, 430 (1982). Historically, the only limitations on the water supply have been the physical availability of water and common law doctrines which restrict use to fair share. *Id.*

situations.¹⁵⁴

How Pennsylvania should comprehensively regulate the use of water is a complex question.¹⁵⁵ In the narrowest sense the issues appear relatively simple: who gets to use water, under what conditions may the water be used, and who will make the decisions about the use of water. However, the concerned legislator, regulator, water user, conservationist and citizen may view these issues differently reflecting each of these group's varying agenda.

The adoption of a comprehensive statute involves many concerns. First, any consideration of comprehensive state legislation in Pennsylvania evokes traditional concerns about a centralized regulatory authority.¹⁵⁶ Second, an economic evaluation of a regulated water system focuses on the efficient allocation of a critical resource. Although water is not "scarce" in traditional economic terms, it is no longer viewed as a "free" resource.¹⁵⁷ Finally, the adoption of a regulated statute involves a power struggle for control between competing interests, representing agriculture, water companies, domestic and commercial water users, thermoelectric power users, industry, conservationists and DER.¹⁵⁸

154. For a discussion of the problems arising under the current riparian system in Pennsylvania, see *supra* notes 98-107 and accompanying text.

155. The complexity of the issues surrounding water regulation is evidenced by the diversity of testimony at the hearings held across the state on the subject of water management. *Water Resources Management: Hearings Before the Joint Legislative Air and Water Pollution Control and Conservation Committee*, Pennsylvania General Assembly, (Sept. 12, 13, 19, and 27, 1991) [hereinafter *Water Resources Management: Hearings* (Sept. 12, 1991); *Water Resources Management: Hearings* (Sept. 13, 1991); *Water Resources Management: Hearings* (Sept. 19, 1991); *Water Resources Management: Hearings* (Sept. 27, 1991)]. The state held hearings, in September 1991, on four separate dates and in four different locations throughout Pennsylvania to give various interest groups the opportunity to have input regarding state water regulation.

156. For a discussion of problems with centralized management, see *infra* notes 207-12 and accompanying text. In recent decades Pennsylvania has adopted several comprehensive administrative regulations in other water related areas. See *The Clean Stream Act*, 35 PA. STAT. ANN. §§ 691.1-1001 (1977 & Supp. 1991); *The Dam Safety and Encroachments Act*, 32 PA. STAT. ANN. §§ 693.1-27 (1967 & Supp. 1991); *The Flood Plain Management Act*, 32 PA. STAT. ANN. §§ 679.101-601 (1967 & Supp. 1991). For a discussion of the Clean Streams Act and the Dam Safety and Encroachments Act see *supra* notes 48-60. Part of the impetus for the enactment of these statutes was federal requirements and incentives. 6 WATER AND WATER RIGHTS, *supra* note 11, at 363.

157. For a discussion of the eastern states tendency to view water as a free resource, see Davis, *supra* note 153, at 430-31. See also MALONEY, *supra* note 149 at 70 (noting that increased industrialization and urbanization combine to put more strain on supplies of water, particularly in the East).

158. The magnitude of interest from each of these groups in Pennsylvania is partially reflected in the four hearings which were held across the state in September, 1991. See generally, *Water Resources Management: Hearings* (Sept. 12,

It is important to recognize that Pennsylvania's role in protecting the general welfare of the state overshadows these administrative, economic and political interstate conflicts.¹⁵⁹ Pennsylvania's general welfare would be better protected with comprehensive water regulation with a centralized state regulatory board. Without such a board, authorized by comprehensive regulation, Pennsylvania would have no agency to implement the regulations of the River Basin Commissions.¹⁶⁰ In the absence of such a state regulatory board, the Commissions, rather than the state, oversee the implementation of compact regulations in Pennsylvania.¹⁶¹ The impact of this regulatory void in Penn-

1991) (Sept. 13, 1991) (Sept. 19, 1991) (Sept. 27, 1991), *supra* note 155. Some interest groups, such as agriculture, were represented in much greater proportion than others, such as the business community. *Id.* However, business and industry will prepare their own position paper on potential water regulation through the Pennsylvania Chamber of Business and Industry. Telephone Interview with Susan Yenchko, Director Environmental Resources, Pennsylvania Chamber of Business and Industry (Feb. 7, 1992).

159. Regulation of water use is primarily a state function. See MALONEY, *supra* note 149, at 72 (citing Smith, *Total Management of Water Resources*, 59 J. AM. WATER WORKS ASS'N 1335, 1337 (1967)). For a further discussion of the state's power to legislate water use in relation to federal law, see BECK, *supra* note 2, at 67-68. The state's primary role in water regulation is recognized in the authorizing section to many comprehensive water regulatory systems. See, e.g., MALONEY, *supra* note 149, at 81 ("Recognizing that the waters of the state are the property of the state and are held in public trust for the benefit of its citizens, it is declared that the people of the state as beneficiaries of this trust have a right to have the waters protected for their use."). For the authorizing rationale for comprehensive water regulation of another Delaware River Basin state, see 7 DEL. CODE ANN., § 1601 (the land, water and air resources of the state must be protected, conserved and controlled to assure their reasonable and beneficial use in the interest of the people of the state).

160. The River Basin Commissions fill the legislative void in Pennsylvania through their permitting authority. For a discussion of the void that these Commissions fill, see 6 WATER AND WATER RIGHTS, *supra* note 11, at 304 (citing 32 PA. STAT. ANN. §§ 815.101-106 (1967 & Supp 1991) & 820.1-8 (1967 & Supp. 1991)) (Affirmative authority, respectively, for Delaware River Basin Commission and Susquehanna River Basin Commission).

161. 32 PA. STAT. ANN. § 820.1, Art. 1.3(6) (1967 & Supp. 1991) The Susquehanna River Basin Compact provides in pertinent part:

It is the express intent of the signatory parties that the commission shall engage in the construction, operation, and maintenance of a project *only when* the project is necessary to the execution of the comprehensive plan and *no other competent agency is in a position to act*, or such agency fails to act.

Id. (emphasis added). In the absence of statutory authority designating an agency to handle these issues in Pennsylvania, it appears that Pennsylvania abdicates some control over its water resources where other states do not. The authority for states to regulate in water use is provided in the compact as follows:

Each state and local agency otherwise authorized by law to plan, design, construct, operate, or maintain any project or facility in or for the basin shall continue to have, exercise and discharge such authority, except as specifically provided by this section.

sylvania is magnified by the fact that all other river basin States¹⁶² have comprehensive statutes regulating water.¹⁶³ The River Basin Commissions often administer regulations in the absence of state legislation.¹⁶⁴ Consequently, because it lacks a regulatory board, Pennsylvania is the only river basin state which does not participate in the administration of Basin regulations within its state.¹⁶⁵

The Pennsylvania State Legislature is considering enacting a comprehensive water regulation bill prepared by DER.¹⁶⁶ Pennsylvania could model its comprehensive regulation after the regulations which seventeen other states have adopted.¹⁶⁷ These

Id. In addition, the Susquehanna compact provides affirmative authority for the Commission to delegate tasks involving implementation to the states as follows:

. . . the commission may: . . . [*employ any other agency or instrumentality of any of the signatory parties or of any political subdivision thereof, in the design, construction, operation, and maintenance of structures, and the installation and management of river control systems, or for any other purpose.*]

Id. Art. 3.7(2) (emphasis added). This provision would seem to enable the Commission to delegate many management procedures to Pennsylvania if Pennsylvania had the proper authority to receive the delegation.

162. For a list of the other states which compose the Delaware and Susquehanna River Basin Compacts, see *supra* note 89. For an analysis of the River Basin Commissions, see *supra* notes 87-97 and accompanying text.

163. DEL. CODE ANN. §§ 6001-31 (1991), CODE MO. ANN. §§ 8-101 to 8-204, 8-801 to 8-814 (Michie 1987), N.J. STAT. ANN. §§ 58:1A-1 to 58:1A-17 (West 1982 Supp.), N.Y. ENVTL. CONSERV. LAW §§ 15-1501 to 15-1528 (McKinney 1984 & Supp. 1992). 6 JOSEPH DELLAPENNA, WATER AND WATER RIGHTS 364 (Robert E. Beck ed., 1991). See, DEL. CODE ANN. tit. 7, §§ 160-600 (Delaware water legislation).

164. Delaware River Basin Compact, 32 PA. STAT. ANN. §§ 815.101 - 815.106 (1967 & Supp. 1991). Susquehanna River Basin Compact, 32 PA. STAT. ANN. §§ 820.1-.8 (1967 & Supp. 1991).

165. In fact, one of Pennsylvania's responsibilities as a member of the Commissions is to seek enactment of legislation within the state that will help effectuate the implementation of Basin regulations.

Each of the signatory parties [Pennsylvania, Maryland, New York, and the United States Government] agrees that *it will seek enactment of such additional legislation* as will be required to enable its officers, departments, commissions, boards, and agents to *accomplish effectively the obligations and duties assumed under the terms of this compact.*

32 PA. STAT. ANN. § 820.1 (1967 & Supp. 1991). This provision would seem to provide Pennsylvania with a duty to enact comprehensive water regulation if it would help administer the provisions of the Basin Compacts.

166. Telephone Interview with Tom Fidler, DER (Jan. 1992). DER is currently preparing a proposal for review by the legislature. *Id.* A preview of their proposals was issued in September of 1991. PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT, PROTECTING WATER USES IN PENNSYLVANIA (Sept. 1991) [DEPARTMENT OF ENVIRONMENTAL RESOURCES].

167. For a list of the comprehensive water regulation statutes in other states, see *supra* note 145.

statutes vary significantly in their scope and content.¹⁶⁸ The content of proposed legislation and its impact on various interest groups will determine whether this essential legislation is adopted.¹⁶⁹

168. Water regulations statutes in the East differ from each other in a variety of ways including purpose, water subject to permit requirements, activities subject to permit requirements and allocation of water. See generally, Davis, *supra* note 153, at 446-50.

There are a variety of purposes for water regulation statutes in the East. *Id.* at 446-47. "The purposes include allocating water among competing users, promoting beneficial and efficient uses of water, assuring the best use of water in the public interest, dealing with water shortages, protecting public water supplies, protecting minimum streamflows, promoting flood control, promoting water conservation, and establishing state comprehensive water planning." *Id.* at 446-47. See generally Ausness, *supra* note 2, at 556-75.

Three types of water are potentially subject to regulation: surface water, ground water, and diffused surface water. Davis, *supra* note 153 at 447. Most eastern states regulate surface water and groundwater. *Id.* Some of these states have separate legislation for ground and surface water. See, e.g., Ausness, *supra* note 2, at 562 (Georgia and Indiana are examples of states which have separate legislation addressing surface water and ground water).

Statutes may regulate diverting the flow of water or withdrawing water. Statutes which regulate diversions "may regulate diversions from surface watercourses, impoundments on surface watercourses, and wells and diversions from groundwater." Davis, *supra* note 153, at 448. A variety of exemptions are sometimes made for domestic purposes, agricultural diversions, public water supplies or other small diversions or impoundments. *Id.* at 448-49.

Allocation of water among competing users is given different emphasis in states based upon the purpose of a statute. *Id.* at 450. The statutes which emphasize the efficient allocation of water usually provide for a priority allocation system. *Id.* A priority water allocation system allocates water based upon specific factors. Davis, *supra* note 153, at 451-52 (citing the factors used by Georgia and North Carolina). One of the most referenced statutes is the Model Water Code which has been adopted by Florida. See MALONEY, *supra* note 149. The Code is a useful model of a comprehensive water statute. It integrates all direct aspects of management of water resources into one body of law under one governmental agency. Trelease, *The Model Water Code, the Wise Administrator and the Goddam Bureaucrat*, 14 NAT. RES. J. 207 (1974). The Model Water Code is considered a viable option for the eastern states which contemplate the substitution of a comprehensive water regulatory program for the law of riparianism. *Id.* at 212.

169. Telephone Interview with Tom Fidler, *supra* note 166. In the past, state senators have routinely proposed alternative legislation for comprehensive water management. S. 1054, 1991 Session; S. 837, 1989 Session; S. 476, 1987 Session; S. 1525, 1986 Session. The Senate proposals are identically described as "[a]n Act . . . providing for water resources planning and emergency management; creating the State Water Resources Board and regional water resources boards and giving them powers and duties; providing penalties; and making an appropriation." See, e.g., S. 1054, 1991 Session, at 1.

The primary difference between the Senate Bills and the proposal by the DER is the decentralization of control of water management to regional boards. *Id.* at 16-17. The provision calls for the establishment of six separate water resources boards in the following regions: Delaware River Basin, Upper Susquehanna River Basin, Lower Susquehanna River Basin, Ohio River Basin, Lake Erie and Genesee River Basin, and Potomac River Basin. *Id.*

B. The Proposed Legislation in Pennsylvania

In September 1991, DER submitted a preliminary Comprehensive Water Management recommendation to the Pennsylvania legislature.¹⁷⁰ According to DER, “[t]he Commonwealth needs its water in the right place at the right time for economic productivity, human health, public safety, recreation and aquatic habitat.”¹⁷¹ The proposal recognizes that while water is usually not a scarce resource in Pennsylvania,¹⁷² it is not always allocated efficiently among competing users in times of scarcity.¹⁷³

DER’s proposed regulations can be separated into three cate-

170. DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166. The provisions reflect recommendations by DER for comprehensive regulation of water. The proposal is a precursor to the formulation of an actual proposal to be presented to the State Legislature.

171. *Id.* Similarly, the Joint Legislative Air and Water Pollution Control and Conservation Committee noted in its report that the goal of water resources management is the “maximization of water quantity and quality in the right place and right time, and at a reasonable cost in response to conflicting demands for water.” PENNSYLVANIA GENERAL ASSEMBLY JOINT LEGISLATIVE AIR AND WATER POLLUTION CONTROL AND CONSERVATION COMMITTEE, REPORT ON WATER RESOURCES MANAGEMENT IN PENNSYLVANIA 1991 Sess. 3 (1992) (citations omitted) [hereinafter PENNSYLVANIA GENERAL ASSEMBLY].

172. It appears that Pennsylvania has more than enough water. *Id.* at 2. “There is an average of 42 inches of rainfall in the state; about 65,000 miles of rivers and streams; more than 2,500 lakes and reservoirs; and trillions of gallons of groundwater.” *Id.* See also, Kim L. Wetzel, et. al., *Pennsylvania Water Supply and Use*, in NATIONAL WATER SUMMARY 1987, 433, 434.

173. The Joint Legislative Air and Water Pollution Control and Conservation Committee noted that “while water is available in all parts of the state, adequate and accessible water supplies for all users may not always be available in sufficient quantities to meet local demand, especially during drought or emergencies.” PENNSYLVANIA GENERAL ASSEMBLY, *supra* note 171, at 2.

gories: management,¹⁷⁴ administration,¹⁷⁵ and planning.¹⁷⁶ The following is a summary of these provisions.

174. The provisions providing for management authority can be separated into two groups. The first group are those providing affirmative authority to DER and related state agencies to regulate water in Pennsylvania. The second group provide DER with blanket authority in specific situations.

The recommended management provisions in the first group providing affirmative authority to DER are the following:

- [] Designates DER as the administering agency for planning, permitting, and emergency response and Environmental Quality Board as the decision making body for rules, regulations, and plan updates and revisions.
- [] Provides for the establishment of a State-level Water Resources Policy Advisory Council and for the establishment of regional advisory bodies.

DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166, at paras. 1 & 2.

The recommended management provisions in the second group which would grant DER blanket authority in specific situations are as follows:

- [] Provides DER with the authority to implement special management measures within areas where demand is approaching water supply available ([s]pecial [sic] management areas).

....

- [] Expands the emergency response authority of the Department to undertake management actions, in consultation with PEMA, necessary to implement the State Water Resources Emergency Plan.

Id. at paras. 9 & 11.

175. The proposals relating to administration include registration, permitting, reporting and fees regulations as follows:

- [] Requires the Registration and Reporting to DER of all withdrawals that average more than 10,000 gpd.
- [] Requires the permitting by DER of all public supply withdrawals from ground and surface water sources statewide.
- [] Requires the permitting by DER of all withdrawals/diversions in excess of 100,000 gpd from ground and surface sources statewide.
- [] Requires the permitting by DER of all withdrawals/diversions which exceed 10,000 gpd within special management areas.

....

- [] Provides for the collection of fees and establishes fines and penalties for non-compliance.

....

- [] Provides for incentives for reducing water usage through conservation credits.

Id. at paras. 6-8, 10, 12 and 13 respectively.

176. The provisions of DER's proposal relating to planning are as follows:

- [] Recognizes the existing State Water Plan and requires review by the Department every five years.
- [] Requires the preparation of a State Water Resources Emergency Plan by the Department to include
- [] Requires the development and submission of emergency contingency plans by all public water suppliers, those entities subject to regulation in special management areas, and other users withdrawing in excess of 100,000 gpd, for approval by DER.

Id. at paras. 3-5 respectively.

1. *Management*

The management provisions in DER's proposal provide affirmative authority for the creation of a centralized water regulatory body and related agencies.¹⁷⁷ Furthermore, the provisions enumerate the powers to be vested in these governmental bodies.¹⁷⁸ These management provisions can be separated into two groups: those that provide specific powers to DER and affiliated agencies, and those which provide DER with unchecked, broad powers.¹⁷⁹

The first group of provisions primarily designates DER as the administering agency for planning, permitting and responding to emergencies.¹⁸⁰ In addition, the provisions allow for several subsidiary agencies in the Environmental Quality Board, a state-level Water Resources Policy Advisory Council, and regional advisory bodies.¹⁸¹ Thus, these provisions identify the regulating agencies. Since they do not directly affect the rights of any users, this group of provisions is unlikely to receive opposition.

The second group of management provisions, providing for broad powers, however, is likely to receive opposition. The provisions grant DER the authority to implement special management measures when the water supply is threatened and the authority to implement the Water Resources Emergency Plan.¹⁸²

Few interest groups will object to ensuring efficient water management in times of emergency. However, interest groups will object to such management authority without defined limits. For example, the proposed provisions refer to implementing special management procedures in times of emergency without

177. DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166.

178. *Id.*

179. Most water withdrawers, including utilities, individuals, and businesses object to blanket powers for two reasons. Interview with Robert E. Johnstone, Vice President of Operations, Joe Dysard, Vice President of the Central District, and Frank Hildabrand, District Engineer, Central District, General Waterworks Management and Service Company [Hereinafter General Waterworks] (Feb. 1992). The proposed regulation's lack of specificity creates unpredictability. *Id.* The water withdrawer does not know when the administrator will step in. The decision is left to the discretion of the regulator. See Trealease, *supra* note 168, at 207. This defeats one of the primary purposes of enacting comprehensive regulation in place of common law, increased predictability. For a discussion of problems with riparianism, see *supra* notes 100-07. It is a contradiction to enact legislation in order to increase predictability in the law and then word the legislation so that it is vague.

180. For text of the management provisions, see *supra* note 174.

181. DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166.

182. For full text of the regulations, see *supra* note 174-76.

describing those procedures. As such, these procedures appear to provide no check on DER's authority.¹⁸³ This nearly limitless power means that groups will have no way to predict how DER will react, especially in an emergency situation. Interest groups will object to this unpredictability. Consequently, the limits of DER's power in times of emergency should be identified in order to ensure that the whole legislative package is not rejected simply due to the lack of specificity of a few provisions.

2. Administration

The administrative provisions relate to permitting, registration, conservation credits, and fees for ground and surface water withdrawals.¹⁸⁴ While imposing significant additional burdens on a number of Pennsylvanians in comparison to current law, the provisions are not unduly burdensome in comparison to regulated riparian statutes in other eastern states.¹⁸⁵ For example, many comprehensive water use statutes require permits for all withdrawals or diversions of water.¹⁸⁶ DER's proposal would only require a permit for water withdrawals and diversions that averaged more than 100,000 gallons per day (gpd) from ground and surface sources.¹⁸⁷ This would enable most individual water users and even some businesses and water utilities to avoid the permit requirement.

The administrative proposals require users to register and report to DER all withdrawals from ground and surface water sources statewide.¹⁸⁸ This would enable DER to identify and

183. The proposed regulations do not specify what "management actions" can be taken in emergency situations. *See supra* note 174 for a discussion of the reasons objections will be raised to these vague powers.

184. For a discussion of the content of the proposed administration provisions, see *supra* note 175.

185. For a model regulated riparian statute, see MALONEY, *supra* note 149 and accompanying text.

186. *See, e.g.*, MALONEY *supra* note 149, at § 2.01.

187. For the text of the proposal concerning permitting withdrawal/diversions of water, see *supra* note 174. DER adds a caveat provision to the gpd permitting limit by providing for permitting within "Special Management areas" of all withdrawals/diversions which exceed 10,000 gpd. *Id.* DER is vague about what qualifies as a "special management area" stating only that they are "areas where demand is approaching water supply available . . ." *Id.* This provision is likely to meet with resistance by various interest groups until the term is more clearly defined and its impact can be assessed.

188. DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166. For the text of DER proposals relating to registration and reporting requirements, see *supra* note 175.

evaluate water use in Pennsylvania.¹⁸⁹ Because there would not be a gpd limit on registration requirements, this provision will affect virtually all users who withdraw water including individuals, water utilities, businesses, and farmers.

The administrative provisions also provide affirmative authority for the collection of fees, fines, and penalties for noncompliance.¹⁹⁰ The amount and nature of the fees has not yet been specified by DER. A one time application fee may be negligible for most users.¹⁹¹ However, if DER's goal is to use the fees as a means to fund the administration of the legislation, then it likely will recommend fees based on use. This would result in higher fees and resistance to the legislation from many interest groups.

The conservation credit provision is designed to stimulate water preservation.¹⁹² The provision would enable water users who are frugal in their use to save money. However, the credit provision will indirectly affect water utilities in terms of decreased revenues.¹⁹³

3. Planning

The planning provisions of DER's proposed regulation outline specific requirements for both DER and specified withdrawers. These specified withdrawers include public water utilities, large withdrawers, and withdrawers in special management areas.¹⁹⁴ Under the planning provisions, DER is required to review the state water plan every five years.¹⁹⁵ Moreover, DER is required to prepare an emergency water plan that meets the specifications established in the legislation.¹⁹⁶ The planning requirements for specified water users require them to file an emergency contingency plan with DER.¹⁹⁷

189. The purpose of planning provisions is to enable DER to update the State Water Plan. See DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166. For an analysis of the planning provisions, see *infra* 193-97 and accompanying text.

190. See *supra* note 175 for the text of the proposal relating to fees.

191. Obviously, if it is a flat fee for all permit requests this weighs relatively more heavily upon the small user who proportionally pays a higher fee.

192. For text of the proposed conservation provisions, see *supra* note 175.

193. For a discussion on why a decrease in water sales will not necessarily lead to a decrease in profits, see *infra* note 223 and accompanying text.

194. See DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 176 at paras. 3-5 respectively. For text of the planning provisions, see *id.*

195. See *id.*

196. See *id.*

197. See *id.*

Few groups will object to additional responsibilities being placed upon DER. However, many of the specified withdrawers who are forced to submit emergency contingency plans to DER, may object to the additional work. The specified water withdrawers who would be required to submit these plans are public water suppliers, entities subject to regulation in special management areas, and other users withdrawing in excess of 100,000 gpd.¹⁹⁸

C. Impact on Pennsylvania

How comprehensive water use legislation will effect the state as a whole can be evaluated by analyzing how it will affect different interest groups. There are seven major interest groups in Pennsylvania effected by the proposed legislation. Five of these groups are direct water users whose interests are economic in nature. These groups represent the following areas: agriculture, industry and mining, public water utilities, electric utilities, and domestic and commercial users. The other two groups are not water users, but represent the interests of conservationists and DER. An evaluation of each group's concerns regarding water regulation reveals the diversity of the interests involved.

1. Agriculture

Despite the fact that agriculture is a major industry in Pennsylvania,¹⁹⁹ agricultural withdrawals of water total only six-tenths of one percent of all withdrawals in Pennsylvania.²⁰⁰ However, the small amount of water that farmers withdraw is not reflective of its importance to the agricultural industry.²⁰¹

Some farmers are very dependent on irrigation systems to ensure their financial success.²⁰² Irrigation is often the difference

198. See *id.* at para. 4. For text of planning provisions, see *id.*

199. *Water Resources Management: Hearings*, (Sept. 12, 1991), *supra* note 155, at 29 (statement of William Troxell, representative of the Pennsylvania Vegetable Growers Association).

200. Wetzell, *supra* note 172, at 438. Of this total, eighty-six percent was withdrawn from surface-water sources. *Id.*

201. The importance of water to agriculture may be more reflected by the fact that agricultural use accounts for 12.2% of all consumptive use. *Id.*

202. *Water Resources Management: Hearings* (Sept. 12, 1991), *supra* note 155, at 30 (statement of William Troxell, representative of Pennsylvania Vegetable Growers Association). Farmers seek to insure their investment by installing irrigation systems. *Id.* at 29. Farming is not always profitable in terms of return on investment. *Id.*

between a profitable and non-profitable year.²⁰³ Because farmers are dependent on irrigation systems, their primary concern in any proposed legislation is ensuring that their source of water is not depleted in drought or water scarcity situations.²⁰⁴

Farmers argue it is essential that they receive priority in drought management allocation systems.²⁰⁵ Potentially, the agricultural community could achieve this goal by successfully advocating an allocation system based upon public interest or public benefit.²⁰⁶ Then they could argue that the public interest is best served through protection of the state's food growers. Therefore, agriculture should favor an allocation system based on these priorities.

In addition, many farmers are in favor of regional regulatory control of water resources rather than centralized control.²⁰⁷ The agricultural community fears that a centralized authority will not be responsive to local conditions and economies.²⁰⁸ The difficulty with regional control, however, is that it does not ensure coordination of labor throughout the state or prevent duplication of efforts.²⁰⁹

Finally, the agricultural community has concerns about the administrative components of water regulation. They emphasize simplifying reporting and registration requirements and avoiding duplicative effort.²¹⁰ Specifically, the agricultural community advocates combined applications for the State Regulatory Agency and the River Basin Commissions and the avoidance of excessive

203. *Id.* at 30. "Shutting off irrigation water to a farmer for a week or two . . . could jeopardize the entire year's crop." *Id.* A farmer cannot "just shut things down for a week and expect to come back later and [start operating] where he left off." *Id.*

204. *Id.* at 29.

205. *Id.*

206. *Id.* at 33. For an outline of different priority allocation systems used in other states, see Davis, *supra* note 153, at 450.

207. *Water Resources Management: Hearings* (Sept. 12, 1991), *supra* note 155, at 32 (statements of William Troxell, representative of Pennsylvania Vegetable Growers Association).

208. *Id.*

209. In his testimony, William Troxell emphasized that there is a need to eliminate duplication of effort between state agencies and the River Basin Commissions. *Id.* See *infra*, text accompanying note 210.

210. *Id.* at 33. It would seem that all parties having to obtain permits and/or register under a regulated system would advocate simplicity. However, the agricultural community is the strongest advocate of simplicity because they have limited resources compared with other water users to deal with complex compliance issues.

application fees.²¹¹ The agricultural community could achieve this goal by successfully advocating an exemption from permit requirements.²¹² Such an exemption would allow farmers to continue withdrawing water without a permit.

2. Public Water Companies

In 1985, water companies accounted for about 11.2% of water withdrawals in Pennsylvania.²¹³ However, their importance is much greater than their percentage use. Sixty-nine percent of Pennsylvania's population is served by public water supply.²¹⁴ Moreover, many of these uses, such as fire fighting and street cleaning, are essential for all citizens.²¹⁵

Currently, water utilities are the only entities that are subject to statewide regulation.²¹⁶ Water utilities are regulated by the PUC which allows them to earn a reasonable return.²¹⁷ As such, they have conflicting interests in comprehensive regulation of water. On the one hand, utilities are opposed to any regulation that would make obtaining and using water more difficult.²¹⁸ Since utilities are the only entity whose water use is currently regulated in Pennsylvania, the increase in burden will likely be marginal. On the other hand, utilities are in favor of regulation that would force other water users to face the same regulatory scheme that they currently must follow.²¹⁹

Utilities may be indifferent to regulations encouraging and

211. *Id.* Exactly what constitutes "excessive" application fees is not clear. Currently, only the water utilities have to pay registration fees.

212. Georgia, Kentucky, and Maryland have exemptions from permit registration for farming. See Davis, *supra* note 153, at 449 n.103.

213. Wetzel, *supra* note 172, at 436. Withdrawals for public supply increased from 9.6% of total water withdrawn in 1980 to 11.2% in 1985. *Id.* The increase is probably due to the decrease in percentage of self-supplied industrial and thermoelectric uses. *Id.* at 436-37.

214. *Id.* at 437.

215. *Id.*

216. 1939 Water Rights Act, 32 PA. STAT. ANN. §§ 631-41. For an analysis of that Act, see *supra* notes 43-47 and accompanying text.

217. For a discussion of PUC's functions in Pennsylvania, see *supra* notes 74-86 and accompanying text.

218. See General Waterworks *supra* note 179.

219. See *id.* Profit-wise, the utility companies have no real motive to be concerned that non-water utilities pay the same regulation fees to which they are subject. *Id.* They do not compete with non-water utilities. However, there is an irresistible emotional reaction on the part of water utility officers, which manifests itself in an argument about fairness, that other water users should have to bear the same administrative fees and burdens that water utilities do. *Id.*

Within the water company industry, there is not a complete mutuality of interest. There are two types of water utilities: investor owned and municipally

stimulating water conservation.²²⁰ Since utilities are guaranteed a fixed rate of return on their investment, the PUC allows them to raise rates in order to achieve this.²²¹ Thus, a decreased use of water will not decrease profits.²²² Decreased use will mean that all users will pay more per gallon.²²³

3. *Domestic and Commercial Water Users*

In Pennsylvania, domestic and commercial water uses account for 937 million gallons per day or 6.6% of all water withdrawn.²²⁴ Eighty-six and one half percent of this amount comes from public water suppliers and 13.5% from self-supplied sources.²²⁵ Because domestic and commercial users vary in their size and the way in which they obtain water, their interest in water regulation is among the most difficult to analyze.

For domestic and commercial users who withdraw their own water, the most important concern is protecting their withdrawal rights.²²⁶ The small landowner who builds his own well to withdraw water needs protection from future neighbors, businesses, industrial users, and water suppliers who come along later and

owned. The investor-owned companies are particularly concerned that municipally owned utilities receive the same treatment. *Id.*

220. This raises an interesting issue if water companies are allowed, or encouraged, to give discounts to those who conserve. This could mean water companies would reward customers who buy less of their product.

221. If a water utility's capital investment is \$10 million, and the PUC guarantees them a rate of return of 10%, then the utility will be allowed to charge prices that will give them the opportunity to earn \$1 million in profit. This is true regardless of whether sales are 100 mgd or a fraction of that, because of policies encouraging water conservation.

222. General Waterworks *supra* note 179. Water companies are not guaranteed increased rates in response to every increase in costs. *Id.* Water companies are only guaranteed an *opportunity* to make a reasonable return. What constitutes an opportunity to make a "reasonable return" for water utilities is a highly debated topic. *Id.* It has been interpreted to mean that water utilities should be allowed to charge rates that enable them, if they manage themselves well, a level of return on investment that the PUC deems appropriate. *Id.*

223. If the water utilities were guaranteed a fixed profit percentage, rather than a fixed rate of return, the results would be different. Under this scheme, decreased use of water would cause decreased revenues, which in turn would cause decreased profits. However, if the profits continued to be the same percentage of revenues, it would not matter that in absolute terms they had decreased.

224. Wetzal, *supra* note 172, at 437. Commercial use represents 22.8% of total domestic and commercial use. *Id.*

225. *Id.*

226. See DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166. The state has little authority to protect the water rights of a homeowner whose well has been sucked dry by a neighbor. *Id.*

build larger wells.²²⁷ Larger wells may drain away the original landowner's water.²²⁸

However, under comprehensive regulation, a priority allocation system may protect the original well digger from future water withdrawers.²²⁹ Rather than resorting to litigation, under comprehensive regulation a state regulatory agency will determine all water users' rights in times of drought prospectively.²³⁰ If DER's future proposed legislation places domestic use as a high priority during drought, many landowners will have their investment in private wells protected, and will likely support the legislation.

A larger portion of the domestic and commercial users get their water from public water companies. These users will ultimately pay for a portion of the cost of any new regulation. Increased regulation would most likely be financed through fees for water withdrawers.²³¹ Water companies will be able to pass on these costs to users through rate hearings with the PUC.²³²

4. Thermoelectric Power Uses

The largest consumptive water users and withdrawers in Pennsylvania are the electric companies.²³³ Pennsylvania has thirty-five thermoelectric facilities, including thirty-one fossil fuel plants, three nuclear generating facilities, and one hydroelectric and fossil fueled unit.²³⁴ Thermoelectric power uses account for

227. *Id.* With no regulation or management rules, the biggest pump or deepest well wins, leaving the small water user with no recourse except litigation. *Id.*

228. *Id.* With no regulation, the only rule is that the largest and deepest pump wins. *Id.* The original well digger has no recourse except through the courts. *Id.* The state has little authority to protect the original well driller. *Id.*

229. For a discussion on priority water allocation systems, see *supra* note 168.

230. Although DER has not specified the order of priority uses in a drought situation, DER's proposal requires the preparation of a State Water Resources Emergency Plan to include "[p]rioritization or restriction of uses for various stages of drought." DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166 at para. 4.

231. In the alternative, state taxes could be increased to finance the costs of the administration of water legislation. However, this would likely draw strong opposition.

232. For an analysis of water utilities ability to pass on costs to consumers through hearings with the PUC, see *supra* notes 165-76 and accompanying text.

233. See generally, ELECTRIC UTILITY COMPANIES OF PENNSYLVANIA, PENNSYLVANIA WATER USE STUDY: WATER-RELATED ELECTRIC GENERATING FACILITIES 1991-2005 10-11 (June 1991) [hereinafter ELECTRIC UTILITY COMPANIES OF PENNSYLVANIA].

234. See Wetzel, *supra* note 172, at 437.

seventy-one percent of total water withdrawals in Pennsylvania.²³⁵ However, since power facilities return a significant amount of the water to its original source, thermoelectric use accounts for only thirty-two percent of consumptive water use in Pennsylvania.²³⁶

Due to their dependence on large quantities of water, electric companies are concerned with the availability of water during droughts.²³⁷ Their concerns are based on issues of increased cost and disrupted service to customers.²³⁸ In addition, water used in electric generation must be relatively free of contaminants such as iron and silica in order to be adequately processed in a steam boiler.²³⁹ Thus, the electric utility industry is not only concerned with the availability of a large quantity of water, but also the quality of the water.²⁴⁰

In actuality, electric companies would benefit from a regulated system of water allocation. A regulated system which identifies, inventories, and evaluates water resources in Pennsylvania would provide electric companies with information enabling them to better react to shortages and changing needs.

5. *Industry*

Industrial water use comprised 16.2% of the total water use in Pennsylvania in 1985.²⁴¹ This places manufacturing second only to thermoelectric power generation in the amount of water used.²⁴²

Industries using water can be separated into two categories: those who have riparian rights by virtue of being adjacent to water and those who get their water from water companies in the absence of having riparian rights. Generally, manufacturers that consume large amounts of water locate themselves near water. Self-supplied industrial use of water was 2,060 mgd or eighty-nine percent of all industrial use.²⁴³

235. *Id.*

236. *Id.* Consumptive water use is that water which is not readily returned to the stream, lake, river, or ground water source from which it was withdrawn. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 151.

237. *See* ELECTRIC UTILITY COMPANIES OF PENNSYLVANIA, *supra* note 233, at 12-13.

238. *Id.* at 12. Like water utilities, electric companies are regulated by the PUC. *See supra* notes 74-86.

239. WATER RESOURCES IN PENNSYLVANIA, *supra* note 20, at 152.

240. *Id.*

241. Wetzel, *supra* note 172, at 437.

242. *Id.*

243. *Id.*

The consequences of regulation are that industrial users which have riparian rights would now have to register and pay required fees where they did not in the past. Industrial users which receive water from public suppliers would be affected only if the fees currently charged to utilities were raised. Thus, they would be similarly situated to most domestic and commercial users.

6. *Conservationists*

Conservationists are concerned with the quality and maintenance of water in Pennsylvania.²⁴⁴ They are not just concerned with water quality, but also with water quantity. They are concerned with ensuring an adequate quantity of water to protect, conserve, and enhance water for fish and aquatic life.²⁴⁵ As such, they are most concerned with regulatory authority for groundwater and surface withdrawals.²⁴⁶ Conservationists have called upon DER to be more comprehensive in the proposal to regulate more than just large withdrawals.²⁴⁷ It is noted that a small withdrawal from a small stream may have a more damaging impact, in terms of causing a loss of flow, than a large withdrawal from a large stream.²⁴⁸ However, only the large withdrawals would be regulated under DER's proposals.²⁴⁹

7. *DER*

Under DER's proposal to the Pennsylvania Legislature, DER would be the primary administrative body for the regulation and would be given more authority to regulate water in Pennsylvania than it currently holds. This authority would make DER's en-

244. There are a number of groups who are concerned with the conservation of our water resources independent of their individual interests. Included in this group are the Green Valleys Association, Pennsylvania Association of Conservation Districts, the League of Women Voters of Pennsylvania and private citizens. *Water Resources Management: Hearings* (Sept. 19, 1991), *supra* note 155, at 4-17 (statement of John Brunner, Green Valleys Association), 64-68 (statement of Duane Clarke, Public Director of Montgomery County District, Pennsylvania Association of Conservation Districts), 75-79 (statement of Betty Conner, Natural Resources Director, League of Women Voters of Pennsylvania), 80-86 (statement of Carl Webber, private citizen). For purposes of simplicity, the interests of these groups and those similarly situated will be categorized as conservationists.

245. *Water Resources Management: Hearings* (Sept. 27, 1991), *supra* note 155 at 30 (testimony of Leroy Young, Biologist, Pennsylvania Fish Commission).

246. *Id.* at 32-33.

247. *Id.*

248. *Id.*

249. For the text of the administrative provisions, see *supra* note 175.

forcement of provisions much easier. For example, many states have problems with diverters who refuse to obtain a permit or fail to comply with the requirements of the permit.²⁵⁰ Lack of compliance is generally blamed upon the lack of enforcement or lack of penalty provisions.²⁵¹

However, balanced against these potential benefits is the concern that DER, in attempting to grant power to itself through comprehensive water legislation, is itself a special interest group. In other words, since the proposal directly affects the growth and scope of DER as an administrative agency, DER has a special interest in the proposal. Consequently, many water users view the proposed legislation as DER's attempt to seize additional power and control. Water companies and industry particularly question the blanket authority given to DER in special management areas and in water emergencies. These interests foresee DER in the position of making decisions for them in times of drought. Independent businesses will reject the idea that DER is capable of making decisions in their company's best interest.

DER argues that comprehensive legislation provides them with the tools to carry out what is necessary for proper water allocation in Pennsylvania.²⁵² Moreover, it provides all users with predictability about when they can use water. DER would most likely receive more support for the proposal if it did not vest itself with so much power.²⁵³

V. RECOMMENDATION

In Pennsylvania, the adoption of a comprehensive water regulation is dependent upon the careful tailoring of controversial provisions.²⁵⁴ DER must balance the value of each provision against the objections of particular interest groups. Some provisions of comprehensive water regulation in Pennsylvania would benefit all interested parties.²⁵⁵ However, it is just as apparent that the inclusion of certain provisions in a proposed statute

250. See Davis, *supra* note 153, at 462.

251. *Id.*

252. See DEPARTMENT OF ENVIRONMENTAL RESOURCES, *supra* note 166.

253. See Telephone Interview with Tom Fidler, *supra* note 166.

254. The provisions of DER's proposal can be categorized into three groups: those likely to receive strong opposition, those unlikely to receive opposition, and those which fall into a gray area in which the opposition will be determined by the content of the provisions.

255. This group of provisions includes those to which virtually no interest group will object. Most notable among these provisions are the planning provisions by DER. Generally, no interest group will object to such provisions to the

threatens the passage of the whole legislation.²⁵⁶ DER and legislators are faced with a choice: they can advocate ideal, all-inclusive legislation and risk rejection based upon pressure from interest groups, or they can include only those regulations to which virtually no interest group will object.

The importance of comprehensive water law legislation necessitates compromise. As Pennsylvania and similarly situated riparian states develop economically and more demands are placed upon their water resources, pressures will build to find better ways to allocate the resource. Without an efficient and effective water allocation program, states risk exploitation and degradation of their water resources.

Basil S. Donnelly
Stephan A. Hartman
Cathleen M. Stryker

extent that the provisions do not require additional work on their part. For text of planning provisions, see *supra* note 176.

256. This group of provisions is likely to receive strong opposition from one or more interest groups, thereby threatening the passage of the whole legislation. The provisions that fall into this category are those that allocate broad authority to DER without specifying details or limits on that authority. For the text of these management provisions, see *supra* note 174. Virtually all interest groups have an interest in controlling their own use of water and have doubts about whether another entity, specifically DER, could successfully take on that responsibility.

There are provisions which could go either way depending on their content. That is, unless those provisions are carefully tailored to meet the needs of various interest groups, certain groups may raise objections. Most notable among such provisions are the administrative regulations regarding registration, fees, and permitting. See *supra* note 175 for the text of the proposed administrative provisions.