The Law of Water Rights

Classification of Water and Water Rights

Background and Policy Due to the movable and wandering nature of water, it is and must remain common property subject to right of use only. As stated by the United States Supreme Court:

> As long ago as the institutes of Justinian, running waters, like the air and the sea, were *res communes* — things common to all and property of none. Such was the doctrine spread by the civil-law commentators and embodied in the Napoleonic Code and in Spanish law. This conception passed into the common law.[1]

It is on this concept of common property that basic water law rights have evolved in the United States.

Water is essential to all life. Although water is the most abundant liquid on the face of the earth it is imperative that water resources be managed wisely. To do so it is necessary that a water resources policy be established and water rights defined, with both policy and rights designed to maximize beneficial uses and minimize water resource abuses.

The state's power to create and shape rights to the use of waters within its borders is, to some degree, limited by the constitutional power of the federal government to control commerce, provide for the common defense, make treaties, control compacts between states, and provide for the general welfare. However, the bulk of water law today remains as state law.

A detailed listing and description of both state and federal water laws by functional areas (instream uses, withdrawal uses, excess water, and water quality) is included in Appendixes 7 and 8.

Water rights are the result of both court decisions and legislative enactments. Although there are relatively few appellate court decisions involving water rights, much of the existing water rights law has been shaped by these decisions, many of which were decided prior to the turn of the century and rested on English common law doctrines and principles of law.

Prior to 1920 water policy was primarily formulated by local governments or local citizens operating by state permission. In 1919 the general assembly created the State Department of Conservation,[2] the earliest effort toward a statewide water resources policy. Further legislation designed to establish statewide water policies and the creation of new state agencies to carry out such policies was not forthcoming until the mid-1940s. The Stream Pollution Control Board was created in 1943[3] and the Flood Control and Water Resources Commission in 1945.[4] In 1965 the Department

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The Law of Water Rights was prepared by Professor Melvin C. Poland, Christina Kunz, and Susanah Mead of the Indiana University School of Law — Indianapolis.

of Natural Resources was established,[5] bringing together in one agency the functions and responsibilities of the Department of Conservation, the Indiana Flood Control and Water Resources Commission, and the State Soil and Water Conservation Committee.[6]

Recognizing the need for protection against the loss of lives and property caused by flooding, the Flood Control Act of 1945[7] sought to regulate and supervise flood control works and structures, as well as to establish policies and practices to conserve the diminishing water resources of Indiana.

In 1947 the general assembly declared as a public right the preservation of natural scenic beauty of public fresh water lakes in Indiana, the act[8] reading in part as follows: "The natural resources and the natural scenic beauty of Indiana are declared to be a public right, and the public of Indiana is hereby declared to have a vested right in the preservation, protection and enjoyment of all the public fresh water lakes of Indiana in their present state, and the use of such waters for recreational purposes."[9]

A basic policy statement in respect to ground water is found in the Acts of 1951 wherein the general assembly declared as public policy of the state the conservation and protection of "the ground water resources of the state" and for that "purpose to provide reasonable regulations for its most beneficial use and disposition."[10] It was not until 1955 that the legislature recognized the need for management of surface water for beneficial uses. The general assembly declared "that the general welfare of the people of the State of Indiana requires that surface water resources of the state be put to *beneficial uses to the fullest extent and that the use of water for non-beneficial uses be prevented. . . .*"[11] The same act also provided that "water in any natural stream, natural lake or other natural body of water in the State of Indiana which may be applied to any useful and beneficial purpose is hereby declared to be a natural resource and public water of the State of Indiana and subject to control or regulation for the public welfare as hereinafter determined by the General Assembly of the State of Indiana."[12]

The acts creating the various state agencies and setting forth the basic water resources policy of the State of Indiana are not intended to be all-inclusive. They are sufficient, however, to indicate a conscious effort to establish a statewide water resources policy and agencies with responsibility for the carrying out of such policies. The various acts also indicate an effort to link water rights with water resources management in the interest of all citizens of the state.

At the present time both ground and surface water appear to be readily available and generally quite adequate in most parts of the State of Indiana; however, with more urbanization, increased industrialization, and the anticipated demand for recreational waters this may not be true in the future. Natural distribution of usable water may not always be paired with needs and may eventually require expensive diversion and conversion plans as the state seeks to balance availability with demands. Proper water resources management could do much to postpone such an eventuality.

Classification of Water All water is a part of the same hydrologic cycle, a never-ending process occurring in nature wherein moisture is drawn into the atmosphere from the land and sea to form moisture laden clouds. With changes in air pressure the clouds release the stored moisture which returns to earth in the form of rain, sleet, or snow. Much of this precipitation will run off into lakes, streams, and rivers from which a part, through evaporation, will begin the cycle again, with the remainder completing the journey to the sea before starting the cycle anew. Of that part that does not run off into watercourses, some will evaporate from the earth's surface while some will percolate into the soil. A portion of the water percolating into the soil will be taken up by plants to begin the cycle again through transpiration, while the remainder will percolate through the soil and become ground water to feed streams and rivers before starting the cycle again. All phases of the cycle must be considered in achieving a coherent and satisfactory water resources management program and in allocating rights to the use of waters.

Legal classifications of water are based on the location of water in relation to the earth's surface. Water could be broadly classified as: (1) occurring on the earth's surface, and (2) occurring below the surface of the earth.[13] Both case and statutory law recognizes separate and distinct water rights and doctrines with respect to three categories: (1) water below the surface of the earth or "ground water," (2) surface waters in a watercourse, and (3) diffused surface water. Water rights will be discussed under these three categories after the following brief definitions of water in each category.

Ground Water[14] Ground water includes all subterranean water regardless of location and form.[15] While the distinction has been challenged,[16] the common law of ground water recognizes two classes: (1) that which was diffused through the ground as percolating water, and (2) that found in underground streams.[17] There is a presumption that subterranean water is percolating water, and the burden is on the party asserting an underground stream to prove the existence thereof.[18]

Surface Water in a Watercourse In general surface water in a watercourse,[19] to which riparian rights at-

tach, may be defined as water that flows with regularity and dependability along a definite course and in a definite channel with bed and banks or sides.[20] This may include not only ordinary surface water in streams and rivers but also lakes, ponds, swales, and marshes through which the watercourse flows.[21] Surface water in a watercourse also includes flood waters overflowing the banks of a natural watercourse.

Diffused Surface Water[22] Diffused surface water, or overland flow, or excess water are those waters that are derived from falling rains, melting snow or springs, and that diffuse themselves and flow vagrantly over the surface of the earth, following no defined course or channel.[23] It is not the source that determines diffused surface water but rather the fact that such water follows no defined course or channel. Diffused surface water retains its characteristics until it reaches some well defined channel or becomes a part of a watercourse.[24] Diffused surface waters may include floodwaters which have become permanently separated from the water in a watercourse.[25]

References

1. *United States v. Gerlach Live Stock Co.*, 339 U.S. 725, 744-45, 70 S. Ct. 955, 965 (1950).
2. Act of March 11, 1919, ch. 60, 1919 Ind. Acts 375 (now codified at Ind. Code §§ 14-3-1-1 to 29 [1976 & Supp. 1978]).
3. Act of March 8, 1943, ch. 214, 1943 Ind. Acts 624 (now codified at Ind. Code §§ 13-1-3-1 to 18 [1976 and Supp. 1978]).
4. Act of March 7, 1945, ch. 318, 1945 Ind. Acts 1480 (now codified at Ind. Code §§ 13-2-22-1 to 20 [1976 & Supp. 1978]).
5. Act of March 13, 1965, ch. 441, 1965 Ind. Acts 1402 (now codified at Ind. Code §§ 14-3-2-1 to 9 [1976 & Supp. 1978]).
6. With the creation of the Department of Natural Resources, the Department of Conservation and the Flood Control and Water Resources Commission were abolished.
7. Act of March 7, 1945, ch. 318, § 2, 1945 Ind. Acts 1480 (now codified at Ind. Code § 13-2-22-2 [1976 & Supp. 1978]).
8. Act of March 13, 1947, ch. 301, § 1, 1947 Ind. Acts 1233 (now codified at Ind. Code § 13-2-14-1 [1976]).
9. It does not necessarily follow that individual citizens of the state have the use of fresh water lakes for recreational purposes as a result of the language of the statute, *i.e.*, declaring that the public of Indiana has a vested right in the use of such waters for recreational purposes. This recreational use will depend on whether a public right has been acquired by acquiescence. See Chapter II-A, p. 10.
10. Act of Feb. 21, 1951, ch. 29, § 2, 1951 Ind. Acts 64 (now codified at Ind. Code § 13-2-2-2 [1976]).
11. Act of March 11, 1955, ch. 251, § 1, 1955 Ind. Acts 643 (emphasis added) (now codified at Ind. Code § 13-2-1-1 [1976]).
12. *Id. See also* Ind. Code § 13-2-1-8 (1976), which provides, "The policy that surface waters of Indiana are declared to be public waters and subject to regulation by the Indiana general assembly, shall be the accepted policy of the state of Indiana."
13. Wells Hutchins, a noted water law authority, classified all waters into two broad categories: (1) waters on the surface of the earth, and (2) waters under the surface of the earth. He further classified waters on the surface as follows: (1) diffused surface waters, (2) surface waters in a watercourse, (3) surface waters in lakes or ponds (when evidence fails to indicate connection with a stream system), (4) spring waters, and (5) waste waters. Vol. I, *Waters and Water Rights* § 3.1, at 18 (R. Clark, ed. 1967) [hereinafter referred to as R. Clark].
14. For a discussion of ground water, see Page 94 *infra*.
15. R. Clark *supra* note 13, § 52.2, at 322; Vol. 6A, *American Law of Property* § 28.65 (A.J. Casner, ed. 1954).
16. Thomas, *Underground Sources of Water*, USDA Yearbook: *Water* 62, 66-67 (1955); Thomas, *Hydrology vs. Water Allocation in the Eastern United States, The Law of Water Allocation in the Eastern United States* 165, 169-170 (1958).
17. R. Clark, *supra* note 13, § 52.2, at 322.
18. *Id. See also* 93 C.J.S. *Waters* § 87 (1956).
19. For a discussion of what constitutes a watercourse, *see* p. 99 *infra*.
20. *Lowe v. Loge Realty Co.*, 138 Ind. App. 434, 214 N.E.2d 400 (1966); *Vandalia R.R. v. Yeager*, 60 Ind. App. 118, 124, 110 N.E. 230, 234 (1915).
21. R. Clark *supra*, note 13, § 52.1B, at 311. *See also* discussion of watercourse at p. 99 *infra*.
22. For a complete discussion, including the characteristics of and rights to diffused surface water, *see* p. 119 *infra*.
23. *Capes v. Barger*, 123 Ind. App. 212, 109 N.E.2d 725 (1953); R. Clark, *supra* note 13, § 52.1A, at 300-01. *See also* the statutory definition, which parallels the common law definition, Ind. Code § 13-2-1-4 (3) (1976).
24. R. Clark *supra* note 13, § 52.1A, at 300-01.
25. *Dunn v. Chicago I. & L. Ry.*, 63 Ind. App. 553, 114 N.E. 888 (1917).

Ground Water

Definition and Classification

Ground water may be defined as water that lies or flows under the earth and is not artificially confined.[1] Courts early made a distinction between underground water flowing in a defined channel as an underground stream, and ground water, which merely percolates[2] (passes gradually through small spaces or a porous substance) through underground formations. At the time the law was in its formative stages, the geophysical qualities of ground water were largely unknown, a fact recognized by the Indiana Supreme Court.[3] Modern hydrologists and geologists challenge this distinction on the premise that all underground water flows, and it should not matter whether it moves through large openings as a stream or trickles through small openings.

However, regardless of the possible inaccuracy of making a distinction between underground streams and percolating ground water, the early law in most jurisdictions evolved with those two distinct categories in mind, and different rules were applied to each.

As a general rule, the rights of landowners over an underground stream parallel the rights of riparian owners on a surface watercourse. Thus, if the jurisdiction is one that recognizes reasonable use for riparians, the owners of land above an underground stream must exercise reasonable use of the water in the underground stream. On the other hand, if the ground water is not part of an underground stream, but is percolating ground water, different doctrines define the rights to use the water. Although a number of doctrines have at one time or another been applied to percolating ground water, they fall roughly into two categories: the absolute ownership doctrine, and the correlative rights doctrine.

Absolute Ownership Doctrine Jurisdictions that have adopted the absolute ownership doctrine consider that percolating ground water is a part of the land in which it is found, and the owner of the land above it may divert or appropriate it for the benefit of his land even though by doing so he may injure his neighbor.[4] Accordingly a landowner may dig a well and drain off for his own use any ground water under his land even though, by removal, he drains water from under the surface of his neighbor's land. Some jurisdictions adopting this doctrine have qualified it so that a landowner may not act maliciously to the detriment of his neighbor.[5]

Correlative Rights Doctrine Courts applying this doctrine have held that all owners of land over a common supply of ground water have correlative rights to the reasonable use of the water on overlying lands. If a surplus of water exists above that necessary for reasonable use on overlying lands, it may be appropriated for reasonable use on nonoverlying lands. However, if a shortage occurs, the courts will be called upon to apportion the water to the owners according to their needs. This doctrine is analogous to the rights of riparian owners on surface watercourses under the reasonable use doctrine.[6]

Ground-Water Rights

Following the general pattern of the development of the Indiana water law, the earliest law pertaining to the use of ground water was articulated by the courts, whereas the more recent law has been created by the state legislature.

Case Law Three early Indiana cases left the Indiana ground-water law in a state of confusion. The first, *New Albany & Salem Railroad v. Peterson*,[7] was a case in which the defendant railroad, in excavating a roadbed, changed the pattern in which the ground water flowed to such an extent that the plaintiff's well on neighboring land went dry. In denying plaintiff's prayer for damages, the court noted that the same law that applies to water above ground need not apply to ground water.

> The court reasoned: We think the present case . . . is not to be governed by the law which applies to rivers and flowing streams, but it rather falls within that principle which gives to the owner of the soil all that lies beneath his surface; that the land immediately below is his property, whether it is solid rock, or porous ground, or venous earth, or part soil part water; that the person who owns the surface may dig therein, and apply all that is there found to his own purpose, at his free will and pleasure; and that if in the exercise of such right, he intercepts or drains off the water collected from underground springs in his neighbor's well, this inconvenience to his neighbor falls within the description of *damnum absque injuria*, which cannot become the ground of an action.[8]

Thus, the Indiana Supreme Court in 1860 clearly and unreservedly adopted the absolute ownership doctrine in regard to ground water.

In 1864, the Indiana Supreme Court again addressed the problem of ground water in *City of Greencastle v. Hazelett*,[9] a case brought by the plaintiff landowner to enjoin the defendant city from building a cemetery on adjoining land which might pollute his ground-water supply. The court cited the earlier case for the proposition that everything found below one's land is one's absolute property, thus reaffirming the absolute ownership doctrine.[10] In addition, the court apparently rejected the distinction between rights in underground streams and other ground water and indicated the absolute ownership doctrine applies to all ground water.[11]

The third and leading case in Indiana on the subject of ground water is *Gagnon v. French Lick Springs Hotel Co.*[12] The plaintiff owned a health resort in the French Lick Valley that depended for its success upon the flow of certain allegedly medicinal springs. The defendant, a bitter enemy of plaintiff, owned land adjacent to the resort. He sank a number of wells upon his own property and pumped millions of gallons of the medicinal waters which he allowed to run into French Lick Creek. The effect of this was to diminish the flow from the springs on plaintiff's property to the point that the springs were virtually dry. From the evidence at trial, it was clear that the defendant's express purpose in pumping the water was to ruin the plaintiff's business.

The plaintiff sought to enjoin defendant's activities, but the defendant asserted that according to the absolute ownership doctrine, he had an absolute right to do what he pleased with the ground water which came from his own land. Without even referring to prior Indiana Supreme Court cases which had espoused the absolute ownership doctrine, the court affirmed the trial court's grant of the injunction in favor of plaintiff, thereby denying the defendant's right to pump the water from his land.

Obviously the appropriate result was reached in this case. To allow the defendant to intentionally and maliciously waste millions of gallons of valuable water would have been ridiculous. However, the court's reasoning left Indiana's ground-water law unsettled.

While recognizing the general rule applied to subterranean waters that the owner may do what he wishes with the water, the court also recognized a need for flexibility in regard to ground-water law.[13] The court went on to note specifically exceptions to the general rule recognized in other jurisdictions. For example, it recognized that a malicious diversion of ground water may be enjoined[14] and that ground water may not be merely wasted.[15]

Unfortunately, it is not clear from the case whether the court characterized the medicinal spring water in question as an underground stream or as percolating ground water. Therefore, it is difficult to know how to interpret the court's reference to two California cases. Ignoring the prior Indiana Supreme Court case which had apparently held the absolute ownership doctrine controlled the use of underground streams, the court cited one California case in which it was held that if water flows in a definite channel underground, the same rules apply to it as apply to surface streams and the landowner may not destroy it.[16] However, the court also cited another California case which held that percolating ground water cannot be withdrawn for sale if other overlying landowners are deprived of the profitable enjoyment of their land as a result.[17] It is impossible to know which (if either) rule was applied to the case at hand. Furthermore, the phrase "profitable enjoyment" used in the latter case is enigmatic. Presumably a "sale" was not the kind of profitable enjoyment the court envisioned. Possibly "profitable enjoyment" should be interpreted to mean "beneficial enjoyment" — also a vague term but at least one that is used with regularity in water law.

The court went on to refer to "the strong trend of the later cases . . . toward a qualification of the earlier doctrines that the landowner could exercise unlimited and irresponsible control over subterranean waters on his own land without regard to injuries which might thereby result to land of other proprietors in the neighborhood."[18] However, it did not make clear whether the later cases were those it had specifically cited (some of which were as early or earlier than the earliest Indiana cases) or whether it was merely referring in general to a modern trend away from the absolute ownership doctrine.

In either event, the court purported to be "following the lead of the later cases, which, we think proceed

upon just and correct principles. . . ."[19] If by this the court intended to adopt the holdings of the cases it had specifically cited with approval, then the effect was to adopt the correlative rights doctrine for Indiana in the area of percolating ground water and the reasonable use doctrine for underground streams. On the other hand, the court may have only intended to adopt the qualification on the absolute ownership doctrine that a malicious or wasteful use of ground water will not be tolerated. This is the more likely intent. Thus, at the very least the court held that a malicious or wasteful use of ground water will not be tolerated; at the very most it held that Indiana applies the correlative right doctrine to percolating ground water and a reasonable use doctrine to underground streams.

Although it is obvious from *French Lick* that wasteful uses of ground water will be prohibited, it is difficult to determine what uses are deemed permissible. Should the case be interpreted to mean a withdrawal for sale (commercial use) will not be permitted if it denies another overlying landowner "profitable enjoyment"? Will a municipality be precluded from drilling wells and withdrawing water for sale if any other overlying landowner could show he was injured thereby?

Even if the absolute ownership doctrine pertaining to ground water still applied in Indiana after *French Lick*, it is unlikely that the rationale for applying it exists today. The reason given by the early courts for using the absolute ownership doctrine was that the location and quantity of ground water was unknown and unknowable. However, in the years since those early cases were decided, the sciences of hydrology and geology have evolved to the point that there is a greatly increased potential for predicting the location, amount, and flow patterns of water below the earth's surface. Therefore, in light of the more equitable doctrines that have evolved in other areas of water law such as the reasonable use doctrine for riparian owners it is unlikely that the absolute ownership doctrine would be strictly applied today.

Statutory Law Legislation in Indiana pertaining to ground water makes no distinction between underground streams and percolating ground water. Ground water is defined by statute as, "all water filling the natural openings under the earth's surface including all underground streams, artesian basins, reservoirs, lakes and other bodies of water below the earth's surface."[20] Although the statute does not speak to the doctrines that will apply to ground water, whatever limitations are prescribed by statute apply to all ground water unless specifically stated otherwise.

The importance of Indiana's ground-water resources cannot be overemphasized. Changes in ground-water levels may cause serious surface ramifications: crops which have always been easily grown may fail to thrive; buckling and cave-ins may occur; surface lakes and streams dependent upon underground springs may run dry. In addition, much of Indiana is dependent upon wells for drinking water and other domestic uses. Recognizing the importance of ground water as a valuable resource, the general assembly has declared it to be the public policy of the state to protect ground water and provide reasonable regulations to apply it to its most beneficial use.[21]

The Legislature has limited a landowner's or lessor's right to unlimited use of ground water under certain circumstances.[22] If the Department of Natural Resources determines that the withdrawal of ground water in an area exceeds or threatens to exceed its natural replenishment, it may designate that area as a restricted use area. If such a designation is made, all users (except publicly or privately owned utilities) must obtain a permit in order to withdraw more than 100,000 gallons-per-day. Prior users must obtain a permit in order to withdraw 100,000 gallons-per-day in addition to the quantity they were using at the time the order became effective. In determining whether a permit should be issued, the department will consider the future supplies in the area, the use to be made of the water, the effect on present users, the future replenishment, the future demands, and the best interest of the public. Those committing waste may be required to return water to the ground insofar as that is safe or practicable. Use of ground water for air cooling may be waste if it is not used more than once and if it is not put to any further beneficial use.

To the extent that these statutes constitute an interference with a vested property right, they may be subject to challenge on the constitutional ground. However, it is probable that they are nothing more than a legitimate exercise of the police power which may be used to protect against nonbeneficial uses of a valuable water resource.

The legislature has also addressed itself to the conservation of potable ground water.[23] Owners of flowing water wells may be required to reduce the flow to prevent the loss or waste of potable water that is not being put to a beneficial use. Furthermore, a permit must be obtained from the Department of Natural Resources before potable ground water may be introduced into underground formations that contain nonpotable water. The permit may be denied if the department determines the potable ground water would be wasted, the supply impaired or exhausted, and if, nonpotable ground water is available. However, potable water may be used by anyone operating a flood water project unless an emergency effecting household or farm uses should arise.

A 1959 act requires that well-drilling contractors be

licensed.[24] This includes anyone who owns or leases well-drilling equipment and drills or drives wells, unless the drilling occurs on land he owns or holds under a valid lease.[25] The statute further requires that accurate records be kept as to the location of the well, the depth, the diameter, the date it was completed, the character and thickness of the formation drilled, and the performance data of the well.

Recognizing that the waters and lands of the state must be protected against pollution, a procedure is provided by statute for the plugging of abandoned or leaking wells that were drilled for the exploration, development, or production of oil or gas.[26] Similar provisions are made for the plugging of test holes drilled in connection with the following investigations: fluid disposal, mineral resources, engineering projects, and geologic.[27]

In 1978, the general assembly repealed the Act of 1909 (passed possibly in response to *French Lick*) prohibiting tampering with the flow of or polluting mineral medicinal waters.[28] Thus, all ground water, regardless of its mineral content, is treated the same under the current statutory scheme.

In summary, although it is clear that ground water should be protected from pollution and put to beneficial use, it is difficult to glean from the statutes just what uses the general assembly considers beneficial. Publicly owned and privately owned utilities are exempted from obtaining permits to use ground water in restricted use areas. This exemption may imply that the general assembly considers that the supplying of public utilities is a beneficial use of ground water. Prior users in restricted use areas are limited to 100,000 gallons-per-day *in addition to* their prior use, whereas new users are limited to 100,000 gallons-per-day. This provision implies that the prior appropriation doctrine may apply in restricted use areas. The use of ground water in a restricted use area for air cooling may be waste if the water is used only once. However, it may be a beneficial use if it is used more than once or in conjunction with other beneficial uses. Flood water projects are sufficiently beneficial that potable water may be used to implement them unless that water becomes necessary for household or farm use.

From the foregoing, it is obvious that the acceptable uses of ground water in Indiana are not clear. However, it is clear that the legislature has recognized the importance of Indiana's ground-water resources and has taken numerous measures to assure their protection. The Water Resources Research Act of 1965 lists the mapping of the location and availability of ground water as an urgent necessity.[29]

In addition, the quality of ground water will be protected by the Stream Pollution Control Board which has the jurisdiction to control and prevent pollution in waters in the state from any deleterious substance.[30] Furthermore, the Environmental Management Board was created to evolve and implement policies for comprehensive environmental development and control on a statewide basis.[31] It is bound to protect the public water supply which includes ground water.

Thus, the general assembly recognizes the value of Indiana's ground-water resources and has enacted legislation showing a strong, statewide protection policy.

References

1. *Restatement of Torts* § 845 (1939).

2. Another type of ground water is water that does not move but has been absorbed by underground formations and makes up part of the water table. This water is generally categorized with percolating ground water.

3. In *City of Greencastle v. Hazelett*, 23 Ind. 186, 187 (1864), the court noted, "Their courses, and even their existence are often unknown, until accident discovers them. The geologist has no knowledge which enables him to trace their channels. They can as a general thing, be definitely ascertained only by excavation."

4. The absolute ownership doctrine was first articulated in the English case, *Acton v. Blundell*, 12 M. & W. 324, 152 Eng. Rep. 1223 (1843).

5. *See* Annot., 55 A.L.R. 1385, 1390-98 (1928), for a state-by-state summary of how the doctrine is applied; *see also* Annot., 29 A.L.R.2d 1354, 1357-61 (1953).

6. Some jurisdictions purport to apply a "reasonable use doctrine" to ground water. However, application of the reasonable use doctrine is difficult to distinguish from the correlative rights doctrine.

7. 14 Ind. 112 (1860).

8. *Id.* at 114 (quoting Acton v. Blundell, 12 M. & W. 324, 152 Eng. Rep. 1223 [1843]).

9. 23 Ind. 186 (1864).

10. There is some troublesome language in the case suggesting that the absolute ownership doctrine might not be strictly applied if actual damage can be shown. The court stated:

> Should this injunction be sustained, it is quite possible, and not very improbable, that the city of *Greencastle* will be restrained from making a use of its own property, upon the mere conjecture that such use will injure *Hazelett*, when in fact it will not. Such is the nature of the subject, that no certain knowledge exists as to whether he would be injured or not. He is not positive about it in his complaint, because indeed he could not be. It is mere matter of opinion. Intelligent and reputable citizens, whose affidavits were read upon the application, differ upon the question. A geologist, who is a professor of natural science in *Asbury University*, thinks that much of the cemetery grounds are so situated that streams beneath the surface flow, not toward, but away from, the plaintiff's spring. But we do not decide this case upon any inclination to approve either of these differing opinions; the circumstances are alluded to only to show that the subject is of such a nature that the law regulating rights in surface streams ought not to be held applicable to it.

Id. at 188.

11. The court's specific rejection of the correlative rights doctrine for underground streams leads to the inescapable conclusion that the absolute ownership doctrine applies to underground streams as well as percolating ground water. The court said:

> It seems to result, from this view of the matter, in the light of just principle and sound public policy, without regard to authority, that it would probably be also impossible to establish correlative rights in a subterraneous stream, the situation of which is not known, by any set of rules which the law-making power could devise, without doing injustice or creating great embarrassment in the use of property.

Id.

12. 163 Ind. 687, 72 N.E. 849 (1904).

13. The court's statement that "there are well recognized exceptions to these rules, and doubtless further exceptions and departures from them will from time to time be found necessary or expedient" illustrates the court's willingness to allow changing conditions to shape the applicable law. *Id.* at 696, 72 N.E. at 851.

14. *Id.* (citing *Miller v. Black Rock Springs Imp. Co.*, 99 Va. 747, 40 S.E. 27 [1901]).

15. 163 Ind. at 696, 72 N.E. at 851 (citing *Stillwater Co. v. Farmer*, 89 Minn. 58, 93 N.W. 907 [1903]).

16. 163 Ind. at 696, 72 N.E. at 851-52 (citing *Southern Pac. Ry. v. Dufour*, 95 Cal. 615, 30 P. 783 [1892]).

17. 163 Ind. at 697, 72 N.E. at 852 (citing *Katz v. Walkinshaw*, 141 Cal. 116, 70 P. 663 (1902), *reversed on rehearing*, 141 Cal. 116, 74 P. 766 [1903]).

18. 163 Ind. at 697, 72 N.E. at 852.

19. *Id.* at 698, 72 N.E. at 852.

20. Ind. Code § 13-2-2-1 (1976).

21. *Id.* § 13-2-2-2.

22. *Id.* §§ 13-2-2-1 to 13.

23. *Id.* §§ 13-2-3-1 to 3.

24. *Id.* §§ 25-39-1-1 to 5.

25. *Id.* § 25-39-1-5 (Supp. 1978).

26. *Id.* §§ 13-4-4-1 to 8 (1976).

27. *Id.* §§ 13-4-5-1 to 11.

28. *Id.* §§ 13-2-6-1, *repealed by* Act of March 9, 1978, Pub. L. No. 2, § 1331, 1978 Ind. Acts 2.

29. Ind. Code §§ 13-2-7-1 to 4 (1976).

30. *Id.* § 13-1-3-4.

31. *Id.* §§ 13-7-1-1 to 13-7-18-1.

Surface Water in Natural Watercourses

Riparian Rights

Two natural watercourse rights doctrines have emerged, prior appropriation and riparian. Where the common law has not been changed, owners of land abutting on bodies of water have rights commonly referred to as "riparian rights."[1] Riparian rights are based on land ownership bounding upon the flow of a watercourse. As stated by an Indiana appellate court, "There can be no riparian rights unless the land involved borders on a body of water, as a stream or lake."[2] In contrast, the doctrine of "prior appropriation," which originated in the semi-arid and arid regions of the western United States, is based on the separation of water rights from land ownership.[3] Riparian rights attach by virtue of lateral contact of owned land with the water and do not depend upon soil ownership under the water.[4] Further, riparian rights attach to navigable as well as nonnavigable bodies of water, limited only by public rights that appertain to navigable waters.[5]

Indiana has long recognized the "riparian rights doctrine."[6] Before discussing what rights a riparian has in the waters of a natural watercourse, one must first establish what constitutes a "natural watercourse" and what land can be said to be "riparian land."

Watercourse Defined While there is no single, all-inclusive definition of what constitutes a watercourse, certain characteristics of a watercourse clearly emerge from Indiana case law. It must have a substantial existence and unity, regularity and dependability of flow along a definite course,[7] and a definite channel with bed, banks, or sides.[8] Although a source of supply and permanence of flow are generally considered essential, the flow need not be continual but should be present for a substantial period each year.[9] A watercourse should ordinarily flow "in a certain direction"[10] with a traceable flow from one tract to another,[11] and nature must have played a major role in the creation of the watercourse channel.[12] Once a watercourse has been established, it may continue without some of the usual characteristics. Thus, when a watercourse has been closed and the land improved by the landowners, it does not lose its characteristics as a watercourse by confinement to an artificial channel.[13]

It has been held that a watercourse includes not only ordinary surface waters therein but also lakes, ponds, swamps, swales, and marshes through which the watercourse flows.[14] An Indiana appellate court quoted with approval the following language from an earlier Wisconsin case: "If a watercourse is lost in a swamp or lake, it is still a watercourse if it emerges therefrom in a well-defined channel; or if it spreads over a meadow, and can be identified or traced as the same stream it is still a watercourse."[15] Although this would appear to be an appropriate classification, an Indiana statutory section recognizes that there may be some differences as to both private and public rights in such waters, and it appears to exclude waters in lakes and swamps from the "watercourse" classification:

> The term "watercourse" shall include both the upstream and downstream portions of a watercourse which is lost in a swamp or lake, if it emerges in a well defined channel.[16]

Early Indiana cases[17] held floodwaters — that is waters which overflow the banks of a natural watercourse — to be diffused surface waters. However, today such overflowing water as follows the course of the stream and eventually returns to the watercourse on subsidence is considered water of the natural watercourse.[18]

Riparian Land Indiana has never defined riparian land except that the existence of riparian rights requires such land to border on the waters of a natural watercourse or body of water. The important question

of geographical limits remains unanswered. Court decisions from other states provide us with no single definition. One line of cases uses what may be called the "source of title" test, which limits riparian land to land that abuts on the watercourse, is held in one ownership, and has never been severed from the stream from time of patent from the government. By this test, an entire tract bordering on and contiguous to the water would be riparian land, no matter how large the tract, as long as the entire tract was patented as a single unit. If and when the patentee or his successor conveyed portions of the tract not bordering on the water to others, such land would become nonriparian, and repurchase by the owner of the remaining riparian land would not affect its nonriparian status.[19] This test does not depend on the riparian land being situated in the watershed.[20]

Another line of cases uses what may be called the "unity of title" test, holding that all land held in a single title which is contiguous to the watercourse is riparian land.[21] Unlike the "source of title" test, riparian land may not only diminish in area by conveyance of a part of the contiguous tract, but it may also expand if contiguous land is purchased by the riparian owner. This test does not limit riparian land to land within the watershed.

A third line of cases uses what might be referred to as the "restricted unity of title" test. Under this test, not only must there be unity of title, but the contiguous riparian land is restricted to land within the watershed.[22] As used in relation to riparian land, "watershed" has been defined to mean "the area drained by the watercourse . . . the area from which rain would find its way into the watercourse . . . and whose waters, once in the watercourse, flow by the land of the complaining riparian."[23]

Since no Indiana court has had occasion to decide what land constitutes riparian land, there is no indication of which definition the courts will choose to follow. It is arguable that legislative intent indicates a preference for "unity of title" test. The general assembly has declared that the welfare of the people of the state requires maximum beneficial use of the state's surface water resources.[24] This statute may well require use beyond the watershed. Certainly a test that would have the effect of constantly reducing land on which riparian rights may be exercised, as would be the case under the "source of title" test, would not promote beneficial use. Further, the general assembly, when defining land to which riparian rights attach, used the following language: "The owner of land *contiguous* to or encompassing a public watercourse. . . ."[25] There is nothing in the statutory language to indicate an intention that "contiguous" was to be restricted by location within the watershed.

There may be disadvantages to the broader definition. As will be noted in the next section, Indiana follows a reasonable use doctrine. Under this doctrine the prescriptive period for acquiring a right to use, regardless of injury to other riparian owners, does not commence running until the use becomes unreasonable in the light of the rights of others. Thus, a riparian owner is faced with the possibility of going to great expense in making the necessary works and improvements to carry the water to riparian land outside the watershed, only to have the use declared unreasonable before recovering his expense, and without much hope of acquiring a prescriptive right to continue the use. Such a potential result could have a limiting effect on achieving the declared policy of the state to make beneficial use of surface water resources "to the fullest extent."[26]

The Reasonable Use Doctrine

In the process of developing and refining riparian rights two theories have emerged: the natural flow theory and the reasonable use theory.[27]

The natural flow theory, adopted by the English courts and some American courts, allows the riparian proprietor the absolute right to use the natural flow of the water to fulfill his "natural" wants and the qualified right to use the water for "extraordinary" or "artificial" uses, to the extent that "such uses do not sensibly or materially affect the natural quantity or quality of the water, and are made on or in connection with the use of the riparian land."[28] The reasonable use theory, adopted by a number of American courts, gives each riparian proprietor the privilege "to make a beneficial use of the water for any purpose, provided such use does not unreasonably interfere with the beneficial uses of others."[29]

Indiana has adopted a *modified* reasonable use policy, which essentially merges the absolute "natural wants" priority of the natural flow theory with the "beneficial use" balancing approach of the reasonable use theory. This policy has been further modified by statutory declarations altering the common law beneficial uses. For instance, numerous Indiana statutes list the various uses that are deemed in furtherance of the state policy of beneficial use of water resources: domestic, municipal, agricultural (including irrigation), industrial, commercial, recreational, power, transportation, stream pollution abatement, health, sewage dilution, maintenance of desirable levels of stream flow, and flood prevention and control.[30]

Thus, in Indiana, a riparian's "right to the natural flow of a stream, or the natural level of a lake, is limited by the rights of other riparians . . . to use [and withdraw] the water [reasonably]."[31] In 1855, the Indi-

ana Supreme Court clarified this doctrine in *Dilling v. Murray*,[32] which allowed a downstream mill owner to enjoin an upstream mill owner from obstructing the stream and unreasonably detaining the water impounded behind the dam such that plaintiff could only operate his mill part-time. The court reasoned:

> Every riparian proprietor has an equal right to the flow of the water through his land, and no one has a right to use it to the material injury of those below him. He has no property in the water itself; but only a right to use it as it flows along. If he diverts the stream he must return it to its natural channel when it leaves his estate. . . . But it is not every injury to the proprietor below that will confer a right of action, or justify an order to remove the obstruction. . . .
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> The difficulty is not so much in the rule as in the application of it; in which it is necessary to take into consideration . . . all the attendant circumstances; and when all these are properly considered, if the proprietor below is materially injured; that is, materially, when considered in relation to the facts of the particular case, he is entitled to redress.[33]

Under the reasonable use doctrine, whether a particular use is reasonable is a question of fact,[34] and each riparian's right to use water is limited to uses that are reasonable under the circumstances. In an action against a municipal water company for wrongful diversion of water from a small lake, an Indiana appellate court stated:

> The question whether the quantity which [the upper riparian owner] is diverting is reasonable is not to be determined . . . by the requirements of business, but rather by determining whether his use is reasonable and proportionate with reference to the quantity of water usually in the stream or body of water, and whether the complaining riparian owner is substantially damaged by being deprived of his reasonable use.[35]

The party who asserts the unreasonableness of the upper riparian's use has the burden of proof.[36]

Because the reasonableness of the use is dependent upon all the attendant circumstances — quantity of water in the stream, whether a natural or artificial use, the use which other riparians wish to make, and whether such riparians are materially injured — what may be reasonable use in one circumstance will not be reasonable at another and vice versa.

To better describe "reasonable use" and the application of the reasonable use doctrine in Indiana, various riparian uses will be discussed under *withdrawal uses* and *instream uses*.

Withdrawal Uses

Domestic Use In jurisdictions recognizing the reasonable use doctrine, the courts generally recognize a distinction between domestic and artificial uses,[37] and allow a riparian to withdraw water sufficient to satisfy his domestic needs, even to the detriment of downstream riparians.[38] Although an 1899 Indiana Supreme Court case did not appear to make this distinction,[39] an 1897 Indiana appellate court decision clearly made the distinction.[40] In 1963 the general assembly recognized and gave priority to the *domestic* terminology:

> The owner of land contiguous to or encompassing a public watercourse shall at all times have the right to the use of water therefrom in the quantity necessary to satisfy his needs for domestic purposes, which shall include, but not be limited to, water for household purposes, drinking water for livestock, poultry and domestic animals. The use of water for domestic purposes shall have priority and be superior to any and all other uses.[41]

This statutory recognition of domestic uses is not unlike the law of other riparian rights jurisdictions where courts have ruled that domestic uses include water for drinking,[42] cooking,[43] laundry and sanitation,[44] the maintenance and sustenance of the proprietor and his family,[45] and the watering of stock and other domestic animals.[46] The distinction between domestic and artificial uses is a recognition of the need to prefer satisfaction of natural wants over the use of water for artificial or commercial uses.

Municipal Water Courts have adopted varying terms for domestic uses, that is, *ordinary purposes* and *natural needs*, as opposed to *extraordinary uses*.[47] Their decisions in the area of municipal water supply and use have been fairly uniform in holding that such use is extraordinary, not domestic, and "can only be exercised reasonably and with regard for the rights of other proprietors."[48] Although recognizing a municipality as a riparian proprietor with rights of withdrawal for some purposes, the cases from *Valparaiso City Water Co. v. Dickover*[49] through *City of Elkhart v. Christiana Hydraulics, Inc.*[50] have held that municipalities as upper riparian owners "may not use or divert water from a stream in such a way as to destroy

or render it unavailable for use of a lower riparian proprietor."[51]

In *Christiana Hydraulics* the court stated:

> While a riparian owner may have a right to divert and use a riparian amount of water from a bordering stream for some purposes, a waterworks company does not have a right as a riparian owner to divert water from a stream in order to make merchandise of it and distribute it to all the residents of a city.[52]

Christiana Hydraulics would appear to deny the existence of a riparian right of withdrawal by a waterworks company, including a municipal waterworks, where such withdrawal is for the purpose of merchandising and distributing water to the residents of the municipality. Whether this was intended as an absolute denial of withdrawal right in the absence of injury to other riparian proprietors is not clear. However, such construction would appear to be contrary to the state's declared policy of making beneficial use of surface water resources "to the fullest extent."[53]

Where the municipality is denied the right to divert water for purpose of merchandising and distributing, the necessary water supply must be provided in one of the following ways: (1) drilling of wells,[54] (2) exercise of eminent domain,[55] or (3) acquisition of water from a nearby reservoir.[56]

In *Valparaiso City Water Co. v. Dickover*[57] the municipality argued its use (withdrawal for distribution to residents of city) was beneficial to the public, nonnegligent, and therefore a proper exercise of a riparian right. The court appeared to give little weight to the fact that a municipality was claiming the riparian withdrawal right, nor did it consider the comparative social utility of competing uses. Certainly the restrictive language of *Christiana Hydraulics*[58] reaffirms this aspect of *Valparaiso City Water Co. v. Dickover.*

A few jurisdictions have denied the right of municipal water companies to divert water for purpose of merchandising and distributing on the ground that the use of water on nonriparian lands (sale to resident nonriparian owners) violates the riparian legal doctrine.[59]

Agricultural Use Aside from those withdrawal uses designated as domestic in the statute ("drinking water for livestock, poultry and domestic animals")[60] and those domestic uses within to purview of "purposes . . . ordinarily incident to the use and enjoyment of his riparian premises,"[61] other agricultural uses must be balanced against the nondomestic reasonable needs of fellow riparians and exercised in proportion to those competing needs. Unreasonable uses may be enjoined.

Although very little Indiana case law exists on the subject of agricultural uses, the Indiana Supreme Court commented in 1899 that every riparian owner had a correlative right to

> the reasonable use and enjoyment of the stream. . . . He may dam it and divert it for mechanical purposes and fish ponds if he will return it to its channel before leaving his premises; he may use it for purposes of agriculture; his animals may take water from it at will; he may clear away the forests, plant crops, fertilize his field, feed his animals in lots, and permit the storm water from his fields and feed yards to flow by natural ways into the stream . . . even though such drainage corrupts the waters of the stream and sends them on to the owners of the servient estates less pure than he received them.[62]

This passage indicates that a fishery may be a reasonable agricultural use if the water is returned to the watercourse so as not to constitute an unreasonable diversion.[63]

The Indiana statute classifying "drinking water for livestock, poultry and domestic animals"[64] as a domestic use has not yet been interpreted or in any way restricted by the Indiana courts. This broad construction of the statute leaves in doubt the issue of whether a commercial feedlot qualifies for an absolute water use priority as a domestic use for watering livestock. An Ohio court held that the watering of three hundred thirty-three head of livestock constituted a domestic use and was therefore entitled to priority over nondomestic water uses.[65] However, when one considers that a commercial riparian's right to use water for reasonable purposes may be limited by the "domestic" use of an upstream or downstream commercial feedlot, this interpretation hardly seems justified.

Irrigation A considerable dispute has arisen over the use of riparian water for irrigation purposes. Two objections have been voiced against classification of irrigation as a reasonable use of water: (1) irrigation is a diverted or consumptive nondomestic use of water,[66] and (2) the withdrawn water is sometimes used on nonriparian land, thereby depriving the use of its validity under the riparian doctrine.[67]

Although an 1899 Indiana Supreme Court case conceptually approved water use for "agricultural purposes,"[68] no Indiana court has ever faced the issue of whether irrigation is a reasonable use. However, several Indiana statutes indicate legislative approval of irrigation as a reasonable use. The statute giving domestic uses priority also approves the impound-

ment of water for irrigation, subject to state regulation.[69] In addition, the statute empowering the Natural Resources Commission of the Department of Natural Resources to acquire land for reservoirs sets out thirteen water uses that are increasing the demand for water supply storage, and the fifth-listed use is "agricultural, including irrigation, use."[70]

This language does not resolve the beneficial use issue, nor does it address the problems of diversion or nonriparian use. With irrigation becoming an increasingly prevalent agricultural practice,[71] there is a need for statutory recognition of irrigation as a beneficial riparian use and a clarification of whether the term riparian lands includes lands beyond the watershed for purposes of irrigation.

Industrial and Commercial Uses There appears to be no Indiana case law in the area of industrial and commercial uses, with the exception of the controversy over municipal water supply companies. Such companies, as earlier noted,[72] are usually considered commercial users, based on their corporate structure and the nondomestic nature of their use.[73] Two water supply statutes expressly mention commercial and industrial uses as being potentially beneficial.[74] Industrial and commercial uses are subject to the same "reasonable use" balancing process applied to nondomestic uses.[75]

Power and Energy Withdrawal Uses Generation of power is one of the listed beneficial uses for water supply and reservoir water supply storage.[76] Power plants generally require great quantities of water for cooling of machinery, thereby generating excessive quantities of heated water. Thermal pollution regulations set the maximum amount of temperature fluctuation from the normal seasonal temperatures in various bodies of water in Indiana.[77] Thermal polluters are allowed to divert such heated water to "holding ponds," which allow the water to cool and are exempted from the definition of public waters, as are all holding ponds designed to reduce pollution.[78]

Because of the massive amounts of water used by a power plant and returned to the stream, such a user may be required to minimize its use in order to allow for other beneficial riparian uses. It may be that in the balancing off of the social value of competing uses the public interest served by a municipal or regional power plant may justify greater withdrawals when in competition with other commercial enterprises.

Stream and Lake Modification

"A riparian owner has a common-law right to the natural flow of the water of a stream running through or along his land, in its accustomed channel. . . ."[79] Based on this common-law right, a riparian may divert or change the channel of a stream within his own property boundaries, if he returns the flow to its original channel by the time it leaves his land, unless that diversion somehow alters the nature of the flow so as to injure another riparian. Thus, a riparian above or below the point of diversion may seek a remedy for changes in the velocity, direction, or sedimentation of stream flow, if those changes were caused by the channel modification.[80]

Although lake level regulation[81] might appropriately be treated under "instream uses" it is treated herein for two reasons: (1) establishment and enforcement of lake levels affect withdrawal rights, and (2) such treatment will facilitate discussion of public rights under "instream uses."

The Indiana Legislature has seen fit to accord lakes of ten or more acres special protection from certain actions that would lower a lake below its legally established level.[82] The various acts forbid the lowering of such lake levels by means of (1) a ditch or dam,[83] (2) a ditch or drain lower than lake level and within one hundred sixty rods of the lake,[84] or (3) a ditch or drain cutting through a line of lakes or within one hundred and sixty rods of a lake unless an existing dam will protect the lake levels.[85] Another act forbids lowering a twenty-or-more-acre artificial lake by more than twelve inches below the lake's high water mark,[86] unless the lake is an artificial lake used for municipal water supply or electric power generation, an artificial lake controlled by the Department of Natural Resources, or one of several other specified exceptions.[87]

The statute contains a procedure whereby a party contemplating actions that could possibly lower a lake level can request the Department of Natural Resources to approve the project if the lake level will remain unchanged. The Department of Natural Resources is required to conduct a thorough investigation of the effect of the project before granting approval, and must specify any safeguards to be taken in its written approval. The statute provides for hearing and appeal, upon the Department of Natural Resources' refusal to approve.[88]

Although there is no case law on point, these lake level statutes may prohibit a landowner within the lake's watershed area from damming, impounding, or otherwise retaining surface water run-off on his own property, because such an action would arguably lower the lake level.[89] Although not covered by statute or regulation, it is arguable that drilling of wells and pumping of subterranean water in amounts sufficient to lower the water below the established lake level might be prohibited.

Another statute empowers the county circuit or

superior court to entertain petitions to repair or construct a lake level control structure of some sort. Such a petition can be filed by the Department of Natural Resources, the county commissioners, or twenty percent of the owners of land within four hundred and forty yards of a lake containing ten or more acres.[90] However, a written remonstrance by at least fifty-one percent of such landowners will be sufficient to have the petition dismissed.[91] If the petitioners obtain a judgment in their favor, project costs are apportioned among the petitioning parties in predetermined statutory fractions.[92] Thus, the statute allows local landowners to determine the type of lake level control they desire, while providing for state input. In addition, the statute strives to counter the interest of nonresident sportsmen who would otherwise petition for additional water recreation sites and improvement of existing sites, with the rationalization that the sites would be paid in part with public money.

Instream Uses

Coexisting Private and Public Riparian Rights The preceding sections discussed the rights of riparian owners to withdraw water from adjacent watercourses and lakes for various uses. Withdrawal rights are "private rights" arising out of ownership of land abutting on a body of water. In general, there are no common law *public rights* of withdrawal. The term public rights in water refers to public uses of water which the law protects in persons, regardless of whether they own land abutting on the water.[93] Unlike withdrawal uses, both public and private rights may exist as to "instream uses."[94] Public rights may be either a common-law right or the result of statutory enactment. With the exception of the common-law public right of navigation, most public rights in water are statutory and quite recent.[95]

Public rights are not held to be paramount to every conflicting private riparian right[96] or public activity. Resolution of conflicting interests, as well as statutory expansion of public rights, are influenced by the state's economic interests.[97] While public rights may exist only in waters denominated as "public water" by statute[98] or by common-law definition,[99] such rights do not exist in all public waters. As will be discussed later, public rights in lakes appear to be limited to those lakes that are used by the public under the doctrine of acquiescence and which meet the statutory criteria.[100] However, to limit lakes subject to public rights to those lakes used by acquiescence poses a question: If a navigable stream flows into or out of a lake not otherwise subject to public rights, does that lake also become navigable and therefore public, or does the lake retain its private nature until public use is gained by acquiescence? Indiana case law and statutes have never clearly addressed this issue.[101]

The class of waters susceptible to public rights has been substantially broadened by the Indiana General Assembly to include artificial lakes,[102] waters overlying private lands dedicated to the public,[103] artificial channels adjoining watercourses and public lakes,[104] and rivers under the Natural, Scenic and Recreational Rivers Act which are subject to a "water use easement."[105]

Although clear-cut priorities are rare in the field of water rights, Indiana has accorded domestic riparian water uses an unequivocal priority over public rights and other riparian uses.[106] Beyond this point, however, private (riparian) uses and public uses must be balanced to obtain the most "beneficial use" of state water resources.[107] To a degree the general assembly has already provided a balancing of rights in certain lakes through the lake level statutes.[108] Established levels will tend to promote navigation, protect fish and wildlife, and encourage recreation, while protecting riparian owners on the lake from drastic fluctuations of lake levels on the shoreline.

The principal private rights, public rights, and instream use issues will be discussed under two major headings: *navigation and navigability*, and *recreational uses*.

Navigation and Navigability A judicial ruling on a watercourse's navigability affects the state's jurisdiction over that water, the right to erect obstructions, rights contingent on bed ownership, and various recreational uses associated with public water rights.

The issue of various watercourses' navigability has been extensively litigated, more so in the 1800s than in recent times, when the legislature has become the leading force in public water rights.

In 1833, the Indiana Supreme Court first considered the issue of navigability. In *Cox v. State*,[109] defendant was prosecuted by the state for maintaining a mill dam across the White River which completely blocked navigation. The court upheld the state's right to compel removal of such an obstruction, based on concurrent state and federal jurisdiction over "navigable waters," as mandated by the Northwest Ordinance, in the form re-enacted by Congress.[110]

The ordinance originally declared that

> the navigable waters leading into the Mississippi and the St. Lawrence, and the carrying places between the same, shall be common highways, and forever free, as well to the inhabitants of said territory as to the citizens of the United States, and of those of any other states that may be admitted into the confederacy, without any tax, impost, or duty therefor.[111]

The *Cox* court construed this language to mean that the state was prohibited from "converting [the streams] to any other use than public highways, and from obstructing them with any artificial obstruction, and from levying any tax, impost, or duty on any of those citizens who may navigate them."[112]

The court also relied on the common-law protection of navigable waters from physical obstructions, but avoided deciding the issue of bed ownership because of the state's power to remove nuisances and obstructions from navigable waters, regardless of whether the bed is publicly or privately owned.

An 1851 case cited the Northwest Ordinance,[113] but neglected to mention the fact that Congress had adopted the ordinance as federal law, thereby making it appear that the court was drawing on legislation enacted before the Constitution. As explained by the same court three years later in *Depew v. Board of Trustees,*[114] the Northwest Ordinance was enacted in July 1787, prior to the framing of the United States Constitution in September 1787. Because the Constitution took effect after the passage of the ordinance, it superseded the ordinance with respect to the various "states" of the Northwest Territory as they achieved statehood. However, the United States Supreme Court subsequently ruled that Congress had since recognized and readopted the provision of the ordinance governing navigable streams.[115]

Depew was the first Indiana case that delineated two classes of nontidal, navigable streams:

> One of these classes is only navigable for certain kinds of craft, certain distances within the state, and is not visited by vessels coming from and going to, by continuous voyages, navigable waters of other states. . . . These streams are highways for trade and commerce within the state. The other class of navigable streams is composed of those which are navigable, in fact, for vessels coming out of, and returning into, by continuous voyages, the navigable waters of other states.[116]

The state has exclusive jurisdiction over the first class and may authorize obstructions for the public good, such as dams, bridges, and mills. The state and federal governments have concurrent jurisdiction over the second class, subject to preemption by Congress's exercise of its power to regulate interstate commerce,[117] as exercised by its reenactment of the Northwest Ordinance navigability provision.[118]

Based on the lack of interstate traffic on the stream in question, the *Depew* court held that the stream belonged to the first class of navigable rivers and that the public interest was better served by the "artificial highway" or canal.[119] The court remarked that state policy did not favor enlarging the federally navigable class of streams, because by increasing the latter class, the state decreased both its power over state water and its ability to construct bridges, railroads, canals, and other potential obstructions.[120]

The *Depew* holding probably reflected the growing concern of the day regarding state control of Indiana affairs and the need to encourage development of the Indiana economy.[121] Read in context, the language of the opinion shows a strong bias in favor of the state's newly constructed canal system, a top priority in the mid-1800s.[122]

In *Neaderhouser v. State,*[123] the court had occasion to apply the *Depew* classification of navigable waters. In a public nuisance — criminal prosecution of a mill owner on the Wabash — the court held that that portion of the Wabash was not federally navigable and was used only by small local boats.[124] Because the mill owner's predecessor had built the mill dam under state authorization, the court held that such a dam was indeed a legitimate exercise of exclusive state control in the public interest.[125]

Although the *Neaderhouser* court mentioned the readopted version of the navigability provision of the Northwest Ordinance, it did not rely on it for precedential value. During the 1840s and 1850s, judicial favor shifted to the view that the reenacted ordinance "was not intended to be operative after a region attained statehood."[126] Reliance, in turn, shifted to the common-law and statutory provisions.

The Indiana Supreme Court passed midway into the twentieth century before it was once again confronted with a navigability issue. In *State v. Kivett,*[127] a 1950 case, the state brought an action seeking an injunction against a commercial riparian for the removal of sand, gravel, and minerals from the bed of the White River in Morgan County.

In the decade after *Neaderhouser* and before *Kivett,* the United States Supreme Court had finally decided several leading cases on navigability in the federal context, the following of which were relied on by the *Kivett* court. In 1870, the Court formulated its classic definition of navigable waters in *The Daniel Ball:*[128]

> Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water. And they constitute navigable waters of the United States within the meaning of the acts of Congress, in contradistinction from the navigable waters of the States, when they form in their

> ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other States or foreign countries in the customary modes in which such commerce is conducted by water.[129]

This ruling is essentially congruent with the *Depew* rationale, which gave rise to two classes of navigable streams: those streams involved in interstate commerce (or otherwise subject to congressional regulation thereof), and those streams supporting intrastate commerce which are only subject to the state's exclusive jurisdiction and exercise of powers.[130]

Four years later the Court elaborated on *The Daniel Ball* definition in *The Montello:*[131]

> The true test of the navigability of a stream does not depend on the mode by which commerce is, or may be, conducted, nor the difficulties attending navigation. If this were so, the public would be deprived of the use of many of the large rivers of the country over which rafts of lumber of great value are constantly taken to market.
>
> It would be a narrow rule to hold that in this country, unless a river was capable of being navigated by steam or sail vessels, it could not be treated as a public highway. The capability of use by the public for purposes of transportation and commerce affords the true criterion of the navigability of a river, rather than the extent and manner of that use. If it be capable in its natural state of being used for purpose of commerce, no matter in what mode the commerce may be conducted, it is navigable in fact, and becomes in law a public river or highway.[132]

In *United States v. Utah,*[133] the Court held that the issue of navigability was to be resolved with reference to the navigability of the specific waters on the date the governing state attained statehood. This 1931 ruling put an end to the various judicial theories concerning the Northwest Ordinance and its reenactment.

With this barrage of high court precedent, the Indiana Supreme Court tackled the navigability issue in *Kivett* noting that the test for the stream's navigation was

> whether or not [the stream] was available and was susceptible for navigation according to the general rules of river transportation at the time Indiana was admitted to the Union [1816]. It does not depend on whether it is now navigable. . . . The true test seems to be the capacity of the stream, rather than the manner or extent of use. And the mere fact that the presence of sandbars or driftwood or stone, or other objects, which at times renders the stream unfit for transportation, does not destroy its actual capacity and susceptibility for that use.[134]

The court reviewed extensive evidence of interstate commercial navigation on the White River in Morgan County as far back as 1821,[135] and held that portion of the river to be navigable in the federal sense.[136]

The court also refused to adopt defendant's argument that since Morgan County and Indianapolis were first settled several years after the year of statehood, there could not have been any navigation on the White River in 1816. The court stated that "this was not material in the decision of this case, for the use of the river a few years later was sufficient to show its sufficiency and availability in 1816."[137]

Bed Ownership The primary issue in *Kivett* was ownership of the river bed from which the defendant was removing materials.[138] In *United States v. Holt State Bank,*[139] the United States Supreme Court held that

> lands underlying *navigable* waters within a state belong to the state in its sovereign capacity and may be used and disposed of as it may elect, subject to the paramount power of Congress to control such waters for the purposes of navigation in commerce among the states and with foreign nations. . . .[140]

Thus, according to *Kivett*, if the stream was navigable as of the date of statehood, then title to the bed of the river passed from the Northwest Territory to the State of Indiana, and could not be conveyed incident to the adjoining riparian property without a legislative act.[141] If the river were not navigable in 1816, then title to the river bed would have passed with the adjoining riparians' titles, to the thread of the river. By holding that specific portion of the White River to be navigable, the court ruled that the bed title was held by the state and therefore disallowed defendant's alleged riparian right to remove minerals therefrom.[142]

The court also noted that "since the effect upon the title to [the river bed] is the result of federal action in admitting a state to the Union, the question, whether the waters within the State under which the lands lie are navigable or non-navigable, is a federal" question and is "determined according to the law and usages recognized and applied in the federal courts, even though, as in the present case, the waters are not capable of use for navigation in interstate or foreign commerce."[143]

Although Indiana ownership along the Ohio River

extends to the low-water mark by virtue of the established state boundary,[144] federal cases have consistently held that the appropriate line of demarcation (in absence of a contrary state boundary) is the high-water mark,[145] and *Kivett* declared that federal law must be applied to such issues.[146]

As noted in *Kivett,* if a watercourse is nonnavigable, bed ownership generally lies with the adjoining riparians to the center or thread of the stream or channel.[147] Title to the bed is not affected by *avulsion*, the sudden and rapid change of a watercourse channel. After an avulsion, the contiguous owners continue to own to the center of the abandoned channel. However, if the stream shifts its channel by means of a gradual and imperceptible deposit of sediment, a process known as *accretion*, the center or thread of the stream remains the boundary line of adjoining riparians.[148]

Ownership of lake beds relies on different methods of delineating property lines. At common law, lake owners take title to the bed roughly in proportion to their shoreline footage. The method of dividing the bed depends on the shape of the lake. If the lake is elongated and narrow, the lines are drawn perpendicular to the median line of the lake, in a manner similar to the division of a nonnavigable stream bed. If the lake shape is rounded, lines are drawn to form proportional pie-shaped wedges, but if the shape is so irregular as to prevent the above methods, portions are divided in proportion to shore frontage.[149]

The general assembly has never specified when the state holds title to lake beds. The state can obtain title to a bed by the exercise of eminent domain in reservoir condemnation proceedings and similar actions.[150] However, mere acquiescence to public use by private lake owners does not disturb their title to the bed, as specified by the general assembly in the preamble to the lake level statutes. Some clarification is needed as to whether the "navigability" of a lake, that is, the flow of a navigable watercourse into or out of the lake, serves to vest bed title in the state. A 1934 Indiana Supreme Court case *implied* that private bed ownership of a lake was predicated on the lake's nonnavigability, but never expressly stated its reasoning or precedent.[151]

Bed ownership of any body of water gives a private owner the following rights: to remove materials from the bed, to exclude the public from use of the overlying waters,[152] and to cut and remove ice.[153] If the state owns the bed, it has the duty to regulate and apportion the above rights for the public good.

The *Kivett* court sustained the state's assertion of jurisdiction over and title to the river bed lands in question. This ruling supported a statute (already in existence) that gives the Department of Natural Resources power "to issue permits to any person, firm or corporation to take coal, sand, gravel, stone, gas, oil or other mineral or substance from or under the bed of any of the navigable waters of the state."[154] Moreover, these permits are exempted from the provisions of the lake level statute prohibiting lake shoreline enroachment or excavation without Department of Natural Resources approval.[155] However, the mineral removal permit system is probably superseded, with respect to petroleum, by a separate, later act providing for petroleum exploration on state property. This construction turns on the later act's definition of "public lands": "Lands and areas belonging to, or subsequently acquired by the state or any of its institutions, including lands of every kind and nature."[156] Based on *Kivett,* this definition would include the beds of navigable rivers.

In a 1918 case, the state obtained an injunction against an Illinois corporation's removal of sand from the state's bed under Lake Michigan. The court stated that the state lake bed land was held *in trust* for the benefit of the state citizens.[157] This appellate court mention of the "public trust" with regard to water rights has never been adopted by the Indiana Supreme Court.[158]

The owner of a lake or stream bed also has the right to cut and remove ice from the surface of the lake.[159] This right is usually considered an instream use, rather than a withdrawal use, because it falls within uses that are contingent on bed ownership, not within the domestic-commercial priorities familiar to withdrawal uses. The public has joint rights to cut ice from lakes to which the state owns the bed.[160] However, since the advent of the electric refrigerator, this right has decreased considerably in importance.

Public and Private Rights to Obstruct Navigable Watercourses As set out in *Depew,*[161] the two classes of navigable watercourses are (1) the waters navigable by interstate and foreign commerce, which are subject to state jurisdiction, except when preempted by federal control; and (2) the waters available for navigation on the intrastate level, subject to exclusive state jurisdiction.

With regard to the former class, neither a state nor a private party may obstruct such a watercourse, because of the pervasive nature of the federal interest in interstate commerce. It would seem that the federal government could obstruct such a watercourse if it determined such an obstruction to be of sufficient public benefit so as to justify impeding interstate commerce.

In 1854, in *Board of Commissioners v. Pidge,*[162] the court refused to award a shipowner damages from a bridge which allegedly obstructed the channel. The state had previously authorized the construction of a lock and dam to ease navigation around rapids on the

St. Joseph River, a federally navigable stream by virtue of its Indiana-Michigan traffic.[163] The state subsequently erected a bridge to clear the new channel formed by the dam and lock. However, when the dam broke, the bridge partially obstructed the only passable channel. Noting that the bridge was not a nuisance when it was built, the court reasoned that although the state cannot obstruct a federally navigable stream, it can improve navigation by erecting works that do not otherwise injure navigation.[164] The court refused to level blame for the obstruction, noting instead that the demise of the dam had caused shift of the channel and mentioning God, nature, and the dam-builders as possible parties sharing the blame.

In 1856, in *Porter v. Allen,*[165] the court held that a riparian businessman had the right to remove a "snag" obstructing the Ohio River, but that when he hauled the offending drift material to the nearest sandbar, such that a boat passed over and wrecked upon the snag when the flow rose that night, he was liable for a breach of duty to exercise ordinary care.[166] The court rejected the defense that the boat had not been in the channel of the river, and ruled that boats should be able to safely run anywhere in a navigable river, not in just the channel.[167]

This case may at first glance seem to conflict with *Pidge,* until one distinguishes *Porter* and *Pidge* on the basis of both the party causing the obstruction and the cause of action. *Pidge* involved a state-authorized lock and dam, a state-constructed bridge, and a claim of nuisance against the state. *Porter* dealt with a natural obstruction and negligent interference by a private party. The *Pidge* court allowed the state to reasonably obstruct all but the legal, federally navigable channel, while the *Porter* court prohibited private interference with any portion of a federally navigable stream.

With regard to the intrastate navigable class of rivers, either state projects or state authorized projects may obstruct such a watercourse if the state first determines the obstruction to be in the public interest. In *Neaderhouser v. State,* the legislative authorization of defendant's dam was held to be a complete defense to a prosecution for nuisance, where the dam was upstream of the federally navigable portion of the stream.[168] In *Williams v. Beardsley,* a pre-*Depew* case, the court allowed the partial obstruction of a navigable stream by a privately built bridge, where the bridge served the greater public good and could be navigated around with a greater exercise of boating skill.[169] Lastly, in *Depew v. Board of Trustees,* the court gave a state canal aqueduct priority over the navigation of an intrastate stream, based on the greater public good.[170]

Several state statutes allow municipalities to utilize eminent domain and to erect structures so as to improve a harbor, channel, or watercourse.[171] Another statute allows private and public riparians to construct dams and obstructions across public watercourses for legitimate riparian uses, including irrigation, after first obtaining approval from the Department of Natural Resources.[172] Flood control and water supply dams will be discussed in a later section.[173]

Statutes Affecting Navigability Aside from the common-law provisions, a stream may also be declared navigable under state law by the county commissioners, upon petition by at least twenty-four property owners in the county, "residing in the vicinity of the stream."[174] Although the statute provides no criteria by which to ascertain navigability, if the commissioners examine the stream and find it to be navigable,[175] the stream is then subject to restrictions on piers, wharves, and docks;[176] to penalties on and provisions for removing obstructions;[177] and to an exemption for already erected, unabandoned mills, dams, bridges, aqueducts, viaducts, and machinery on the stream.[178]

A separate statute has declared the Kankakee River to be navigable within the boundaries of Indiana for purpose of exercising Indiana police powers.[179]

The enabling statute of the Department of Natural Resources gives the department "general charge of the navigable waters of the state," including the regulation of fishing and hunting activities within five hundred yards of such a body of water,[180] as well as boat registration[181] and safety rules.[182]

Recreation In comparison to other water uses, "use . . . for recreational purposes is a minimum consumptive use."[183] The Indiana General Assembly has declared a broad public policy favoring a "vested [public] right in the preservation, protection and enjoyment of public fresh water lakes."[184] The enumerated statutory recreational uses include boating, swimming, fishing, and "any purpose for which said lakes are ordinarily used and adopted."[185] Similar statutory protection of watercourses has been adopted in the natural, scenic, and recreational watercourses statute, which empowers the Department of Natural Resources to designate certain "rivers of unusual natural, scenic or recreational significance [to] be set aside and preserved for the benefit of present and future generations before they have been destroyed."[186] The statute also recognizes the public interest in maintaining "close contact with such natural, scenic and recreational rivers" in order "to benefit from the scientific, aesthetic, cultural, recreational, scenic, and spiritual values [these rivers] possess."[187] The Department of Natural Resources may designate such rivers as natural, scenic, or recreational,[188] and thereafter acquire sufficient title and easements to guarantee protection

of the designated river.[189] The statute provides the following definitions:

> (c) The term "natural river" shall mean any river which, free of impoundments, is generally unpolluted, undeveloped, and unaccessible.
>
> (d) The term "scenic river" shall mean any river which is free of impoundments, accessible in several places, and with minimal pollution and shore line developments.
>
> (e) The term "recreational river" shall mean any river which does not contain those characteristics necessary to qualify as a natural or scenic river, but which still maintains scenic or recreational characterisitcs of unusual and significant value.[190]

In preserving the inherent value of such rivers, the state is empowered to obtain the following types of easements: (1) water use easement "granting of the right of the general public to travel along or across all water portions of the river,"[191] (2) scenic easement granting "protection of adjacent land in its present state to preserve its natural or scenic characteristics,"[192] (3) land use easement granting "the right of the general public to use the adjacent lands,"[193] and (4) "conservation easement."[194]

The protection of watercourses under the scenic watercourse statute resembles the protection of lake resources under the lake level statute,[195] in that both lake level and scenic watercourse statutes seek to preserve and maintain the water resources of the state for the benefit of the public and its recreational uses. However, the former statute concentrates on environmental and aesthetic concerns, while the latter statutes primarily control ditches, dams, drains, and excavations which would lower a lake below its established level.

The lake level statutes declare public recreational use rights (fishing, boating, swimming, and other activities) in all "public fresh water lakes"[196]—"lakes which have been used by the public with the acquiescence of any or all riparian owners."[197] This concept of acquiescence has never been defined or dealt with in detail by the Indiana courts. Although *Sanders v. DeRose,*[198] a 1943 Indiana Supreme Court case, held that each owner abutting a nonnavigable lake had the exclusive right to enjoin public use of the waters overlying his portion of the lake bed,[199] the subsequent statutory enactment of the lake level statutes has resulted in the following ambiguous language: "acquiescence of *any or all* riparian owners."[200] Although one commentator has concluded that the acquiescence of *any one* lake owner to a *substantial* public use is sufficient to trigger a public right to use such waters,[201] no authority is available to support this view. Furthermore, this interpretation leaves two questions unanswered: (1) How much and what nature of public use is sufficient to establish acquiescence? (2) If only one owner's acquiescence is sufficient to open up an entire lake to public use, by what means can other lake owners prevent the establishment of public rights, especially if the right to exclude others from an in-stream use of the water is dependent on ownership of the bed underlying the water?

In *Sanders v. DeRose,* plaintiff and another party owned the land surrounding a twenty-acre nonnavigable lake which was not connected to any public waters. Plaintiff owned a boat livery and charged the public to boat and fish on his portion of the lake. Defendant entered upon plaintiff's portion of the lake, claiming that the public had a right to fish and boat on the entire lake and encouraging the public to use the lake accordingly. The court held that plaintiff had the right to enjoin public use of the portion of the lake overlying his land. Reasoning that "the right to fish follows the title to the soil," the court applied the common law in holding that "where . . . the portion of the several owners of the bed of [an inland nonnavigable] lake may be determined by congressional survey, each owner has the right to the free and unmolested use and control of his portion of the lake bed and water thereon for boating and fishing."[202]

Although *Sanders* did not specifically address the issue, an extension of the ruling would imply that public fishing rights exist in navigable waters if the state owns the bed of navigable lakes. *Sanders* also did not rule on public recreational uses other than fishing and boating. Of course, the broad legislative policy in favor of varied recreational uses would encourage extension of the *Sanders* rule to a wide variety of recreational uses.[203]

In the only other case in this area, the appellate court held that the public had no right to fish or otherwise use an artificial lake which was created by an amusement park from a nonnavigable stream.[204]

Special Areas Of State Regulation

Fish and Wildlife Protection The Bureau of Land, Forest and Wildlife Resources in the Department of Natural Resources[205] has responsibility for

> the protection, reproduction, care, management, survival and regulation of wild animal populations *regardless of whether they are present on public or private properties of this state* and organize and pursue a program of research and management of wild animals that will serve the best interests of the resources and the people of the state of Indiana.[206]

The statutory and regulatory provisions of the Fish and Wildlife Act govern waters beyond the scope of public recreational rights. The most extensive control exists in the statewide protection of nongame and endangered species, regardless of where the violation occurs.[207] Regulation of species allowed to be captured or caught generally extends to all but the owner's lands, and fish licenses are required "when fishing in waters containing state-owned fish, waters of this state or boundary waters of this state."[208] This includes all lakes and watercourses except "private waters," that is, "waters wholly on the land of an individual or individuals which are not connected with public waters and which will not allow the ingress of fish into such private waters."[209] The statutes governing unlawful fish stocking and unlawful fishing methods and devices govern the same waters in which fishing licenses are required.

Other provisions restrict chemical treatment of aquatic vegetation,[210] fishing near a dam,[211] ice fishing holes and shanties,[212] and the necessity of "fish ladders" around certain dams.[213]

The Enforcement Division of the Department of Natural Resources has the responsibility to detect and prevent violation of department statutes and regulations. The division's conservation officers have all the powers of local law enforcement officers, but only in furtherance of Department of Natural Resources matters.[214]

The Stream Pollution Control Board has jurisdiction overlapping that of the Department of Natural Resources in the prevention of pollution which destroys "any fish life or any beneficial animal or vegetable life" or injuriously affects "the growth or propagation thereof."[215]

Pollution and Waste Disposal The federal, state, and local pollution and waste disposal standards apply to *all* parties discharging into public waters, not just riparian owners.

Thermal Pollution[216] Any party discharging large quantities of heated water back into the watercourse or lake may be subject to the thermal pollution regulations. These regulations set the maximum allowable temperature fluctuations in certain bodies of water, based on the tolerance of existing fish life.[217] The usual means of cooling such water is to channel the heated discharge into "holding ponds" until the water has cooled to a suitable temperature.[218]

Chemical Pollution Any party discharging chemical pollutants into bodies of water may be subject to the water quality standards enforced by the Indiana Stream Pollution Control Board under the supervision of the Indiana Environmental Management Board, both of which function within the State Board of Health. These state agencies are responsible for enforcing both state and federal water quality standards in Indiana, based on the federal Environmental Protection Agency's approval of the Indiana statutory enforcement scheme.[219]

The regulations specify water quality standards applicable to every body of water in Indiana (except privately owned ponds), depending on the type of use, such as: whole or partial body contact recreation, warm or cold water fish maintenance, public or industrial water supply, or agricultural purposes. For each type of water use, the regulation specifies a variety of criteria: pH and temperature ranges, taste and order, toxicity, dissolved solid and oxygen concentrations, and contamination limitations on bacterial, chemical, and radioactive substances.[220] These standards do not apply to the dispersion area of each user's stream discharge. However, the "mixing zone" in the stream must be free of substances that are putrescent, unsightly, harmful, or toxic, or which constitute a nuisance.[221]

Parties wishing to drain cyanide-type compounds,[222] phosphorus-containing detergents,[223] and polychlorinated biphenyls (PCB's)[224] into sewer systems and watercourses must first obtain agency approval. Strip mine owners must dispose of or cover their mining refuse so as to minimize acid mine drainage into state waters,[225] and spills of oil and other hazardous substances must be contained, reported, and thoroughly cleaned up.[226] The Stream Pollution Control Board enforces these standards by means of a complex permit system, hearings, and court actions.[227]

Because pollution violations often cause fish and wildlife kills, the Department of Natural Resources and the Stream Pollution Control Board work together to prosecute polluters. Violation of a department regulation could bring misdemeanor charges, a civil action for damages sustained from the fish kill, and even a suit in equity to enjoin further pollution. The Department of Natural Resources fish kill figures may also be incorporated into the Stream Pollution Control Board's complaint.

Municipal Sewage Disposal Probably the most infamous case in Indiana water use was decided in 1899 by the Indiana Supreme Court. In *City of Valparaiso v. Hagen*,[228] nineteen downstream riparians brought a nuisance suit against the city, seeking to enjoin the dumping of sewage which was ruining their lands. The court framed the issue in these words:

> May a municipality, acting in conformity with statutes, skilfully and without negligence or

> malice, pursuing the only natural and reasonably possible line of drainage, be enjoined from discharging its sewage into a natural watercourse and thereby polluting its waters to the injury of the lower riparian owners?[229]

This conveniently framed issue allowed the court to deny the injunction, based on sovereign immunity and the technological void of alternative means of sewage purification and disposal.[230] The opinion seemed to imply that the city had a right to pollute, even to the great detriment of downstream riparians.

Fortunately, thirteen years later, in *Penn American Glass Co. v. Schwinn*,[231] the same court commented that the exception allowing cities to make "avail of streams for sewerage without liability . . . grew up from a supposed necessity, but the same reasons which seemed to be grounds for the exception to the rule in regard to pollution of streams by cities are the very ones which must sooner or later reverse it."[232] Although technically not reversing *Hagen*, the *Penn* court noted that *Hagen* was "based on unsound premises."[233] The *Penn* court was very careful to distinguish "between obstructing a natural stream and befouling its waters," as opposed to "the detention and temporary diversion to ordinary use" of riparian waters.[234]

Although *Hagen* has never expressly been overruled, the passage of stream pollution legislation in the 1960s and 1970s has had the effect of reversal.[235]

State statutes now regulate most facets of waste disposal, with joint regulatory responsibility being shared by the State Board of Health, the Stream Pollution Control Board, and the Department of Natural Resources. All three agencies must approve any sewage disposal facilities of housing developments greater than five lots, if the development is "an integral part of any change in shore line" of a public lake.[236] Any applicant with plans to construct a channel to a river or stream must first obtain approval from all three agencies.[237]

The operators of all waste water treatment control plants and water supply systems must be certified as to their competency by the Environmental Management Board. All such plants must be run by certified operators.[238] Municipal sewage treatment plants must also obtain approval from the Public Service Commission.[239] Any private entity seeking to connect a private drain to an already approved drain must first obtain approval from the Stream Pollution Control Board and the applicable local agency, if the private drain serves more than two family residences.[240]

Interstate transport of sewage requires approval by the general assembly and the county commissioners of the affected counties.[241]

Operating sewage disposal facilities are often subject to concurrent, stringent regulation by any or all of the above mentioned state agencies as well as local agencies.[242] Because of the high cost of constructing new municipal waste treatment plants, EPA-approved facilities will receive seventy-five percent federal funding.[243]

Sewage overflows or spills into watercourses that violate pollution standards may be subject to prosecution by the Environmental Management Board, the Stream Pollution Control Board, and the Department of Natural Resources.[244]

Water Power and Energy

As noted previously, water use for generation of power is one of the approved statutory "beneficial uses" of water.[245] The Natural Resources Commission is in charge of recommending and investigating the best allocations of state resources, including "the department of water power."[246] The Department of Natural Resources also has the power to acquire property for constructing reservoirs in order to generate hydroelectric power.[247] The "Reservoir Coordinating Committee" oversees the planning and development of state reservoirs.[248]

Such reservoirs are exempt from the lake level statute governing artificial lakes of twenty acres or more. Thus, the water level of a power-generating reservoir can dip more than twelve inches below the dam's high water mark.[249]

The Natural Resources Commission has "jurisdiction and supervision over the state of the maintenance and repair of dams, levees, dikes, floodwalls and appurtenant works in, on or along the rivers, streams and lakes of the state." Although the owners of such structures must bear the cost of repair, the commission has the right to inspect and take necessary emergency measures; a related section absolves the commission from any liability in connection with such structures. The commission also has the power to contract to sell quantities of reservoir water, either by release from the reservoir impoundment or by direct withdrawal from the reservoir. Funds from such sales are recycled back into reservoir maintenance and acquisition.[250]

These provisions are closely related to the flood control statute, both of which fall within the supervision of the Natural Resources Commission.

Flood Water Defined and Classified

Flood water from a natural watercourse has been defined as "overflow water [which] follows the course of the stream to its outlet or . . . returns to the channel . . ."[251] If flood water does not " . . . become separated from the main stream so as to prevent its return," it does not lose its character as part of the watercourse,

and the rules applicable to watercourses apply to it.[252] If, however, flood water leaves "its ordinary channel, and spreads out over adjacent lands, running in different directions or settling in pools and flats,"[253] it becomes diffused surface water and the rules of surface water will apply.

Case Law Although early Indiana cases addressing the problem of flood water appeared not to make the distinction between flood water and diffused surface water,[254] several later Indiana cases involving the construction of railroads near watercourses clearly made the distinction.[255] The courts consistently held that high water from a watercourse which followed the course of the stream or returned to the stream was flood water. They found the railroads liable for the diversion of that water onto another's land.

The later cases, however, found the classification of water as diffused surface water or as flood water to be determinative of liability. The only thing made clear from the court's most recent approach to the flood water problem is that the burden is on the one claiming interference with the flood channel to produce evidence that the obstruction altered the course of the stream during flooding thereby damaging him.[256]

Statutory Law Insofar as flood water remains in or returns to a watercourse and does not become diffused surface water, it keeps its public character and is subject to such regulation as may become necessary. Although a detailed examination of all the statutory enactments pertaining to flood control is beyond the scope of this survey, a brief summary of the high points will demonstrate that the Indiana General Assembly has developed complex statutory schemes for preventing and controlling floods. In 1965, the powers and duties of the Flood Control and Water Resources Commission and the Department of Conservation were abolished, and their powers and duties were transferred to the newly created Department of Natural Resources.[257] The department has the power to investigate, compile and disseminate information and make recommendations concerning flood prevention. Further, the department has the overriding responsibility for coordinating, acquiring, and inspecting flood control and stream modification projects in Indiana and a duty to "encourage . . . local initiative and effort in providing flood control and the development of water resources.[258] In addition, the department has administrative control over the Flood Control Revolving Fund which makes loans to municipalities[259] for the purpose of flood control or prevention if approved by the department and the State Finance Board.[260]

The Indiana Flood Control Act[261] was passed to minimize both the loss of life and damage to property which are caused by floods. The act recognizes that watercourses of rivers and streams should be regulated so as to minimize the extent of floods. It further recognizes that a comprehensive program for flood control should include provisions for the accumulation and preservation of the state's water resources.[262]

The general assembly has developed a complex statutory scheme for the construction and maintenance of levees for the purpose of controlling floodwater.[263] Levee districts may be created with boards endowed with broad powers to construct and maintain levees.[264] In addition, major levee projects may be constructed by the United States Army Corps of Engineers if local units agree to provide rights-of-way and maintenance for the completed projects.[265]

Several Indiana cities have their own flood control commissions,[266] which are subject to close supervision by the Department of Natural Resources.[267] In addition, a procedure is provided by statute for the creation of conservancy districts to deal with "serious problems of water management."[268] The statute lists numerous reasons for their creation, the first of which is flood prevention and control.[269] The districts have the power of bonding, taxing, exercising eminent domain, and operating and maintaining the works that may be constructed. Furthermore, a district may assume responsibility for and assure local operation and maintenance of federal projects constructed under the directives of the Watershed and Flood Prevention Act, and in cooperation with the Soil Conservation Service of the United States Department of Agriculture.[270] Though the districts are subject to the supervision of state agencies, it has been suggested that the Conservancy District Act may delegate too much control over the state's water resources to a local district.[271]

Acquisition of Water Rights by Prescription

In Indiana, rights to use water may be acquired by prescription if the use is adverse, continuous, uninterrupted, exclusive, and under a claim of right for the prescriptive period.[272] Acquisition of rights by prescription is based on the theory that a continuous user should eventually gain an interest against a riparian who fails to object to the use. The uses that may be acquired by prescription include (among others) the right to use water for recreational or agricultural purposes, the right to drain water onto the land of another, the right to divert water away from the land of another, the right to maintain dams, and other rights.

The Prescriptive Period By statute in Indiana the time required to acquire an easement by prescription is twenty years. Section 32-5-1-1 of the Indiana Code reads:

> The right of way, air, light, or other easement, from, in, upon, or over, the land of another, shall not be acquired by adverse use, unless such use shall have been continuously uninterrupted for twenty (20) years.

The prescriptive period begins to run at the moment the adverse use begins even if no actual damage is caused to a riparian owner.[273] Thus, if a riparian owner (or a nonriparian owner) withdraws water for use on nonriparian land, presumably the prescriptive period would commence to run. On the other hand, if a riparian withdraws water for use on riparian land the prescriptive period would not commence until such time as that use might become unreasonable in regard to fellow riparians.

Prescriptive Rights in Public Water Although Indiana courts have not specifically addressed the problem of whether an individual may acquire prescriptive rights in public water, the Indiana Supreme Court has held that "an easement cannot be acquired by prescription against the government."[274] It seems likely that in a case involving acquisition of prescriptive rights in public water, the courts in Indiana would find this holding applicable and deny such rights.

Case Law Although prescriptive rights in water may take many forms, the most frequently litigated issue in Indiana is the acquisition of a drainage easement by prescription.[275] In addition, the Indiana Supreme Court has addressed the problem of whether the right to have an unnatural condition maintained may be acquired by prescription. In *Burk v. Simonson,*[276] a case in which the defendant had maintained a lock for thirty years, the court held that the plaintiff, whose land would have been flooded had the lock been removed, had acquired a prescriptive right to have the lock maintained. Thus, prescriptive rights in water extend not only to an actual use or disposal of water, but also to a right to have a certain condition maintained.

Transfer of Water Rights

As a general rule, rights to water are not inextricably bound to the land to which they are incident. Therefore, they may be conveyed although the land itself is retained by the grantor. On the other hand, the rights to the water may be retained although the land itself is conveyed. However, if the land that has appurtenant water rights is conveyed, the deed passes not only the land, but also the water rights unless the grantor expressly reserves them.

Although these general rules appear to be simple enough at first glance, they raise serious questions. If the reasonable use doctrine contemplates use of the water on riparian land, how can title to the land and the right to the water be separated? In Indiana, may a riparian owner convey riparian withdrawal rights to a nonriparian or nonriparian land?[277]

Remedies to Protect Water Rights Equitable relief may be available to enjoin interference with water rights or to prevent threatened interference.[278] Injunctions are usually granted only if the legal remedy is inadequate.

In Indiana, an injunction may be granted even though the plaintiff is not a riparian owner suffering interference with his riparian rights. A number of injunctions have been sought on grounds that the defendant was maintaining a nuisance.[279] In such cases, the court in deciding what remedy should be granted may rely upon the law pertaining to private nuisance.[280] It may balance the equities and weigh the economic hardship an injunction would cause the defendant or the beneficial aspects of the alleged nuisance against the injury to the plaintiff in deciding what remedy is appropriate.[281] Even if the court denies an injunction, it may still recompense the plaintiff for his injury through an award of damages. Indiana courts have regularly awarded damages for injury caused by interference with riparian rights.[282]

Declaratory Judgment The reasonable use doctrine can cause uncertainty for a riparian owner who would like to be assured that his use of water will be acceptable. What may be considered a reasonable use today in relation to the uses of his fellow riparians may not be reasonable tomorrow if his fellow riparians change their uses.

This uncertainty might cause a riparian owner to seek an assurance that his use will continue to be reasonable. Although a declaratory judgment[283] would settle the issue of whether his use was reasonable at the time of the action, it would not assure that the use would continue to be reasonable in the future. A court might anticipate foreseeable water use demands and attempt to provide for them, but a certain amount of insecurity in regard to what will remain a reasonable use is unavoidable.

Miscellaneous In addition to traditional remedies provided by the courts, the Department of Natural Resources' Division of Water may mediate disputes among diverters of surface water within any watershed area.[284] A mediation may be instituted by filing a request with the division. The benefits of this mediation procedure are questionable in that the division's recommendations do not bind the parties and will not prejudice their rights to bring the matter to court.

REFERENCES

1. The doctrine of riparian rights arose out of the common law and has been refined and adopted in regions having an abundance of water. Vol. 1, *Waters and Water Rights* § 4.3, at 34; § 16, at 66. (R. Clark, ed. 1967). *See also* G. Waite, *Indiana Water Law and Suggestions for Action* 4 (1968); C. Kinney, *A Treatise on the Law on Irrigation and Water Rights* § 452, at 763 (2d ed. 1912).

2. *Tuesburg Land Co. v. State*, 78 Ind. App. 327, 330, 131 N.E. 530, 531 (1912). Section 13-2-1-3 of the Indiana Code affirms this principle by limiting riparian rights to "owners of land contiguous to or encompassing a public watercourse." Ind. Code § 13-2-1-3 (1976).

3. Vol. 1, *Waters and Water Rights* § 4.3, at 34, §§ 4.22-.23, at 112-14 (R. Clark, ed. 1967).

4. Vol. 1, H. Farnham, *The Law of Waters and Water Rights* § 63, at 281 (1904).

5. *Bainbridge v. Sherlock*, 29 Ind. 364 (1868), *modified*, 41 Ind. 35 (1872); Vol. 1, H. Farnham, *supra* note 4, §§ 62-63, at 280-81. A few jurisdictions have limited riparian rights to nonnavigable waters. *See Port of Seattle v. Oregon & W. R.R.*, 255 U.S. 56 (1921); Vol. 1A, G. Thompson, *Commentaries on the Law of Real Property*, § 275, at 448 (1964).

6. The reasonable use doctrine of riparian rights was judicially recognized as early as 1855 by the Indiana Supreme Court in *Dilling v. Murray*, 6 Ind. 324 (1855).

7. *Vandalia R.R. v. Yeager*, 60 Ind. App. 118, 124, 110 N.E. 230, 234 (1915).

8. *Lowe v. Loge Realty Co.*, 138 Ind. App. 434, 214 N.E.2d 400 (1966); Vol. 1, *Waters and Water Rights* § 52.1B, at 308 (R. Clark, ed. 1967). In *Mitchell v. Bain*, 142 Ind. 604, 614, 42 N.E. 230, 233 (1895), the court stated, "A stream does not cease to be a watercourse and become mere surface water because at a certain point it spreads over low ground several rods in width and flows for a distance without a definite channel. . . ." Relative to water resource projects and the development and improvement of water resources, the Indiana General Assembly has defined watercourse to mean "a channel, having defined banks, which is cut by erosion of running water through turf, soil, rock or other material and over the bottom of which water flows for substantial periods of the year . . . , and shall include any watercourse which has been improved by confining it in an artificial channel." Ind. Code § 13-2-1-4(4) (1976).

9. *Lowe v. Loge Realty Co.*, 138 Ind. App. 434, 214 N.E.2d 400 (1966); *Vandalia R.R. v. Yeager*, 60 Ind. App. at 124, 110 N.E. at 233. *See also Trout v. Woodward*, 64 Ind. App. 333, 340, 114 N.E. 467, 470 (1916), in which the court found that a six to nine month flow per year "from time immemorial" provided the necessary permanency.

10. *Trout v. Woodward*, 64 Ind. App. at 339, 114 N.E. at 470; *Vandalia R.R. v. Yeager*, 60 Ind. App. at 124, 110 N.E. at 233.

11. *New Jersey, Ind. & Ill. R.R. v. Tutt*, 168 Ind. 205, 211, 80 N.E. 420, 422-23 (1907); Vandalia R.R. v. Yeager, 60 Ind. App. at 124, 110 N.E. at 233.

12. *Trout v. Woodward*, 64 Ind. App. at 340, 114 N.E. at 4; *Vandalia R.R. v. Yeager*, 60 Ind. App. at 124, 110 N.E. at 233.

13. *Trout v. Woodward*, 64 Ind. App. at 340, 144 N.E. at 470; *Walley v. Wiley*, 56 Ind. App. 171, 177-78, 104 N.E. 318, 320 (1913). This holding is in accord with Indiana Code definition of a watercourse. Ind. Code § 13-2-1-4(4) (1976).

14. Vol. 1, *Water and Water Rights* § 52.1B, at 311 (R. Clark, ed. 1967).

15. *Trout v. Woodward*, 64 Ind. App. at 339, 114 N.E. at 470 (quoting *Case v. Hoffman*, 84 Wis. 438, 54 N.W. 793 [1893]).

16. Ind. Code § 32-2-1-4(4) (1976). This definitional statute relates to water resource projects and the development and improvement of all water resources and was not intended to define waters to which riparian rights attach.

17. *Taylor v. Fickas*, 64 Ind. 167 (1878); *Jean v. Pennsylvania R.R.*, 9 Ind. App. 56, 36 N.E. 159 (1894).

18. *Watts v. Evansville, Mt. C. & N. Ry.*, 191 Ind. 27, 129 N.E. 315 (1921).

19. *Anaheim Union Water Co. v. Fuller*, 150 Cal. 327, 88 P. 978 (1907); *Boehmer v. Big Rock Irrigation Dist.*, 117 Cal. 19, 48 P. 908 (1897); *Watkins Land Co. v. Clements*, 98 Tex. 578, 86 S.W. 733 (1905); *Yearsley v. Carter*, 149 Wash. 285, 270 P. 804 (1928).

20. G. Waite, *supra* note 1, at 173-74.

21. *Clark v. Allaman*, 71 Kan. 206, 80 P. 571 (1905); Jones v. Connecticut, 39 Ore. 30, 64 P. 855 (1901). *See* Vol. 4, *Restatement of Torts* § 843, comment c (1939).

22. *Sayles v. City of Mitchell*, 60 S.D. 592, 245 N.W. 390 (1932). Although some commentators have claimed that the "restricted unity of title" test is the general rule, Vol. 1, *Waters and Water Rights* § 53.5(C) (R. Clark, ed. 1967), other authorities have indicated that the "unity of title" definition is said to be used by the majority of jurisdictions, Vol. 6A, *American Law of Property* § 28.55 (A.J. Casner, ed. 1954). One authority referred to the "restricted unity of title" test as the "watershed theory" and stated, "The watershed theory is the leading rule in riparian states." Vol. 1A, G. Thompson, *supra* note 5, § 275, at 449.

23. Ind. Code § 13-2-1-1 (1976). *See also* G. Waite, *supra* note 1, at 174.

24. Act of March 11, 1955, ch. 251, § 1, 1955 Ind. Acts 643 (now codified at Ind. Code § 13-2-1-1 (1976)).

25. *Id.* § 3 (emphasis added) (now codified in Ind. Code § 13-2-1-2 [1976]).

26. Ind. Code § 13-2-1-1 (1976). For a more extensive discussion of this problem, *see* G. Waite, *supra* note 1, at 176.

27. *See Restatement of Torts*, ch. 41, topic 3, introductory note, at 342-44 (1939).

28. *Id.* at 343.

29. *Id.* at 344.

30. Ind. Code §§ 13-2-1-4(10), 13-2-9-1 (1976).

31. G. Waite, *supra* note 1, at 6.

32. 6 Ind. 324 (1855).

33. *Id.* at 327-28.

34. *Penn Am. Plate Glass Co. v. Schwinn*, 177 Ind. 645, 657, 98 N.E. 715, 719 (1912); *Muncie Pulp Co. v. Koontz*, 33 Ind. App. 532, 537, 70 N.E. 999, 1001 (1904).

35. *Valparaiso Water Co. v. Dickover*, 17 Ind. App. at 237, 46 N.E. at 592.

36. *Dilling v. Murray*, 6 Ind. at 327-28.

37. *Jones v. Tennessee Coal, Iron & R. Co.*, 80 So. 463, 464, 202 Ala. 381, 382 (1918). *See* 93 C.J.S. *Waters* § 12 (1956).

38. Vol. 6A, *American Law of Property* § 28.57 (A.J. Casner, ed. 1954).

39. *City of Valparaiso v. Hagen*, 153 Ind. 337, 340, 54 N.E. 1062, 1063 (1899). The court stated in dicta:

> Every owner of land, through which a stream of water flows, is entitled to the reasonable use and enjoyment of the stream. His right to do so is not an acquired property right, but a natural right appurtenant to his freehold, and is in common and equal with all others owning land upon the stream. He may dam it and divert it for mechanical purposes and fish ponds, if he will return it to its channel before leaving his premises; he may use it for purposes of agriculture; his animals may take water from it at will. . . .

40. *Valpariaso City Water Co. v. Dickover*, 17 Ind. App. 233, 238, 46 N.E. 591, 592-93 (1897). In determining the use that may be made of water by a riparian owner, one must take into account the quantity of water in the stream or lake. If the flow is only sufficient to supply the primary, or ordinary, wants for domestic purposes, no one may use the water for any secondary, or extraordinary, purpose.

41. Ind. Code § 13-2-1-3(1) (1976).

42. *Meng v. Coffee*, 67 Neb. 500, 93 N.W. 713 (1903).

43. *Crawford Co. v. Hathaway*, 67 Neb. 325, 93 N.W. 781 (1903).

44. *Salem Flouring Mills Co. v. Lord*, 42 Or. 82, 69 P. 1033 (1902).

45. *Hough v. Porter*, 51 Or. 318, 98 P. 1083 (1909).

46. *Crawford Co. v. Hathaway*, 67 Neb. 325, 93 N.W. 781 (1903); *Montelious v. Elsea*, 11 Ohio Op. 2d 57, 161 N.E.2d 675 (Ct. C.P. 1959); *Martin v. Burr*, 111 Tex. 57, 228 S.W. 543 (1921).

47. *Jones v. Tennessee Coal, Iron & R. Co.*, 202 Ala. at 382, 80 So. at 464, *quoted in* Note, *Water Rights in Indiana*, 32 Ind. L.J. 39, 43 n.22 (1956).

48. *Valparaiso City Water Co. v. Dickover*, 17 Ind. App. 233, 238, 46 N.E. 591, 592-93 (1896).

49. 17 Ind. App. 233, 46 N.E. 591 (1896).

50. 223 Ind. 242, 59 N.E.2d 353 (1944).

51. *Id.* at 256, 59 N.E.2d at 358 (citing *Lowe v. Indiana Hydroelectric Power Co.*, 197 Ind. 430, 151 N.E. 220 [1926]; *City of Logansport v. Uhl*, 99 Ind. 531 [1884]; *Bump v. Sellers*, 54 Ind. App. 146, 102 N.E. 875 [1913]).

52. *Id.* at 258, 59 N.E.2d at 359 (citing *Van Dissel v. Holland-Horr Mill Co.*, 91 Wash. 239, 157 P. 687 [1916]). The *Van Dissel* court cited an earlier Washington case which indicated that the permanent diversion of the water gave the use its unlawful character. *Rigney v. Tacoma Light & Power Co.*, 9 Wash. 576, 38 P. 147, 148 (1894). *See generally* 78 Am. Jur. 2d *Waterworks and Water Companies* §§ 23-24 (1975).

53. Ind. Code § 13-2-1-1 (1976).

54. Drilling of wells to provide a water supply may not provide a solution. To the extent such pumping interferes with an established lake level, restrictions could be imposed. *See* discussion of lake level statutes, p. 104. Should wells be drilled in such a manner that pumping materially reduces the flow of a stream to the detriment of riparian owners, it would seem that the courts should treat such pumping in the same manner as direct withdrawal from the watercourse. The same result would be brought about by the enactment of minimum flow regulations.

55. Ind. Code §§ 32-11-1-1 to 13 (1976 & Supp. 1978).

56. *Id.* §§ 13-2-9-1 to 8.

57. 17 Ind. App. 233, 46 N.E. 591 (1897).

58. *City of Elkhart v. Christiana Hydraulics, Inc.*, 223 Ind. 242, 59 N.E.2d 353 (1944).

59. *See* 78 Am. Jur. 2d *Waterworks and Water Companies* §§ 23-24 (1975).

60. Ind. Code § 13-2-1-3 (1) (1976).

61. 78 Am. Jur. 2d *Waters* § 285 (1975). This limitation would probably allow water to be used for a family garden or greenhouse.

62. *City of Valparaiso v. Hagen*, 153 Ind. at 340, 54 N.E. at 1063.

63. *See* discussion of diversion, p. 104.

64. Ind. Code § 13-2-1-3(1) (1976).

65. *Montelious v. Elseu*, 11 Ohio Op. 2d 57, 161 N.E.2d 675 (Ct. C.P. 1959).

66. *See* discussion of diversion, p. 104.

67. Whether this is a valid objection depends upon the test used to determine the extent of riparian land. For a full discussion of what land is riparian, *see* p. 100.

68. *City of Valparaiso v. Hagen*, 153 Ind. at 340, 54 N.E. at 1063.

69. Ind. Code § 13-2-1-3(2), (3) (1976).

70. *Id.* § 13-2-9-1.

71. G. Waite, *supra* note 1, at 58 n.47. Although Waite's data concerning Indiana irrigation acreage is more than ten years old, one may assume that similar irrigation use has continued.

72. *See* discussion of municipal water use, p. 101.

73. *See City of Elkhart v. Christiana Hydraulics, Inc.*, 223 Ind. at 258, 59 N.E.2d at 359.

74. Ind. Code §§ 13-2-1-4(10), 13-2-9-1 (1976).

75. *Indianapolis Water Co. v. American Strawboard Co.*, 53 F. 970 (C.C. D. Ind. 1890).

76. Ind. Code § 13-2-1-4(10) (1976) (water supply use); *id.* § 13-2-9-1 (reservoir water supply use); *id.* § 13-2-22-11 (powers of the natural resources commission).

77. Ind. Admin. Rules & Reg. [(13-1-3-7)-28(c)(2), (d)(2) (Burns Supp. 1978).

78. Ind. Code § 13-2-11-7 (Supp. 1978). *See* discussion of thermal pollution, p. 111.

79. 78 Am. Jur. 2d *Waters* § 10, at 454 (1975).

80. *Id.* § 11. *See generally id.* §§ 10-14.

81. For discussion of lake level statutes, as related to public rights, *see* p. 104.

82. Ind. Code §§ 13-2-11-3, 13-2-13-1 to 2, 13-2-14-2 (1976 & Supp. 1978). *See also Holle v. Drudge*, 190 Ind. 520, 129 N.E. 229 (1920).

83. Ind. Code § 13-2-14-3 (1976).

84. *Id.* § 13-2-15-1 (Supp. 1978).

85. *Id.* § 13-2-17-1 (1976).

86. *Id.* § 13-2-16-1 (Supp. 1978).

87. *Id.* § 13-2-16-2 (1976).

88. *Id.* § 13-2-15-1 to 2 (1976 & Supp. 1978).

89. *See id.* § 13-2-14-3 (1976).

90. *Id.* § 13-2-18-1.

91. *Id.* § 13-2-18-6.

92. *Id.* § 13-2-18-8.

93. Waite, *Public Rights in Indiana Waters*, 37 Ind. L.J. 467 (1962).

94. Under the heading of "instream uses," rights in lakes as well as streams will be discussed. Technically an owner whose land abuts on a lake or sea is referred to as a "littoral owner" with littoral rights, while one whose land abuts on a stream is referred to as a "riparian owner" with riparian rights. However, "riparian" is used also coextensively with "littoral" and will be used herein to refer to owners of land abutting on a body of water, whether stream, lake or sea. *See generally* 78 Am. Jur. 2d *Waters* § 260 (1975).

95. Other than the right of navigation, most public rights concern recreational uses, such as fishing, boating, and swimming. Such uses did not receive statutory recognition in Indiana until the late 1940s. See Act of March 13, 1947, ch. 301, § 1, 1947 Ind. Acts 1233 (now codified at Ind. Code § 13-2-14-1 [1976]).

96. *See* p. 101.

97. *See* G. Waite, *supra* note 1, at 78.

98. *See* Ind. Code § 13-2-1-2 (1976).

99. At early common law, public rights were recognized in navigable waters, R. Clark, *supra* note 1, § 35.2.

100. *See* Ind. Code §§ 13-2-11-1, -3, 13-14-1, to 2 (1976 & Supp. 1978). *See also* discussion of acquiescence, p. 110.

101. One commentator asserts that the statutory public recreational use rights, as set forth in the lake level statutes, only attach to lakes subject to public rights by virtue of acquiscence. G. Waite, *supra* note 1, at 79 & 100. This view would limit public rights in navigable lakes not meeting the statutory acquiescence test to the following common law public rights: the right of navigation and free passage (subject to legitimate state-authorized obstructions); the right to use the shore to protect life and limb in an emergency, *id.* at 78; and possibly the right to remove materials from the lake bed, Ind. Code § 14-3-1-14(10) (Supp. 1978), if a lake is a "navigable body of water" under the statute. Such lakes would not receive the additional statutory protection against encroachments, excavations, and artificial lake level fluctuations, except as granted by other statutes of limited application. *See id.* §§ 13-2-11-1 to 6, 13-2-14-1 to 8, 13-2-15-1 to 6, 13-2-16-1 to 3, 13-2-17-1 to 6 (1976 & Supp. 1978). This class of lakes may be subject to very limited recreational rights, as compared to the broad statutory recreational rights in acquiescence-affected lakes, depending on the nature of common-law recreational rights in Indiana. Although decisions in this area are extremely limited, it is possible that the Indiana courts would uphold rights equally as broad as the statutory public rights, based on legislative policy. G. Waite, *supra* note 1, at 100.

102. *See* Ind. Code §§ 13-2-11-3, 13-2-16-1, 14-3-1-20 (1976 & Supp. 1978).

103. *See id.* §§ 13-2-18.5-5, 13-2-26-3(i), -10 (1976).

104. *Id.* §§ 13-2-14-5, 13-2-18.5-5. *See* [1961] Ind. Att'y Gen. Op. 101.

105. Ind. Code § 13-2-26-3(i) (1976). *See generally id.* §§ 13-2-26-1 to 11.

106. *Id.* § 13-2-1-3.

107. *Id.* §§ 13-2-1-1 to 2.

108. *Id.* §§ 13-2-11-1 to 13-2-18-25 (1976 & Supp. 1978).

109. 3 Blackf. 193 (Ind. 1853).

110. *Id.* at 194-95 (citing the Northwest Ordinance, *as reenacted in part in* Act of March 26, 1804, ch. 35, § 6, 2 Stat. 277.)

111. 3 Blackf. at 196.

112. *Id.*

113. *Williams v. Beardsley*, 2 Ind. 591, 594-95 (1851).

114. 5 Ind. 8 (1854).

115. *Pennsylvania v. Wheeling Bridge Co.*, 54 U.S. (13 How.) 518 (1851); *Pollard v. Hagan*, 44 U.S. (3 How.) 212 (1845).

116. 5 Ind. at 9.

117. U.S. Const. art. I, § 8, cl. 3.

118. 5 Ind. at 10.

119. *Id.* at 12.

120. *Id.*

121. G. Waite, *supra* note 1, at 84.

122. *See* 5 Ind. at 12.
123. 28 Ind. 257 (1867).
124. *Id.* at 266.
125. *Id.* at 268-69.
126. G. Waite, *supra* note 2, at 86 (citing Note, 1939 Wisc. L. Rev. 547, 548-53). The Indiana courts' last mention of the Ordinance occurred in *Sherlock v. Bainbridge*, 41 Ind. 35, (1872), in which the court relied on the common law instead of the ordinance, and in *State v. Wabash Paper Co.*, 21 Ind. App. 167, 174 (1898), in which the court looked to the stream's navigability in 1804, the year in which the ordinance was reenacted. *See* Act of March 26, 1804, ch. 35, § 6, 2 Stat. 277.
127. 228 Ind. 623, 95 N.E.2d 145 (1950).
128. 77 U.S. (10 Wall.) 557 (1870).
129. *Id.* at 563.
130. *See* discussion of *Depew v. Board of Trustees*, p. 108.
131. 87 U.S. (20 Wall.) 430 (1874).
132. *Id.* at 441-42. Admittedly, this passage, when applied to present-day circumstances, could apply to a stream's potential use for recreational purposes by the public, if such a use were perceived as either transportation or commerce. "The United States Supreme Court has suggested that the type of commerce known at the time statehood was attained is not conclusive, because the fundamental question is the capacity of a watercourse to be commercially useful under changing social and economic conditions." G. Waite, *supra* note 1, at 190 (citing United States v. Utah, 283 U.S. 64, 83 [1931]).
133. 283 U.S. 64 (1931).
134. 228 Ind. at 629-30, 95 N.E.2d at 148 (citations omitted).
135. *Id.* at 626-27, 95 N.E.2d at 147.
136. The court refused to acknowledge the alleged precedential value of six prior Indiana Supreme Court cases which held the White River to be nonnavigable: *Brown v. Powers*, 182 Ind. 145, 104 N.E. 857 (1914); *Illyes v. White River Light & Power Co.*, 175 Ind. 118, 93 N.E. 670 (1910); *Indianapolis Water Co. v. Kingan & Co.*, 155 Ind. 476, 58 N.E. 715 (1900); *Sizor v. City of Logansport*, 151 Ind. 626, 50 N.E. 377 (1898); *Ross v. Faust*, 54 Ind. 471 (1876); *Depew v. Board of Trustees*, 5 Ind. 8 (1854). Instead, the court distinguished those cases from the case at hand, based on the private parties in the prior cases, the federal question involved in the present case, and the failure of the prior cases to evaluate the navigability as of 1816. In an interesting passage, the court stressed that a determination of the rights and duties between two riparian owners was not determinative of the public's right to abate a nuisance created or maintained by either of the riparian owners. 228 Ind. at 635-36, 95 N.E.2d at 151-52.
137. *Id.* at 634-35, 95 N.E.2d at 150 (citing United States v. Utah, 283 U.S. 64 [1931]).
138. *See* G. Waite, *supra* note 1, at 20, for a discussion of a prior case, *Ross v. Faust*, 54 Ind. 471 (1876).
139. 270 U.S. 49 (1925).
140. *Id.* at 54-55, *quoted in State v. Kivett*, 288 Ind. at 628, 95 N.E.2d at 148 (emphasis added). *See also Ross v. Faust*, 54 Ind. 471 (1876).
141. 228 Ind. at 630, 95 N.E.2d at 148.
142. *Id.* at 630-31, 95 N.E.2d at 152.
143. *Id.*
144. [1933] Ind. Att'y Gen. Op. 538, 541-42.
145. *United States v. Oregon*, 295 U.S. 1 (1935); *Barney v. Keokuk*, 94 U.S. 324 (1876); *Goodtitle v. Kibbe*, 50 U.S. (9 How.) 471 (1849).
146. 228 Ind. at 629, 95 N.E.2d at 148.
147. *Id.* at 636, 95 N.E.2d at 151.
148. *Nebraska v. Iowa*, 143 U.S. 359, 12 S. Ct. 396 (1891); *Longabaugh v. Johnson*, 321 N.E.2d 865, 867 (Ind. Ct. App. 1975).
149. 78 Am. Jur. 2d *Waters* § 399 (1975).
150. Ind. Code §§ 13-2-9-1 to 8, 32-11-1-1 (1976).
151. *Sanders v. DeRose*, 207 Ind. 90, 191 N.E. 331 (1934).
152. *Id. See* discussion of *Sanders*, p. 110.
153. *See* discussion of ice removal, p. 108.
154. Ind. Code § 14-3-1-4(10) (1976).
155. *Id.* §§ 13-2-14-5, 8.
156. *Id.* § 14-4-3-25. *See generally id.* §§ 14-4-3-1 to 24.
157. *Lake Sand Co. v. State*, 68 Ind. App. 439, 120 N.E. 714 (1918).
158. G. Waite, *supra* note 1, at 81, 90.
159. *Water Works Co. v. Burkhart*, 41 Ind. 364 (1872); *State v. Pottmeyer*, 33 Ind. 402 (1870); *John Hilt Lake Ice Co. v. Zahrt*, 29 Ind. App. 476, 62 N.E. 509 (1902).
160. *See John Hilt Lake Ice Co. v. Zahrt*, 29 Ind. App. 476, 62 N.E. 509 (1902).
161. *See* discussion of *Depew*, p. 108.
162. 5 Ind. 13 (1854).
163. *Id.* at 15.
164. *Id.* at 16.
165. 8 Ind. 1 (1856).
166. *Id.* at 4.
167. *Id.* at 5.
168. 28 Ind. 257 (1867).
169. 2 Ind. 591 (1851).
170. 5 Ind. 8 (1854).
171. Ind. Code §§ 19-4-14-1 to 19-4-16-7, 19-8-2-8 to 14 (1976 & Supp. 1978).
172. *Id.* § 13-2-1-3 (1976).
173. *See* p. 113.
174. Ind. Code § 13-2-4-1 (1976).
175. *Id.* § 13-2-4-2.
176. *Id.* § 13-2-4-5.
177. *Id.* §§ 13-2-4-3, -7.
178. *Id.* § 13-2-4-6.
179. *Id.* § 13-2-5-1.
180. *Id.* § 14-3-1-14(9) (Supp. 1978).
181. Ind. Admin. Rules and Reg. § (14-1-2-5)-1 (Burns 1976).
182. *Id.* §§ (14-1-1-43)-1, (14-1-1-56)-1.
183. G. Waite, *supra* note 1, at 142.
184. Ind. Code § 13-2-14-1 (1976). *See* G. Waite, *supra* note 1, at 142.
185. Ind. Code § 13-2-11-1 (1976).
186. *Id.* § 13-2-26-2.
187. *Id.*
188. *Id.* § 13-2-26-5.
189. *Id.* § 13-2-26-8.
190. *Id.* § 13-2-26-3(c), (d), (e).
191. *Id.* § 13-2-26-3(i).
192. *Id.* § 13-2-26-3(j).
193. *Id.* § 13-2-26-3(k).
194. *Id.* § 13-2-26-3. The term *conservation easement* is defined in *id.* § 14-4-5.5-1.
195. *See* discussion of lake level statutes, p. 104.
196. Ind. Code §§ 13-2-11-1, 13-2-14-1 (1976).
197. *Id.* §§ 13-2-11-3, 13-2-14-2 (Supp. 1978).

> Navigability is not the test of the lakes to which the public rights declared by the statute attach. The statute does not apply to Lake Michigan or to lakes entirely or partially situated within the corporate limits of any city of the second class located in a county whose population according to the last preceding census is not less than 400,000 and not more than 650,000. Apart from these exceptions, the statute applies to lakes that "have been used by the public with the acquiescence of any or all riparian owners." In those unlikely lakes that are navigable but that do not meet the public use-riparian acquiescence test, and in the lakes excepted from the statute, it seems only the common-law rights obtain. However, when the case comes up, a court might well expand the common-law rights to include those conferred by the statute.
>
> G. Waite, *supra* note 1, at 100.

198. 207 Ind. 90, 191 N.E. 331 (1934).
199. *Id.*
200. Ind. Code §§ 13-2-11-3, 13-2-14-2 (Supp. 1978) (emphasis added).
201. Waite, *Public Rights in Indiana Waters*, 37 Ind. L.J. 478-82 (1962).
202. 207 Ind. at 95, 191 N.E. at 333.
203. G. Waite, *supra* note 1, at 100.
204. *See* quoted material in note 197 *supra*.
205. Ind. Code § 14-3-3-6(a) (1976).
206. *Id.* § 14-2-3-2(1).

207. *Id.* §§ 14-2-8.5-1 to 14.
208. *Id.* § 14-2-7-3.
209. *Id.* § 14-2-2-1 (Supp. 1978). *See also id.* §§ 14-2-5-1, -8 (1976 & Supp. 1978).
210. *Id.* § 14-2-5-10 (Supp. 1978).
211. *Id.* § 14-2-5-3.
212. *Id.* § 14-2-5-2 (1976).
213. *Id.* § 14-2-5-9 (Supp. 1978).
214. *Id.* § 14-3-4-9.
215. *Id.* § 13-1-3-4.
216. Thermal stream pollution is under the same regulations and enforcement statutes as chemical stream pollution.
217. Ind. Admin. Rules and Reg. § (13-1-3-7)-28(c)(2) & (d)(2) (Burns Supp. 1978).
218. Ind. Code § 13-2-11-7 (Supp. 1978).
219. However, the complexity and urgency of pollution problems in the Gary-East Chicago Area has led the EPA to retain considerable concurrent control in that locale. Note, *The Indiana Environmental Protection Agencies: A Survey and Critique*, 10 Ind. L. Rev. 955, 969 n.112 (1977).
220. Ind. Admin. Rules and Reg. §§ (13-1-3-7)-10, -22 (Burns 1976 & Supp. 1978).
221. *Id.* § (13-1-3-7)-22 (Burns Supp. 1978).
222. *Id.* § (13-1-3-7)-2 (Burns 1976).
223. Ind. Code § 13-1-5.5-3 (Supp. 1978).
224. *Id.* §§ 13-7-16.5-1 to 8 (Supp. 1978).
225. *Id.* § 14-4-2-5(d) (1976); Ind. Admin. Rules and Reg. § (13-1-3-7)-3 (Burns 1976).
226. Ind. Admin. Rules and Reg. §§ (13-1-3-7)-12, -13 (Burns 1976).
227. Ind. Code §§ 13-1-3-9, -11, -12, -14, -15 (1976 & Supp. 1978).
228. 153 Ind. 337, 54 N.E. 1062 (1899).
229. *Id.* at 339-40, 54 N.E. at 1063.
230. *Id.* at 341-44, 54 N.E. at 1063-64.
231. 177 Ind. 645, 98 N.E. 715 (1912).
232. *Id.* at 657-58, 98 N.E. at 719.
233. *Id.* at 658, 98 N.E. at 720.
234. *Id.* at 657, 98 N.E. at 719.
235. *See* discussion of pollution abatement, p. 111.
236. Ind. Code §§ 13-2-11-4, 13-2-14-4 (1976).
237. *Id.* § 13-2-18.5-5.
238. *Id.* §§ 13-1-6-1, -3, -6.
239. *Id.* § 19-3-7-1.
240. *Id.* § 19-4-6-7.
241. *Id.* § 13-1-11-1.
242. Note, *supra* note 219, at 975.
243. 33 U.S.C. §§ 1281-1282 (1976). *See id.* § 1284.
244. *See generally* Note, *supra* note 219, at 969 & 975.
245. Ind. Code §§ 13-2-1-4(10), 13-2-9-1 (1976).
246. *Id.* §§ 13-2-22-11, 14-3-1-3.
247. *Id.* §§ 13-2-9-1 to 8.
248. *Id.* §§ 13-2-10-1 to 9.
249. *Id.* § 13-2-16-1.
250. *Id.* § 13-2-1-7.
251. *Watts v. Evansville, M.C. & N. Ry.*, 191 Ind. 27, 45, 129 N.E. 315, 321 (1921).
252. *Dunn v. Chicago, Indpls. & Louisville Ry.*, 63 Ind. App. 553, 559, 114 N.E. 888, 890 (1917). Floodwater has been defined by statute as "water which is flowing or standing above the top level or outside the banks of a watercourse." Ind. Code § 13-2-1-4(7) (1976).
253. *Cleveland, C.C. & St. L. Ry. v. Woodbury Glass Co.*, 80 Ind. App. 298, 310, 120 N.E. 426, 430-31.
254. *Taylor v. Fickas*, 64 Ind. 167 (1879); *Jean v. Pennsylvania R.R.*, 9 Ind. App. 56, 36 N.E. 159 (1894).
255. *Watts v. Evansville, M.C. & N. Ry.*, 191 Ind. 27, 129 N.E. 315 (1921); *Evansville M.C. & N. Ry. v. Scott*, 67 Ind. App. 121, 114 N.E. 649 (1917); *Dunn v. Chicago I. & L. Ry.*, 63 Ind. App. 553, 114 N.E. 888 (1917).
256. *Thompson v. Dyar*, 126 Ind. App. 70, 130 N.E.2d 52 (1955).
257. Ind. Code §§ 14-3-3-1 to 20 (1976 & Supp. 1978).
258. *Id.* § 13-2-22-11.
259. *Id.* § 13-2-23-1 defines municipality as "any city, town, county and any special taxing district created by law."
260. *Id.* §§ 13-2-23-1 to 11.
261. *Id.* §§ 13-2-22-1 to 20.
262. The act provides a master plan for flood control and accumulation and preservation and protection of watercourses to be investigated and augmented by the Department of Natural Resources (Natural Resources Commission). The department has jurisdiction over public and private waters of the state and lands adjacent to those waters for flood control purposes. It further has authority to act on behalf of the state in matters of flood control with the United States government or any agency of the United States. The department may order the establishment of floodways. It is unlawful to erect, use or maintain in or on any floodway any structure or obstruction which would adversely affect the efficiency of or restrict the capacity of the floodway. Anyone wishing to erect a structure in a floodway must file an application with the commission. Floodplain management is also under the authority of the Natural Resources Commission. Floodplain is defined as "the area adjoining the river or stream which has been or may be hereafter covered by water." Ind. Code § 13-2-22.5-1 (1976).

The act states that floodways of rivers and streams "should not be inhabited and should be kept free and clear of interference or obstructions which will cause any undue restriction of the capacity of the floodways." *Id.* § 13-2-22-2. The term *floodway* is defined as "the channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the floodwater or flood flow of any river or stream." *Id.* §13-2-22-3(12). This definition may pose difficulty for owners of land in the floodplain of a river who are unsure whether their land is a part of the floodway. Obviously some floods are more serious than others and will require larger portions of the floodplain to discharge the flood water. Thus, there may be some uncertainty as to just what land is included in the floodway. However, this uncertainty may be minimized by the fact that the Division of Water of the Department of Natural Resources has the power to delineate floodway boundaries. Should any question arise, application should be made to the division to exercise that power.

Furthermore, the Division of Water controls the system by which construction of structures in a floodway may be permitted. The basic premise on which this system operates is that any structure built in a floodway so as to adversely affect or unduly restrict the capacity of the floodway is an actionable nuisance. *Id.* § 13-2-22-13. Those unsure of the effect of their structures may file an application for a permit. Thus, practically speaking, anyone wishing to build a structure in what might be a floodway should apply for a permit. The effect of the system is to control land use in floodways by what is essentially a zoning scheme.

263. *See, e.g., id.* §§ 19-4-11-1 to 8; *id.* § 19-4-13-1 to 14; *id.* §§ 19-4-20-1 to 23 (1976 & Supp. 1978).
264. *Id.* §§ 19-4-12-1 to 33.
265. G. Waite, *Indiana Water Law and Suggestions for Action* 192 (1968).
266. *See, e.g., id* §§ 19-4-21-1 to 17.
267. *Id.* § 13-2-24-1.
268. *Id.* § 19-3-2-1-106 (1976 & Supp. 1978).
269. *Id.* § 19-3-2-3. In addition to flood prevention and control, conservancy districts may be established to improve drainage; provide for irrigation; provide water supply, including treatment and distribution for domestic, industrial, and public use; provide for the collection, treatment, and disposal of sewage and other liquid wastes produced within the district; develop forests, wildlife areas, and parks and recreational facilities where feasible in connection with beneficial water management; and prevent the loss of top soil from injurious water erosion.
270. G. Waite, *supra* note 7, at 191-94.
271. *Id.* at 220.
272. *Gaskill v. Barnett*, 52 Ind. App. 654, 101 N.E. 40 (1913). *See also* Ind. Code § 32-5-1-1 (1976).
273. *Walley v. Wiley*, 56 Ind. App. 171, 104 N.E. 318 (1914).
274. *Verrill v. School City of Hobart*, 222 Ind. 214, 216, 52 N.E.2d 619, 620 (1944).
275. *See, e.g., Walley v. Wiley*, 56 Ind. App. 171, 104 N.E. 318 (1914).

276. 104 Ind. 173, 2 N.E. 309 (1885).

277. *See* G. Waite, *Indiana Water Law and Suggestions for Action* 47 (1968).

278. *See, e.g., Penn Am. Plate Glass Co. v. Schwinn,* 177 Ind. 645, 98 N.E. 715 (1912); *Valparaiso City Water Co. v. Dickover,* 17 Ind. App. 233, 46 N.E. 591 (1897).

279. *Foster v. Marlsbary,* 86 Ind. App. 411, 157 N.E. 446 (1927).

280. *See, e.g., Penn Am. Plate Glass Co. v. Schwinn,* 177 Ind. 645, 98 N.E. 715 (1912); *West Muncie Strawboard Co. v. Slack,* 134 Ind. 21, 72 N.E. 879 (1904).

281. For a general discussion of the law of private nuisance *see* W. Prosser, *Handbook of the Law of Torts,* § 89 (4th ed. 1971).

282. *See, e.g., Barnard v. Shirley,* 135 Ind. 547, 34 N.E. 600 (1893).

283. For the law relating to declaratory judgments in Indiana, *see* Ind. Code §§ 34-4-10-1 to 16 (1976).

284. *Id.* § 13-2-1-6 (1976).

Diffused Surface Water

Diffused surface water or overland flow has been defined in Indiana as "water from falling rains or melting snows which diffused over the surface of the ground or which temporarily flow upon or over the surface as the natural elevations and depressions of the land may guide it but which has no definite banks or channel."[1] In addition, if flood water from a natural watercourse escapes its natural channel never to return, and spreads over adjacent land running in different directions or settling in pools or flats, it ceases to be a part of the stream and is considered diffused surface water.[2] It is "water of a casual and vagrant character,"[3] which cannot be used regularly for recreation, domestic, or commercial needs because its existence cannot be counted on. For this reason diffused surface water is generally considered to have no public consequences.[4]

Right to Use

Two distinct problems arise in the area of diffused surface water. The first and less important is the question of who owns diffused surface water and what use may be made of it. The second, and frequently litigated question, is how a landowner may rid himself of or fend off unwanted diffused surface water.

As to ownership and use, the general rule is that diffused surface water belongs to anyone who captures and collects it on his land. The water may be diverted for any private or commercial use even if it would not be considered a beneficial or reasonable use by the usual tests.[5] Indiana has adopted this general rule:

> The property in the lost water that percolates the soil below the surface of the earth, in hidden recesses, without a known channel or course, and property in the wild water that lies upon the surface of the earth, or temporarily flows over it as the natural or artificial elevations or depressions may guide or invite it, but without a channel, and which may be caused by the falling of rain or the melting of snow and ice, or the rising of contiguous streams, or rivers, fall within the maxim that a man's land extends to the centre of the earth below the surface, and to the skies above, and are absolute in the owner of the land, as being a part of the land itself.[6]

Right to Dispose of or Protect Against Diffused Surface Waters

The most significant legal dilemmas in the area of diffused surface water arise when owners of land attempt to get rid of unwanted water on their land or alternatively attempt to protect themselves against such water. An alteration of the natural drainage pattern of diffused surface water by one landowner may injure another landowner by causing that water to flow across or collect upon his land.

Two major rules have evolved concerning a landowner's right to change the natural flow of diffused surface water: the civil-law rule and the common-enemy rule.

Civil-Law Rule This rule is based on an easement theory and provides that lower lands are servient to the natural drainage of diffused surface water from upper lands. Therefore, the owner of the lower land charged with the servitude may not alter the drainage pattern by setting up obstructions. On the other hand, this rule applies only to water that collects naturally on the upper land. Therefore, the owner of the upper land cannot change the natural drainage pattern if it would change the flow across the lower land.

Common-Enemy Rule The common-enemy rule is the common-law rule. It provides that diffused surface water is the common enemy of man and that a landowner may take whatever action he deems necessary to rid himself of it even if it means injuring an adjoining landowner. Thus, an upper landowner may divert diffused surface water from his land onto the land of another even if the other land is injured thereby. Similarly, a lower landowner may change the grade of his

property or construct dams in order to keep diffused surface water from flowing onto his land even if it causes the diffused surface water to back up onto the upper land.[7]

Indiana Case Law Perhaps in the interest of encouraging the development and improvement of land, Indiana early adopted the common-enemy rule in its purest form. In *Taylor v. Fickas*[8] the defendant altered the natural drainage pattern of diffused surface water by planting a border of trees on his property line, causing water and debris to be deposited on plaintiff's property. In spite of the contention by plaintiff that land should be used in such a way as to avoid injury to others, the court denied relief, holding:

> While the owners of lands may not obstruct watercourses to the injury of others, they must be permitted to fence and cultivate their fields and improve their lands in the way which best subserves their interests, without being responsible for the accidents of floods, or the shiftings of surface water occasioned thereby, although sometimes slight and temporary injuries may result therefrom to adjoining owners. These are accidents which must be borne alike by all.[9]

However, it was not long before the potential harshness of this doctrine was perceived and it was qualified in Indiana.

The qualifications on the common-enemy rule can most readily be understood if the two interests at stake: (1) the interest of the upper owner on the one hand in ridding himself of diffused surface water and (2) the interest of the lower owner on the other hand in preventing it from coming into his land, are viewed separately.

Upper Landowners Soon after the court's initial adoption of the common-enemy rule, a modification was made. In *Templeton v. Voshloe,*[10] the court recognized that:

> The owner of the upper field may not construct drains or excavations so as to form new channels on to the lower field, nor can he collect the water of several channels and discharge it on the lower field so as to increase the wash upon the same. The right of the owner of the upper field to make drains on his own land is restricted to such as are required by good husbandry and the proper improvement of the surface of the ground, and as may be discharged into natural channels, without inflicting palpable and unnecessary injury on the lower field.

Thus the right of an upper landowner to rid himself of unwanted diffused surface water is not absolute.[11]

As recently as 1975, in *Gene B. Glick Co. v. Marion County Construction Corp.,*[12] the court reaffirmed earlier court holdings to the effect that a landowner may not collect surface water into a body of water and then discharge it in unnatural amounts or concentrated flow onto another's land. The *Glick* court quoted the following pertinent language from *Smith v. Atkinson:*

> Accordingly, an upper landowner may not by a channel, sewer, ditch or drain, collect or concentrate the surface water and cast it on the lands of the lower proprietor, either intentionally or negligently, without incurring liability for the damages caused thereby.[13]

However, Indiana courts early held that if a landowner diverted the water by artificial means into any existing watercourse, then the qualification did not apply, and the upper landowner was not liable to the lower owner.[14] Of course, the question of what constitutes a natural watercourse is a factual issue which must be resolved on a case-by-case basis. Furthermore, *Gene B. Glick v. Marion Construction Co.* casts doubt on whether a diversion by artificial means into a natural watercourse will always allow the upper landowner to escape liability. The court there held "there is liability for any damage which may result from the *concentrated* discharge of waters upon land or into existing watercourses not previously subject to such discharge,"[15] and "though the quantity of water may be the same . . . , if by means of ditches the rate of discharge into an existing watercourse is increased, liability may fall upon the landowner so discharging the water."[16] Thus an upper owner may be liable to a lower owner merely by increasing the rate of flow in an existing watercourse if the lower owner is damaged, even if the *quantity* of water is the same.

A somewhat different but related limitation on a landowner's right to deal with diffused surface water is the rule that an upper landowner may not pollute or contaminate diffused surface water that flows from his land onto the land of another.[17]

Although these qualifications on upper owners may curtail their efforts to get rid of diffused surface water, the law pertaining to prescriptive easements applies in the area of drainage of diffused surface water to another's land. Thus, if an upper landowner has for a period in excess of twenty years used an artificial drainage channel openly, notoriously, exclusively, and adversely[18] to drain diffused surface water from his land to the land of an adjoining property owner, the upper landowner has a prescriptive drainage easement and is not liable in damages to the lower landowner.[19]

Another problem which is related to the drainage of diffused surface water is the collection or impoundment of water which is later discharged in a sudden, unplanned flow onto adjoining land. In *Central Indiana Railroad Co. v. Mikesell*[20] the court held if the discharge could have been prevented by the exercise of ordinary care, the upper landowner was liable to the lower landowner. This qualification is based on the theory that the defendant's negligence was the proximate cause of the injury to the plaintiff's property. The principle was recently affirmed in *Gumz v. Bejes*[21] in which the court held that an upper landowner who artificially creates an impoundment of flood waters on his land will be liable to the lower landowner if the water escapes and the lower land is thereby injured.

In summary, the common-enemy rule as modified in Indiana now precludes an upper landowner from ridding himself of diffused surface water by means of an artificial channel, unless he has a prescriptive right to do so or he discharges it into a natural watercourse (provided, however, that the rate of flow is not increased to the detriment of the lower landowner).

Lower Landowners In its purest form, the common-enemy rule allows a lower landowner to ward off diffused surface water in any way necessary, even if another landowner is damaged thereby. Thus, early Indiana courts held that a lower landowner may put dams on his land to turn back the flow of diffused surface water.[22] One early Indiana case, *Ramsey v. Ketcham*,[23] stated the rule to be, "Every landowner has the right, provided he does not interfere with a natural or prescriptive watercourse, to construct or build on his own land levees and embankments or other barriers to protect his property from surface water."[24] Often stated as the general rule, the above quoted language embodies in it one of the limitations on the lower landowner. A lower landowner may not interfere with a watercourse—whether it be a natural watercourse or a channel that has become a prescriptive drainage easement. Furthermore, in the area of drainage of diffused surface water, it appears Indiana courts may be willing to go out of their way to find a watercourse. In *Gwinn v. Meyers*,[25] the defendant dammed a ditch, which had apparently been created originally by adjoining landowners to handle run-off of diffused surface water, after it had been ordered tiled as a public drain. Although the ditch did not fall within the normal definition of a watercourse in that it did not have regularity and certainty of flow, the Supreme Court found the ditch to be a natural watercourse and compelled the defendant to remove the dam. One commentator has suggested that this case demonstrates the need to categorize comparatively created artificial drains as privileged, diffused, surface-water channels.[26]

Another qualification on the common-enemy rule for lower landowners parallels a like qualification on upper landowners. Just as an upper owner may not create an artificial channel to direct diffused surface water onto a lower owner's land, a lower owner may not, by tampering with a channel (whether a watercourse or prescriptive drainage easement), cause diffused surface water to back up onto the upper land. In *Newton v. Lyons*,[27] the defendant cut down the flow of diffused surface water to his own land by attaching a twelve-inch pipe to a twenty-four-inch culvert, thereby causing much of the diffused surface water, which had hitherto run onto his own land, to back up onto the plaintiff's land. The court, after stating general rule "that no natural easement or servitude exists in favor of a higher landowner for the drainage of surface water, and that the proprietor of the lower land may turn the surface water back from his own lands where he commits no act inconsistent with the due exercise of dominion on his own soil,"[28] found that various courts applied this rule with certain restrictions and modifications."[29] It further found that the facts in this case constituted one of the restrictions or modifications on a lower landowner. In holding the defendant liable, the court stated that "we do not have a situation where a landowner is engaged in the due exercise of dominion over his own soil in repelling surface water, but a situation where by his acts surface water is collected in an artificial channel and consequently thrown back upon the higher landowner."[30]

Another way a lower landowner may ward off diffused surface water is by changing the level of his land. The court in *Hart v. Sigman*,[31] recognized the right of a lower property owner to raise the grade of his land in order to prevent flooding. Thus, although the use of artificial channels is frowned upon by the courts, a building up of land or a damming against water by a lower landowner is acceptable. In fact, the viability of the general rule that a lower owner may dam his land against encroaching diffused surface water was recently reaffirmed by the Indiana Court of Appeals. The court stated:

> It is . . . well established under what has been termed the "Common Enemy Doctrine" that a lower property owner may dam against such water to prevent it from entering onto his land and that he cannot be held liable for damages resulting from the accumulation of water above the obstruction or because such obstruction causes the water to flow onto the lands of another.[32]

Governmental Units Another question which arises in the area of diffused surface water is whether govern-

mental units (that is, counties, municipalities, townships) have rights different from those of private citizens in dealing with the problem of diffused surface water. Can a governmental unit construct drains in such a way as to change the direction and flow of diffused surface water to the detriment of a landowner?

The Indiana courts have held that a municipality has no more right than a private property owner to change the course of diffused surface water even if the municipal improvement is for the common good. Although in one early case[33] the court recognized that a municipality has a duty only to provide a nonnegligent execution of a reasonable drainage plan, thus perhaps giving a municipal defendant some advantage, it further recognized that a city has any citizen's right to fight diffused surface water but that it must avoid channeling diffused surface water onto its neighbor's land.

The holding in a later case involving a township[34] was based on a nuisance theory. In finding the township liable for injury to the plaintiff's land, the court said, "A public corporation has no more right to collect water in an artificial channel and cause it to flow upon the land of another . . . than has a private landowner."[35] The court went on to dispense with the protection afforded cities which nonnegligently execute reasonable plans in situations in which the municipality constructs artificial ditches to divert surface water. Thus, the rights and duties of municipalities in regard to diffused surface water appear to parallel the rights afforded any owner of land.

However, the current viability of the holdings in these cases may be affected by the enactment of extensive drainage legislation by the Indiana General Assembly. The provisions for remonstrances and judicial review of adverse decisions of drainage boards leave the impression that governmental units may for the general good take action adversely affecting landowners in regard to diffused surface water. Because courts bow to legislative intent, any conflict between the case law and statutory law would in all likelihood be resolved in favor of the latter.

Statutory Law Relating to Drainage

In 1965, the Indiana General Assembly enacted the Indiana Drainage Code into law. The implementation of this code should have a broad impact on the problem of diffused surface water. If each county constructs and maintains effective drains, property owners should not need to resort to individual measures to rid themselves of unwanted, diffused, surface water.

The drainage code[36] provides for county drainage boards to be created in each county of the state to have jurisdiction over all "legal drains."[37] The term "legal drain" includes open ditches and tiled ditches. As defined in the code, "'legal open ditch' means a natural or artificial open channel for the carrying off of surplus water from the land, which channel was established pursuant to, or made subject to, any drainage statute of the State of Indiana."[38] A "legal tiled ditch" is "a tiled channel for the carrying off of surplus water from the land, which channel was established pursuant to, or made subject to, any drainage statute of the State of Indiana."[39]

In addition to the drainage board, each county has a county surveyor whose duties are to investigate, evaluate, and survey all legal drains and prepare reports, plans, and profiles necessary for proposed improvements.[40] Furthermore, it is the duty of the county surveyor to classify all legal drains in the county as to whether they are in need of reconstruction, maintenance, or should be vacated.[41] In submitting his report to the board setting forth priorities, the surveyor may designate any drain as an urban drain if a reasonable portion of land within the watershed has been or is being converted from rural to urban land.[42]

Additionally, the code provides a procedure for abandoning existing legal drains.[43] Although the abandonment of a drain could pose a problem to a landowner whose land might be damaged by a backup of water, the code includes procedures for judicial review for aggrieved landowners.[44]

The code further provides procedures for the establishment of new legal drains.[45] If a new legal drain cannot be established without affecting the land of others, a petition must be submitted to the drainage board.[46] Remonstrances to the petition may be filed.[47] In addition, if the petition is rejected, an appeal procedure is provided.[48]

If the county surveyor should find it necessary, legal drains may be reconstructed,[49] and periodic maintenance of legal drains will be done when needed.[50]

The drainage code may affect a landowner's right to exclusive enjoyment of his land because under its provisions, the county surveyor, the board, or any duly authorized representative has the right to enter upon land within seventy-five feet of a legal drain.[51] In addition, owners of land over which the right-of-way runs may not use the land in any way which might interfere with the proper operation of the drain.[52]

The county surveyor is responsible for removing any obstructions from legal drains and repairing damage.[53] If the obstruction or damage is caused by an owner of land affected by the drain, the owner will be required to remove the obstruction and repair the damage.[54] If the owner fails to do so, the surveyor will make repairs, but the owner may be charged with the repairs in the next assessment.[55]

If it is necessary to construct a legal drain in such a

way that an owner of land is deprived of ingress or egress, the board will award damages to the owner in an amount equal to the cost of constructing a proper crossing.[56] Private drains may be connected with legal drains if permission is granted by the county surveyor.[57] But if the connection would cause or add to pollution of the receiving waters, written approval must be obtained from the Stream Pollution Control Board and filed with the county drainage board.[58]

If land is assessed as being benefited by a legal drain, but no ditch connects the land to the legal drain, the owner of such land may petition the board to construct a ditch through the land of another to connect his land to the legal drain.[59]

The drainage code also provides for the formation of joint boards if more than one county of the state would be affected by a drainage improvement[60] and the formation of interstate boards if the improvement would affect lands in Indiana and an adjoining state.[61]

Finally, any owner of land affected by a final order or determination of a drainage board is entitled to judicial review.[62]

In addition to the drainage code, the general assembly has provided a statutory framework for the construction and regulation of sewers and drains in first- and second-class cities. The boards of public works of such cities have the power to construct, reconstruct, maintain, repair, and regulate use of sewers and drains within their territorial limits.[63] Insofar as a department of sanitation of a first- or second-class city has power over sewers and drains, its power is not exclusive but is concurrent with the board of public works.[64]

Cities of the first class and second class,[65] which have been designated sanitary districts, may establish departments of public sanitation with boards of sanitary commissioners to regulate and control sewage disposal, incinerating or reduction plants, and any other facilities necessary for the disposal of waste—both domestic and industrial.[66] If a board of sanitary commissioners finds that a river, stream, or other watercourse is being polluted, it may study the feasibility of building a sewage treatment plant and adopt a resolution stating the necessity for such a plant.[67] In addition, the board of sanitary commissioners has concurrent power with the board of public works to construct and maintain main sewers and submain sewers[68] and to construct and maintain storm sewers.[69]

From the foregoing, it should be clear that local governmental units wield considerable power over drainage. However, even though proper construction and maintenance of drains is critical to water management and control, a drainage board's power over drains may be limited by the provisions relating to the maintaining of lake levels as discussed previously.[70]

Another statutory scheme which might affect a landowner's efforts to deal with diffused surface water is the Soil and Water Conservation Districts Act[71] which recognizes that the preservation of Indiana's land and water resources is necessary to protect and promote the health, safety, and general welfare of its people. It further finds that the failure to utilize rainfall and runoff water have contributed to the waste of these resources. The act provides for the creation of the State Soil and Water Conservation Committee,[72] as well as the creation of soil and water conservation districts with supervisors to carry out preventive and control measures within the district.

Although an exhaustive, in-depth study of the legislation pertaining to drainage, sewage, and sanitation (and other areas which might bear on diffused surface water) is beyond the scope of this survey, it should be apparent from the brief foregoing synopsis that the Indiana General Assembly has made a serious attempt to achieve efficient methods for dealing with them.

REFERENCES

1. *Capes v. Barger*, 123 Ind. App. 212, 214, 109 N.E.2d 725, 726 (1953).
2. *New York C. & St. L. R. v. Hamlet Hay Co.*, 149 Ind. 344, 47 N.E. 1060 (1897).
3. *Ramsey v. Ketcham*, 73 Ind. App. 200, 204, 127 N.E. 204, 205 (1920).
4. Indiana has adopted this general rule by statute. Ind. Code § 13-2-1-2 (1976) provides that "diffused surface water flowing vagrantly over the surface of the ground shall not be regarded as public water and the owner of the land on which such water falls, pools, or flows, shall have the right to its use."
5. Vol. 6A, *American Law of Property* § 28.62 (A.J. Casner, ed. 1954).
6. *Taylor v. Fickas*, 64 Ind. 167, 172 (1878).
7. Some states have modified the common-enemy rule and allow the landowner to alter the natural surface drainage only when it is reasonable, thus adopting a reasonable-use doctrine. Reasonableness under this test is determined by balancing the needs of the landowner and potential injury to others.
8. 64 Ind. 167 (1878).
9. *Id.* at 176.
10. 72 Ind. 134, 136 (1880).
11. *See also Weddell v. Harper*, 124 Ind. 315, 24 N.E. 368 (1890); *Smith v. Atkinson*, 133 Ind. App. 430, 180 N.E.2d 542 (1962).
12. 331 N.E.2d 26 (Ind. Ct. App. 1975).
13. *Id.* at 31.
14. *Cairo & Vincennes R.R. v. Houry*, 77 Ind. 364 (1881).
15. 331 N.E.2d at 33.
16. *Id.*
17. *Central Indiana Coal Co. v. Goodman*, 111 Ind. App. 480, 39 N.E.2d 484 (1942).
18. Ind. Code § 32-5-1-1 (1976).
19. *Trout v. Woodward*, 64 Ind. App. 333, 114 N.E. 467 (1916); *Seigmund v. Tyner*, 52 Ind. App. 581, 101 N.E. 20 (1913).
20. 139 Ind. App. 478, 211 N.E.2d 794 (1966).
21. 321 N.E.2d 851 (Ind. Ct. App. 1975).
22. *See, e.g.; Cairo & Vincennes R.R. v. Stevens*, 73 Ind. 278 (1881); *Taylor v. Fickas*, 64 Ind. 167 (1878); *Capes v. Barger*, 123 Ind. App. 212, 109 N.E.2d 725 (1953).
23. 73 Ind. App. 200, 127 N.E. 204 (1919).

24. *Id.* at 205, 127 N.E. at 206. It is unclear from the case what the court meant by "prescriptive watercourse." If it meant an artificial channel which had been used to drain diffused surface water for a period in excess of twenty years, it would have been more accurate to call it a prescriptive drainage easement.

25. 234 Ind. 560, 129 N.E.2d 255 (1955).

26. Shaffer, *Surface Water in Indiana*, 39 Ind. L.J. 69, 96 (1963).

27. 120 Ind. App. 465, 90 N.E.2d 917 (1950).

28. *Id.* at 470, 90 N.E.2d at 919.

29. *Id.*

30. *Id.* at 471-72, 90 N.E.2d at 919.

31. 32 Ind. App. 227, 69 N.E. 262 (1903).

32. *Cloverleaf Farms, Inc. v. Surratt*, 349 N.E.2d 731, 732 (Ind. Ct. App. 1976).

33. *Weis v. City of Madison*, 75 Ind. 241 (1881).

34. *Patoka Township v. Hopkins*, 131 Ind. 142, 30 N.E. 896 (1891).

35. *Id.* at 143, 30 N.E. at 896.

36. Ind. Code §§ 19-4-1-1 to 19-4-10.1-4 (1976 & Supp. 1978).

37. *Id.* § 19-4-5-1 (1976). However, the jurisdiction of a county drainage board does not extend to drains in conservancy districts, *id.* § 19-4-5-2(a) (Supp. 1978); drains in flood control projects, *id.* § 19-4-5-2(b); private and mutual drains, *id.* § 19-4-5-3(a) (1976); or drains under drainage maintenance and repair districts or levee associations, *id.* § 19-4-5-6.

38. *Id.* § 19-4-1-2.

39. *Id.*

40. *Id.* § 19-4-1-9.

41. *Id.* § 19-4-1-10.

42. *Id.* § 19-4-10-1.

43. *Id.* § 19-4-1-11.

44. *Id.*

45. *Id.* § 19-4-2-1.

46. *Id.* This section provides that the petition may be filed by the owners of ten percent of the affected land or the landowners having twenty-five percent or more of the assessed valuation of the land (outside the corporate limits of a city or town) alleged by the petition to be affected by the improvement; by the board of commissioners of a county to provide for highway drainage; by the township trustee or school board to drain the grounds of a public school; or the common council of a city or the board of trustees of a town to provide for the drainage of the land of such city or town.

47. *Id.* § 19-4-2-8.

48. *Id.* § 19-4-2-5.

49. *Id.* §§ 19-4-3-1 to 7.

50. *Id.* §§ 19-4-4-1 to 8.

51. *Id.* § 19-4-6-1.

52. *Id.*

53. *Id.* § 19-4-6-2.

54. *Id.* § 19-4-6-2.

55. *Id.*

56. *Id.* § 19-4-6-6.

57. *Id.* § 19-4-6-8.

58. *Id.* § 19-4-6-7.

59. *Id.* § 19-4-6-10.

60. *Id.* § 19-4-1-14.

61. *Id.* § 19-4-9-2.

62. *Id.* §§ 19-4-8-1 to 7.

63. *Id.* § 19-2-11-1.

64. *Id.* § 19-2-11-3.

65. Provisions pertaining to sanitation control have been enacted for smaller cities and towns also. *See*, e.g., *id.* §§ 19-2-27-1 to 3 (1976 & Supp. 1978); *id.* §§ 19-2-28-1 to 7 (1976); *id.* § 19-2-28.5-1; *id.* §§ 19-2-29-1 to 12.

66. *Id.* §§ 19-2-14-1 to 32.

67. *Id.* § 19-2-14-9.

68. *Id.* § 19-2-21-1.

69. *Id.* § 19-2-22-1.

70. *See id.* §§ 13-2-14-3, 13-2-15-1 to 6, 13-2-17-1 to 4 (1976).

71. *Id.* §§ 13-3-1-1 to 14 (1976).

72. *Id.* § 13-3-1-4 (Supp. 1978) states that the statutory entity created by this section was abolished and all powers, duties and functions terminated, effective June 30, 1937 by *id.* § 4-26-3-27.