PRIVATE REMEDIES TO ABATE WATER POLLUTION IN VIRGINIA AND NEW THEORIES IN ENVIRONMENTAL LAW

During the past decade increasing numbers of private citizens have become interested in assuming an important role in the governmental process. As a result of this trend many individuals who are no longer satisfied to remain mere observers of the decision making process actively participate in the fight to save the environment. Consequently, conservation groups and private individuals are more likely to challenge administrative and legislative decisions which they believe fail to consider environmental factors. This trend, effectively channelled, can do a great deal to preserve one of Virginia's vital natural resources—its waters.

In order to aid in providing the necessary direction this note will analyze the private judicial remedies in Virginia which are available to abate water pollution. Examined in order will be: the enforcement of common law water rights as a means of maintaining water quality; general environmental law; and new theories and procedures which are developing.

PRIVATE REMEDIES TO ABATE WATER POLLUTION IN VIRGINIA

Natural Surface Watercourses

Virginia has a bountiful supply of streams and rivers, legally defined as natural surface watercourses. These watercourses flow generally westward from the Alleghenies into the Ohio and Mississippi Rivers, and eastward to the Chesapeake Bay and the Atlantic Ocean. This resource provides Virginians with numerous natural commercial highways, vast and varied spawning grounds for fish and shellfish, and abundant recreational facilities.

1. A stream, or water course consists of bed, banks, and water, and to maintain the right to a water course it must be made to appear that the water usually flows in a certain direction, and by regular channel with banks or sides and having a substantial existence, but it need not be shown that the water flows continually, as it may be dry at times.

Henninger v. McGinnis, 131 Va. 70, 76, 108 S.E. 671, 673 (1921), quoting from Tampa Waterworks Co. v. Cline, 37 Fla. 586, 20 So. 780 (1896). See also W. Walker & W Cox, WATER RESOURCES LAWS FOR VIRGINIA 7 (1968) [hereinafter cited as Walker & Cox]. This work is a comprehensive study of the relevant Virginia law as of 1968. The author has relied heavily upon this source in this section.

The importance of surface watercourses renders it necessary that they be protected from pollution. While it is acknowledged that the ultimate responsibility for ensuring the proper utilization of the state's watercourses must lie with state agencies, the private citizen can do a great deal to aid these agencies in accomplishing the mutual goal.

The use of a natural surface watercourse is governed by a form of the riparian doctrine, a common law system of water rights based on the ownership of land traversed or bordered by a natural watercourse. Two distinct theories have developed in jurisdictions which follow the riparian doctrine. The "natural flow" theory which originated in English common law is based on the principle that "water flows, and ought to flow as it has been wont to flow." According to this theory, a riparian owner has a right to have a stream flow in its primeval condition undiminished and unpolluted by others. The objective is to preserve the natural flow. A right of action accrues as soon as there is a recognizable diminution in the quality of a riparian's water. This right is qualified only by the domestic or "natural" uses of fellow riparians. "Natural" uses are permitted without limit because they are necessary to sustain life. "Artificial" uses, such as irrigation and industrial use, are allowed only if they do not "impair the quality or quantity of the stream's natural flow."

The Reasonable Use Theory

Virginia, in accord with a majority of jurisdictions, has rejected the "natural flow" doctrine in favor of the "full beneficial" or "reasonable use approach. Under the doctrine of appropriation, he who is first in time is first in right, and so long as he continues to apply the water to a beneficial use, subsequent appropriators may not deprive him of the rights his appropriation gives, either by diminishing the quantity or deteriorating the quality of the water. A "riparian owner" is defined as "one who owns land on the bank of a river."
use” theory. The theory of “reasonable use” is that natural streams exist primarily for the benefit of mankind. To this end, they need not remain in their natural state. Under the “reasonable use” rule the rights of riparians are equal. The primary right is to be free from an unreasonable interference with one’s use. Since the sole limitation upon use is reasonableness, a use that impairs natural water quality, but not to such an extent as to interfere with beneficial use, is reasonable and therefore permitted.

1. Unintentional Invasion Under Riparian Law

If a riparian is not substantially certain that his impairment of water quality will harm another riparian’s use, his invasion is unintentional. This usually arises when the pollution occurs infrequently. Unintentional interference with a riparian’s use of a watercourse is reasonable until it causes substantial harm to another riparian. Even if substantial harm results, absent a showing of negligence the unintentional invasion will be considered an unavoidable accident for which liability is not imposed. Only when the polluter’s conduct is negligent, reckless, or ultrahazardous will liability attach, allowing the riparian to seek damages or injunctive relief.

Nonriparian uses of a proprietor, as well as riparian uses, are protected from invasion. Generally, however, riparian uses are pre-

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11. Id. § 211.1(B). This clearly is the better rule, especially when the doctrine’s emphasis on optimum utilization of resources is considered in the context of modern industrial development.
12. Note, supra note 7, at 736.
13. 3 GINDLER, supra note 3, § 211.1(A); WALKER & COX, supra note 1, at 13.
14. 3 GINDLER, supra note 3, § 211.2(A).
15. See Restatement of Torts § 851, comment e at 356 (1939).
16. See Restatement of Torts, Introductory Note (The Reasonable Use Theory) to Topic 3, ch. 41 at 344 (1939). See also §§ 832, 849-51 (particularly comment f to § 851), 858-60.
17. Restatement (Second) of Torts § 8 (1965)
18. See American Cyanamid Co. v. Sparto, 267 F.2d 425 (5th Cir. 1959) (alternative holding of liability based on negligence).
19. “Nonriparian uses are those made neither on nor in connection with the use of the riparian land, and include such uses as the diversion and sale of water from the stream for non-riparian consumption, and diversion of water for irrigation of land outside the watershed of the watercourse or lake, although on the land of the riparian owner.” Restatement of Torts § 855, comment a at 374 (1939).
20. “Riparian uses are those made on or in connection with the use of the riparian land, and include such uses as the riparian proprietor’s domestic uses on his riparian land, irrigation of his riparian land, use for power and steam in his mill or factory thereon, and the like.” Id.
ferred over nonriparian uses. Therefore, an upstream riparian use which interferes with a downstream riparian's nonriparian use will not result in liability. This is true even if substantial harm results from the polluter's conduct which would otherwise be considered negligent, reckless, or ultrahazardous.21

A nonriparian, owning no riparian land and having no legally protected interest in the use of water, is also without remedy for harm to his use of water caused by a riparian proprietor.22 Therefore, it appears that a nonriparian would not be liable to another nonriparian for interference with the latter's use of a water supply.

2. Intentional Invasion Under Riparian Law

In most cases a polluter knows his pollution will harm other riparians. Therefore most litigation involves the intentional invasion of a riparian's use of water.

As is the case with unintentional invasions, an intentional invasion gives rise to no legal injury until substantial harm results,23 nor does any liability arise unless the utility of the polluter's conduct is outweighed by the gravity of harm to the riparian proprietor's use.24 Generally, courts do not articulate the issue of reasonableness in terms of weighing the utility of the polluter's use against the gravity of harm to a riparian's use, but rather evaluate reasonableness in light of the total circumstances of the case. The following factors have been emphasized in making this determination:

The character of the watercourse, including its size and velocity; the amount of potential pollutant compared with the volume of the water; the location of the watercourse; the uses which can be made of the watercourse; the general custom of the locality and all the local uses of the watercourse; the nature of the businesses and the uses to which the water is put by each party; the extent of the

21. 3 GINDLER, supra note 3, § 211.2(D).
22. RESTATEMENT OF TORTS § 856 (1939) However, a riparian may be liable to a nonriparian for other torts resulting from pollution. See 3 GINDLER, supra note 3.
23. 3 GINDLER, supra note 3, § 211.3(B).
24. See RESTATEMENT OF TORTS §§ 852-857 (1939). If the utility of the polluter's conduct outweighs the gravity of the harm to the riparian proprietor, the interference with the riparian's use is considered reasonable. If the factors balance evenly, liability will be imposed on the polluter "because his conduct is unreasonable unless its utility outweighs the gravity of the harm to plaintiffs." 3 GINDLER, supra note 3, § 211.3(B) n.40.
It is apparent, however, that by considering these factors the courts are actually balancing the utility of the polluter's use against the gravity of the harm done to the plaintiff's use. 26

As in unintentional interferences, riparian uses are given preference over nonriparian uses. 27 In jurisdictions which consider the character of the use—riparian or nonriparian—as one of the factors in balancing utility against gravity, the riparian use is preferred when all other factors are equal. 28

In other jurisdictions, the balancing procedure is not required because riparian uses are conclusively preferred over nonriparian uses. In these jurisdictions intentional pollution caused by a riparian's nonriparian use which results in substantial harm to a riparian use is unreasonable per se. Conversely, substantial harm to a riparian owner's nonriparian use caused by a riparian use is reasonable and imposes no liability upon the riparian user. 29

As is the case with unintentional invasions, a riparian is not liable to a nonriparian for intentional pollution which interferes with the nonriparian's use of water. 30 Similarly, a nonriparian appears to have no remedy against another nonriparian for an intentional act of pollution which interferes with the use of a watercourse.

**Virginia's Application**

Although there is language in several decisions which appears to support the "natural flow" theory 31 as well as the "reasonable use"
theory, the latter has generally been applied and is the rule in Virginia today.  

The rights of riparians are correlative. An upstream proprietor may make any reasonable use of a watercourse in connection with the riparian land "provided he leaves the current diminished by no more than is reasonable." It is not every impurity which will result in redress for the injured riparian and, in fact, water may "be rendered unfit for many uses for which it had before been suitable but so far as that condition results only from reasonable use of the stream in accordance with the common right, the lower riparian has no remedy." (Emphasis supplied)

The reasonableness of a use is determined in Virginia in the same manner as in other jurisdictions. However, the necessity or importance of a polluter's use, in a public sense, as a material element in the determination of reasonableness has been rejected by a line of Virginia cases. As stated in Armminus Chemical Co v. Landrum: "Neither can the private business of one man or class of men, however important its successful operation may be to the public or to the development of the country, give such persons or class of persons the right to destroy or materially injure the property of another in a thing in which they have common rights." This reasoning implies that the courts are willing to consider more than purely economic factors, and will prevent large industrial concerns from claiming a right to pollute based on their economic contribution to the community.

Waters Under the Surface of the Ground: Underground Watercourses and Percolating Ground Water

"If the underground water flows in a stream with a well defined channel, and its existence, location, and course is discoverable"

(Emphasis supplied.)

32. See, e.g., Virginia Hot Springs Co. v. Hoover, 143 Va. 460, 130 S.E. 408 (1925); Mumpower v. City of Bristol, 90 Va. 151, 130 S.E. 408 (1893).
33. Note, supra note 7, at 736.
37. 113 Va. 7, 14, 73 S.E. 459, 463 (1912)
from surface indications, it is considered an underground watercourse.\textsuperscript{38} It is of no moment that excavation will reveal the underground water. In order to be classified as an underground watercourse its existence must be discoverable from surface conditions.\textsuperscript{39} The same legal principles applied to surface watercourses are applicable to underground watercourses.\textsuperscript{40}

If underground waters "ooze, seep, or filter, through the soil beneath the surface, without a defined channel," they are considered percolating waters.\textsuperscript{41} Water coming to the surface from underground water flowing in a defined channel which is discoverable only by excavation is also classified as percolating water.\textsuperscript{42} Although the presumption that underground water is percolating may be overcome by proof of its existence in a well defined channel, there do not appear to be any Virginia cases in which this presumption has been overcome.\textsuperscript{43}

Although there is little scientific validity in distinguishing underground water courses from percolating water,\textsuperscript{44} a distinction is made because of special legal principles applicable to percolating waters.

Two conflicting legal theories concerning percolating water have been applied in the United States. Early American law embraced the

\textsuperscript{38} Clinchfield Coal Corp. v. Compton, 148 Va. 437, 447, 139 S.E. 308, 311 (1927).
\textsuperscript{39} To be discoverable from surface conditions, the appearance must only be such as would be reasonably discoverable by "men of ordinary powers and attainments." \textit{Id.} at 449, 139 S.E. at 311. No resort to scientific opinion is necessary. The \textit{Clinchfield} court set forth the following illustrations of the methods by which an underground watercourse might be ascertained from surface indications.

Surface depressions extending in a line on either side of a spring of considerable volume may [indicate an underground stream]. Also the existence on the surface of a line of vegetation usually found nowhere except over water courses [may provide sufficient proof]. A stream which sinks into the ground for a considerable distance and then reappears, but whose course and direction distinctly appears on the surface, [may indicate the existence of an underground watercourse].

\textit{Id.} at 448, 139 S.E. at 312.
\textsuperscript{40} \textit{Id.} at 447, 139 S.E. at 311.
\textsuperscript{41} \textit{Id.} at 446, 139 S.E. at 311. Virginia uses essentially the same definition as other jurisdictions. See W Hutchins, \textit{The California Law of Water Rights} 426-28 (1956); 2 \textit{Wiel, Water Rights in the Western States} 1022-28 (3d ed. 1911).
\textsuperscript{42} Clinchfield Coal Corp. v. Compton, 148 Va. 437, 139 S.E. 308 (1927).
\textsuperscript{43} Walker & Cox, \textit{supra} note 1, at 99.
\textsuperscript{44} See Ginther, \textit{supra} note 3, § 216-16.2. Traditional water law has segregated water according to its source and different rules apply to different sources. This ignores the fact that most water sources are inseparably connected. Since the use of water from one source can subsequently affect use from another—for example, pollution of one source can pollute another source—all water law should be governed by the same rules. Clark, \textit{Groundwater Management: Law and Local Response}, 6 Amiz. L. Rev. 178, 188 (1965).
English rule of "absolute ownership" of percolating waters. This doctrine regards a landowner as the owner of everything above and below the surface of the ground. Therefore, an owner of land may use percolating water in any way he desires without incurring liability to his neighbor. Strict adherence to this rule unjustly deprives a landowner who suffers injury from interference with percolating waters of recourse. "The full rigor of the absolute ownership doctrine has been modified in many jurisdictions, particularly with respect to pollution, and in others it has been expressly rejected. These jurisdictions have adopted the "reasonable use" rule. This rule allows a landowner to use percolating water to develop his land but forbids as unreasonable those uses which maliciously cut off the water supply, waste the water, or are unrelated to the land from which the water percolates. Virginia has not expressly adopted either rule. Only one Virginia


47. Id. at 451-52, 139 S.E. at 313. "The English rule is based on the maxim, Cujus est solum, ejus usque ad collum et ad inferos (to whomever the soil belongs, he owns also to the sky and to the depths)." Designation of this doctrine as the "absolute ownership" rule has been criticized. It has been contended that "[s]ince a landowner has no rights against an adjoining landowner who withdraws all of the water under his land and dries up his wells, it is inaccurate to say that he owns the percolating water under his land. [In actuality then,] the landowner does not 'own' the percolating water until he has reduced it to actual possession." F Maloney, S. Plager & F Baldwin, Jr., Water Law and Administration § 54.2 (a) (1968).


49. 3 Gindler, supra note 3, § 214.2; 2 Weil, supra note 41, at 973.


53. Walker & Cox, supra note 1, at 99. Two early cases seemed to accept the English rule, but subsequently in Clinchfield, the court stated that it did not have to make a choice between the two rules, and that it would consider the question de novo if presented at a later time. Clinchfield Coal Corp v. Compton, 148 Va. 327, 453-454, 139 S.E. 308, 313 (1927); Henninger v. McGinnis, 131 Va. 70, 108 S.E. 671 (1921); Miller v. Black Rock Springs Improvement Co., 99 Va. 747, 40 S.E. 27 (1901).

However, a recent case leaves the question unanswered. Therein the court emphasized the plaintiff's failure to establish the underground water as a watercourse. After ruling that the waters were percolating, it reversed the lower court's decision in favor of the plaintiff without examining how liability is determined as to percolating waters. C & W Coal Corp. v. Sayler, 200 Va. 18, 104 S.E.2d 50 (1958)
case deals specifically with pollution of percolating water.\textsuperscript{54} This decision fails to indicate a preference for either test since the court's holding may be supported by either theory. However, the Supreme Court of Virginia has stated that negligent or malicious interference with percolating waters will result in liability.\textsuperscript{55} Since this conflicts with the "absolute ownership" theory, it suggests that the court is moving towards acceptance of the "reasonable use" doctrine.\textsuperscript{56} This area of Virginia law is in need of clarification.

The anachronistic "absolute ownership" doctrine, which permits unrestrained pollution of percolating and underground watercourses by a landowner without regard for his neighbors, should be abandoned in favor of a "reasonable use" rule. Since all sources of water are interrelated, the courts should apply uniform rules, regardless of the source. Virginia applies the "reasonable use" theory to surface watercourses. Logically the theory should be extended to all underground water.

**Diffused Surface Waters**

Diffused surface water is "derived from falling rains and melting snow". It retains its classification "until it reaches some well defined channel."\textsuperscript{57} The use of diffused surface water is governed by a common law rule which regards surface water as a "common enemy". Landowners may combat the water by any measure necessary to protect their property from damage.\textsuperscript{58} In protecting one's property, a landowner may make reasonable use of his land, even if such use interferes with the flow of surface waters and causes harm to his neighbor. It is only when the use becomes unreasonable, in light of the particular

\textsuperscript{54} Oakwood Smokeless Coal Corp. v. Meadows, 184 Va. 168, 34 S.E.2d 392 (1945).


\textsuperscript{56} WALKE & COX, supra note 1, at 101. It should be noted that the State Water Control law applies to "all water, on the surface and under the ground." Therefore, anyone discharging pollutants into groundwaters is required to comply with the State Water Control Board's standards. VA. CODE ANN. § 62.1-44.3(4) (Cum. Supp. 1971).

\textsuperscript{57} Howlett v. City of S. Norfolk, 193 Va. 564, 568, 69 S.E.2d 346, 348 (1952).

\textsuperscript{58} Third Buckingham Community v. Anderson, 178 Va. 478, 47 S.E.2d 433 (1941). There are two other rules applied by courts in this country. According to the "civil law" rule upper proprietors have an easement of natural drainage onto the lands of lower proprietors. The lower proprietor is prohibited from repelling or obstructing the flow. However, the upper proprietor may not increase the natural flow. Id. at 485, 17 S.E.2d at 435. For exceptions to this rule see, e.g., Levy v. Nash, 87 Ark. 41, 112 S.W. 173 (1908); Riehle v. Stephenson, 222 Pa. 252, 70 A. 1097 (1908).

The "reasonable use" rule, as applied to surface waters, is very similar to the rule applicable to natural surface watercourses. The landowner may make reasonable use of his land, even if such use interferes with the flow of surface waters and causes harm to his neighbor. It is only when the use becomes unreasonable, in light of the particular...
owner may obstruct or hinder the flow of surface water or even turn it back upon his neighbor's land.  

However, in Virginia, the rule is subject to three important qualifications. First, the right to rid one's property of surface water may not be exercised wantonly or unnecessarily. This limited right to repel is subject to the maxim that one must use his property so as not to infringe the rights of others. Second, a landowner is prohibited from interfering with the flow of surface water which has worn or cut a natural channel or watercourse into the soil. Third, a landowner is prohibited from collecting diffused surface water in an artificial channel and pouring it onto another's land.

These qualifications indicate that Virginia is approaching a "reasonable use" theory in this area, also. Therefore, while the modified "common enemy" rule is articulated in terms distinct from the "reasonable use" theory, in operation and effect they are similar.

A landowner does not acquire the same rights to the use of diffused surface water that a riparian acquires with respect to surface water-courses. Any rights acquired are based on the fact that the diffused water flows onto the landowner's property. Consequently, if diffused surface water is polluted, a landowner who subsequently seeks to utilize such water has no action against the prior polluter because the complaining landowner does not acquire any rights until the water flows onto his land. However, this should not deter abatement, for although a landowner is without remedy for interference with his use of surface waters, recourse is available under any of three methods. The polluter may have incurred liability for trespass, or creation of a private nuisance, or proceedings may be initiated against him based on a public nuisance theory, as will be discussed in subsequent sections.

64. 3 Gindler, supra note 3, § 215.
65. Text accompanying notes 94-99 infra.
66. Text accompanying notes 100-110 infra.
WATER QUALITY

Tidal Waters

In Virginia, the classification of tidal water as "navigable" is of critical importance because all navigable waters and the soil beneath them are deemed to be the property of the state.67

Under English common law, all tidal waters were "navigable" by virtue of the doctrine that "only water in which the tide ebbs and flows may be considered navigable."68 This doctrine has not been applied in the United States because of its lack of utility in a country abounding in large non-tidal rivers and lakes.69 Application of the common law definition of "navigability" would necessarily vest ownership of these waters in the adjoining landowners, rather than the more desirable result that ownership should be vested in the sovereign. Therefore, the United States' definition of "navigable" waters has been adapted to embrace both tidal and non-tidal waters. Waters are held to be navigable when "they are used, or susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in customary modes of travel and trade on water."70 The crucial inquiry, therefore, appears to be whether water is "navigable" in an economic sense.71 This definition of "navigable" may result in a change in ownership of non-navigable tidal waters. Ownership of these waters might now be vested in the riparian, whereas, at common law, ownership would have been vested in the sovereign. But since no Virginia case has dealt with this problem it may be that such non-navigable tidal waters are still owned by the state.

The ownership of tidal waters is therefore of primary importance to the riparian. As navigable waters are owned by the state and controlled

68. 65 C.J.S. Navigable Waters § 4 (1966). This rule is reasonable in England because of the topography of the country. All streams, as a rule, are not in fact navigable until tidewater is reached. "If the tidal test is applied, the determining factor is the rise and fall of the water under tidal influence, and not the proportion of salt water to the fresh at the place in question; but the water must be within the influence of ordinary, and not merely exceptional tides." Id.
71. It can probably be said that all tidewater is prima facie navigable, but the presumption is not conclusive, and a river, creek, or inlet into which the tide flows is not navigable unless it is adapted for public navigation. Van Cortlandt v. New York Cent. R. R. Co., 139 Misc. 892, 250 N.Y.S. 298, rev'd on other grounds, 238 App. Div. 132, 263 N.Y.S. 842, rev'd on other grounds, 263 N.Y. 249, 192 N.E. 401 (1933).
by statute, pollution of these waters is not actionable in a suit brought by private litigants. Rather, it is for the state, as owner, to control the uses of navigable tidal waters and to determine the extent of allowable pollution. This concept takes on added significance when the polluter is acting under authority of the legislature. For example, a municipal corporation, authorized by the legislature to discharge refuse into navigable tidal waters, will incur no private liability, although oyster beds are destroyed. There are two exceptions to this immunity from private suit for “authorized” polluters. Damage to property above the mean low water mark, or pollution creating a private nuisance is held to be actionable in a private suit.

Non-navigable tidal waters and their beds are owned by riparians. Pollution of these waters which unreasonably interferes with the owner’s use, unlike pollution of navigable tidal waters, is actionable as a private wrong.

Natural Lakes, Ponds and Springs

A lake is “a large inland body of water having little or no current, which is fed by surface waters or springs, and occupies a natural depression in the earth’s surface.” A pond is a similar body of water, except that it is of relatively small size. The basic distinction between a natural watercourse and a lake or pond, independent of size, is that a watercourse has a natural motion or current, while in a pond or a lake the water is substantially at rest. Owing to the general scarcity of lakes in Virginia there is very little state case law dealing with their use. However, an adjoining owner on an inland fresh water lake or pond has the same rights as a riparian


73. City of Hampton v. Watson, 119 Va. 95, 89 S.E. 81 (1916).


75. Id. at 16, 96 S.E. at 307

76. E.g., G. L. Webster Co. v Steelman, 172 Va. 342, 1 S.E.2d 305 (1939)

77. 93 C.J.S. Waters § 103 (1956).

78. Id.


80. Walker & Cox, supra note 1, at 118.
proprietor on a natural surface watercourse.\textsuperscript{81} Although there are no cases dealing with pollution of lakes of ponds, since riparian principles are applicable, an adjoining landowner would be required to meet the same standards of reasonable use as a proprietor on a natural watercourse.\textsuperscript{82}

The use of spring water depends on the nature of the source of the spring and upon the downstream flow. For example, if the source of the spring (upstream flow) is a surface or underground watercourse, the rules applied to natural watercourses are applicable. Therefore, an owner through whose land the source flows is entitled to a reasonable use of the water on his land.\textsuperscript{83} Although there are no Virginia cases in which pollution of a watercourse has resulted in injury to the owner of a spring, it may be assumed that the question of reasonableness will be determined in the same manner as all natural watercourses.\textsuperscript{84}

Where the upstream flow is in the nature of percolating water, the right of the upstream owner to appropriate such water is not clear.\textsuperscript{85} Although no cases have involved pollution, an analogy may be drawn to cases in which springs have been completely destroyed rather than polluted. It has been established that a reasonable, legitimate use of property which destroys an adjoining landowner's spring supplied by percolating water produces no liability.\textsuperscript{86} Therefore it appears that if

\textsuperscript{81} Providence Forge Fishing and Hunting Club v. Miller Mfs. Co., 117 Va. 129, 131, 83 S.E. 1047, 1048 (1915). There is a distinction between a lake or pond and the Great Lakes, the latter being regarded as inland seas, which are within the jurisdiction of the United States Government. The Propeller Genesee Chief v. Fitzhugh, 53 U.S. (12 How.) 443 (1851). Other lakes of great size are owned by the states bordering on them, and therefore riparian rights are applicable. Musgrove v. Cicco, 96 N.H. 141, 71 A.2d 495 (1950). Since Virginia has no lakes of this size, these principles are not of importance in the state.

\textsuperscript{82} See text accompanying notes 3-37 \textit{supra}.

\textsuperscript{83} Miller v. Black Rock Springs Improvement Co., 99 Va. 747, 40 S.E. 27 (1901).

\textsuperscript{84} See text accompanying notes 3-37 \textit{supra}.

\textsuperscript{85} See text accompanying notes 38-56 \textit{supra}.

\textsuperscript{86} Walker & Cox, \textit{supra} note 1, at 120. This rule has been established in a group of cases dealing with the destruction of springs by mining operations. C & W Coal Corp. v. Salyer, 200 Va. 18, 104 S.E.2d 50 (1958); Oakwood Smokeless Coal Corp. v. Meadows, 184 Va. 168, 34 S.E.2d 392 (1945); Couch v. Clinchfield Coal Corp., 148 Va. 455, 139 S.E. 314 (1927); Clinchfield Coal Corp. v. Compton, 148 Va. 437, 139 S.E. 308 (1927).

The Supreme Court of Virginia has also indicated that one mining coal beneath land owned by another will incur liability if a spring is harmed as a result of failure to properly support the surface. No liability will be imposed if the support was sufficient. Stonegap Colliery Co. v. Hamilton, 119 Va. 271, 89 S.E. 305 (1916).
a spring is polluted as a result of an "unreasonable" use, the spring owner will have a judicially enforceable remedy.

The right of the spring owner to make use of the spring's water is also determined according to the type of downstream flow. As the downstream flow may occur as a watercourse, diffused surface water, or percolating water, the owner's right of use will vary according to the legal principles applicable to each of the three possible situations.

Artificial Ponds, Reservoirs and Channels

Although no Virginia case deals with pollution of artificially confined waters, prediction of how a court might analyze such a problem can be made with some certainty. Where waters are artificially impounded in ponds and reservoirs, the impounder's use will be determined by reference to the source of the impounded waters. For example, if the source of a reservoir is a river, then rights acquired by the impounder are governed by the law of natural watercourses. An impounder's use must be reasonable. His rights are subject to the reasonable use of fellow riparian owners on the reservoir and on the river feeding the reservoir. However, if the source of the impounded water is diffused surface water, in which no right of use may be acquired, the rule of reasonableness does not apply. The impounder of such water does not incur liability for pollution unless it interferes with the use of another's land.

The rights of owners of land bordering on artificial channels arise differently from the rights of riparian proprietors on natural watercourses. A riverfront owner's rights arise naturally—by the mere fact that a river cuts through or borders his property—but an artificial channel landowner's rights arise only by grant or prescription. The latter owner, apart from a grant or prescription which gives rise to a right to use the water, is not legally injured if the channel water which passes through his land is polluted. An exception to this rule exists in

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87. The courts have not referred to an "unreasonable" use when imposing liability. Instead, they have stated that liability results because the interference is due to malice or negligence. Miller v. Black Rock Spring Improvement Co., 99 Va. 747, 40 S.E. 27 (1901).
88. Walker & Cox, supra note 1, at 120.
89. Id. at 122.
90. 93 C.J.S. Waters § 145 (1956).
situations where the pollution interferes with the use of the land; in
this instance, an owner may seek redress based on trespass or nuisance.98

Interference With Land

Although the primary focus of this note is directed toward inter-
ference with the use of water, it is worthwhile to examine briefly pol-
lution which interferes with the use of land. Remedies for this inter-
ference in some cases may provide means to abate pollution of Vir-
ginia waters.

Foreign materials in a watercourse94 which interfere with an individ-
ual's use of his land may give rise to two separate causes of action, one
based on trespass and the other on private nuisance. Every landowner
is entitled to the exclusive and peaceful enjoyment of his land.95 If pol-
lutants which are discharged into a watercourse wash onto a land-
owner's property, the landowner may seek redress against the polluter
for trespass.96 An intentional act of pollution is actionable as a trespass
if it consists of physical invasion, regardless of whether any harm is
caused.97 A trespass action may be initiated as soon as the polluted ma-
terial has washed ashore.

A similar discharge, although not washed onto a landowner’s prop-
erty, may cause odors which are so offensive and disagreeable as to
cause a private nuisance.98 When this occurs the land owner may also
seek redress for interference with the private use and enjoyment of
his land. However, he may not bring an action for private nuisance
until the pollution is unreasonable under all circumstances. To be ac-
tionable, the pollution must substantially harm the landowner.99 Con-
sequently, if the pollutants do not actually wash onto the land, the land-

93. Text accompanying notes 94-99 infra.
94. The discussion of interference with land has been limited to watercourses be-
cause such waters are most likely to give rise to this type of problem. However,
similar problems may arise in relation to other waters. 3 GINDLER, supra note 3, § 210.3.
95. Tate v. Ogg, 170 Va. 95, 195 S.E. 496 (1938). This case does not involve pollutants
which have washed onto another's land, but it does indicate that Virginia follows the
general rule that every person is entitled to redress if the exclusive and peaceful en-
joyment of his land is wrongfully interrupted.
97. RESTATEMENT (SECOND) OF TORTS §§ 158, 163 (1965). In most water pollution
suits the polluter's repetitious conduct will be considered intentional. It will be ex-
tremely difficult for him to prove that he was unaware of the harmful nature of his
actions.
owner has no recourse until the offensive aroma is so great as to substantially harm the use and enjoyment of his land.

Public Nuisance

Interferences with the use of water and land may be of such magnitude as to injure more than a few individual landowners. Water pollution may threaten the general public. If this occurs, the private citizen faces greater obstacles in protecting the public interest than if he were merely protecting himself.

A public nuisance is defined in Virginia as "any act, omission, or use of property which is of itself hurtful to health, tranquility, or morals, or outrages the decency of a community." 100 The distinction between a public and a private nuisance is that a public nuisance results in danger to the public, while a private nuisance involves harm only to an individual. 101 The importance of this distinction is that redress for a public nuisance generally may be sought only by a public official. 102 In order for a private citizen to enjoin a public nuisance, he must show that he has suffered, or will suffer, special damages. This damage must be different in kind, not merely in degree, from that sustained by the general public. 103

The necessity of distinguishing the injury suffered by the individual from that incurred by the public may be critical. If the private citizen is unable to show his special damage, he is forced to petition a public official, who may be reluctant to institute action against the polluter. 104 Even if the responsible government agency is disposed to act, it may be unable to take meaningful action due to the bulk of its workload, the inadequate size of its work force, or a previously committed budget. 105

Title 48 of the Virginia Code is a potential solution to this problem. This Title provides that when five or more citizens make a complaint to a circuit or county court, setting forth the existence of a public nuisance, the court shall summon a special grand jury to investi-

100. E.g., Ritholz v. Commonwealth, 184 Va. 339, 350, 35 S.E.2d 210, 214 (1945)
101. 14 MICHIE'S JURISPRUDENCE NUISANCES § 5 (1951)
103. E.g., Payne v Godwin, 147 Va. 1019, 133 S.E. 481 (1926).
gate the complaint.\textsuperscript{106} If the grand jury is satisfied that a public nuisance exists, it has authority to make a presentment against the person or persons causing such nuisance.\textsuperscript{107} If the party against whom the presentment is brought is found guilty, the nuisance must be abated. In addition, the violator is subject to a fine not greater than $5,000.\textsuperscript{108}

While this Title gives the private citizen an alternative to complete dependence on administrative action, a recent Michigan statute projects this idea further. In Michigan, \textit{private citizens} may bring suit on behalf of the public in order to challenge conduct allegedly having an adverse effect on the environment.\textsuperscript{109} Private citizens have direct access to the courts in order to protect the public interest in a clean environment.

It would appear that new legislation in Virginia, based upon the Michigan prototype, would serve as an effective weapon in environmental suits. Such legislation would eliminate restrictive standing requirements and encourage citizens to challenge industrial polluters.\textsuperscript{110}

\textbf{Remedies}

An injured plaintiff, in a water pollution suit, has two remedies: an action at law for damages or a suit in equity for injunctive relief. In order to maintain an action for damages, he must prove that he has suffered substantial actual injury.\textsuperscript{111} Proof of threatened damage will be sufficient to obtain injunctive relief.\textsuperscript{112} For the plaintiff who is concerned with more than purely economic recovery, injunctive relief is the preferable remedy. The availability of this remedy depends on the particular circumstances of each case.\textsuperscript{113} In order to gain injunctive relief, a plaintiff must establish that he has no adequate remedy at law.\textsuperscript{114} The continuous or recurring nature of water pollution forces a court to estimate plaintiff's future damage. In many cases this estimate cannot be

\textsuperscript{107} Id. § 48-2.
\textsuperscript{108} Id. § 48-5.
\textsuperscript{110} See text accompanying notes 216-45 infra.
\textsuperscript{111} E.g., \textit{Virginia Hot Springs Co. v. Hoover, 143 Va. 460, 130 S.E. 408 (1925).}
\textsuperscript{112} E.g., \textit{Town of Purcellville v. Potts, 179 Va. 514, 19 S.E.2d 700 (1942).}
\textsuperscript{113} WALKER & COX, supra note 1, at 132.
\textsuperscript{114} AKERS \textit{v. Mathieson Alkali Works, 151 Va. 1, 8, 144 S.E. 492, 494 (1928).}
made accurately so that the remedy at law will be "inadequate." In addition, it should be recognized that damages will often be inadequate as a remedy because the polluter may continue his trespass while paying damages, and thereby obtain an easement over the plaintiff's land.

Even if the plaintiff is able to clear this initial obstacle, injunctive relief may be denied where the court determines that the harm which an injunction would inflict on the defendant is greater than the resulting benefit to the plaintiff. "Balancing of the equities"—weighing the harm that will be suffered by the defendant against the benefit received by the plaintiff—has been characterized by many legal writers as the single greatest obstacle to the effectiveness of private remedies as a means to control pollution. A court, though recognizing that the defendant's activities will injure the plaintiff, may, by "balancing," deny injunctive relief, thus leaving the plaintiff to seek his remedies at law.

A factor emphasized by some courts in this balancing test is the benefit to the public of the defendant's business. But, in emphasizing purely economic benefits to the community, courts underestimate the environmental harm to the community as a whole. As previously noted, the Supreme Court of Virginia has recognized that this theory amounts to a judicial license for strong financial and industrial interests to invade the rights of their neighbors. In a 1970 opinion, the court articulated an oft-stated principle: "The doctrine of balancing the equities must be viewed in light of our long-standing pronouncement that a private landowner is to be protected for injuries he may sustain even though inflicted by forces which constitute factors in our material

115. As a general rule "all damages must be recovered in one action when the act causing the injury is permanent and at once productive of all the damage which can ever result from it. (In) cases of doubt concerning the permanency of the injury, the right to bring successive actions has been upheld." Walker & Cox, supra note 1, at 132.


117. Akers v. Matheson Alkali Works, 151 Va. 1, 8, 144 S.E. 492, 494 (1928)


119. For a classic example of a court utilizing this technique in a case involving emission of dust and raw materials from blasting operations see, Boomer v Atlantic Cement Co., 55 Misc. 2d 1023, 287 N.Y.S.2d 112 (Sup. Ct. 1967), aff'd, 30 App. Div. 2d 480, 294 N.Y.S.2d 452 (1968).

120. Akers v. Matheson Alkali Works, 151 Va. 1, 9, 144 S.E. 492, 494 (1928). When courts evaluate public benefit in purely economic terms, they seem to overlook the public interest in a clean environment.

121. See Note, supra note 7, at 747
development and growth."\textsuperscript{122} This enlightened judicial reasoning supports a litigant confronting a large industrial concern which asserts the beneficial results of its operation.

Another burden the plaintiff faces is proving proximate cause. For example, a stream often receives effluents from many sources, no one of which is sufficient to cause the alleged damage.\textsuperscript{123} Where there is no concerted action, common purpose, or design on the part of the polluters, but rather several concurring causes, "the effects of which are separable, due to independent authors, neither being sufficient to produce the entire loss, then each of the several parties concerned is liable only for the injuries due to his negligence."\textsuperscript{124} Because there is no joint wrong, the polluters may not be joined in a single action. The plaintiff is then faced with the herculean task of proving the extent to which each polluter has contributed to the aggregate result.\textsuperscript{125}

A minority of jurisdictions confront this problem squarely. A plaintiff may join concurrent polluters who may be held jointly and severally liable. The burden of apportionment is assigned to the defendants.\textsuperscript{126} Other jurisdictions reach this result where it can be shown that the individual polluters knew or should have known that the cumulative effect of their separate acts would harm the plaintiff.\textsuperscript{127}

Another frequent difficulty is the courts' inability to deal effectively

\begin{footnotesize}

\textsuperscript{123} Hines, supra note 104.

\textsuperscript{124} Pulaski Anthracite Coal Co. v. Gibboney Sand Bar Co., 110 Va. 444, 448, 66 S.E. 73, 74 (1909).

\textsuperscript{125} Id.

\textsuperscript{126} Landers v. E. Texas Salt Water Disposal Co., 151 Tex. 251, 252, 248 S.W.2d 731, 734 (1952); see Taylor, Control of Stream Pollution, 33 Tex. L. Rev. 370, 373 (1955).

\textsuperscript{127} See Walters v. Prairie Oil & Gas Co., 85 Okla. 77, 204 P. 906 (1922); Northup v. Eakes, 72 Okla. 66, 178 P. 266 (1918).

Virginia has not adopted either new approach. A plaintiff has the burden of apportioning the damage among the polluters. E.g., Panther Coal Co. v. Looney, 185 Va. 758, 40 S.E.2d 298 (1946). However, the State is not faced with this difficulty when attempting to enforce its standards. The State Water Control Law defines pollution as:

An alteration of the physical, chemical, or biological property of State waters, or a discharge or deposit of sewage, industrial wastes or other wastes to State waters by any owner— which by itself is not sufficient to cause pollution, but which, in combination with such alteration of or discharge or deposit to State waters by other owners is sufficient to cause pollution.

\end{footnotesize}
with scientifically complex problems. Courts often fail to understand the hydrologic cycle and the intimate relationship between varied sources of water. "[C]hemical, biological, physiological, and other scientific evidence required to prove the causal connection between the alleged polluter's discharge and the plaintiff's harm is often highly technical, and next to impossible for [a] judge or layman to assimilate and evaluate." A solution adopted by several jurisdictions consists of the use of special masters who report their findings to the court. However, there is little evidence that this procedure is being utilized.

**Defenses**

An injured plaintiff may be thwarted in his attempt to obtain relief by the defenses available to a polluter. The defenses presented below are not exhaustive, but are those most often asserted in pollution cases.

The oldest defense used in pollution suits is the "coming to the nuisance" rule, which provides that one who knowingly comes to an area where a nuisance has long existed must suffer the consequences. According to this rule, one who acquires riparian rights along a polluted stream cannot maintain an action for interference with his riparian uses if he was previously aware of the pollution. However, there is a trend to disregard this antiquated rule; Virginia rejected it early, in a case involving stream pollution.

The polluter may also defend on the grounds that he has acquired a prescriptive right to pollute. This defense is available when the pollution has existed openly, for a continuous period of time—twenty years in Virginia. The plaintiff may overcome this defense where the pollution has been variable, because in order to maintain the defense of prescriptive right, the pollution must have been not only con-

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128. Hines, supra note 104, at 199.
129. Id.
135. Note, supra note 7, at 738.
136. Skipwith v. Albemarle Soapstone Co., 185 F 15 (4th Cir. 1911)
continuous, but also must not have varied in quantity or quality.\textsuperscript{137} It should be noted that this defense is not available in all jurisdictions.\textsuperscript{138} A minority of jurisdictions adopt the view that prescription is no defense to an action to abate a nuisance.\textsuperscript{139} This is the better rule because of the unreasonableness in recognizing conduct as harmful, and yet permitting it because of its longevity.

Although a polluter may successfully defend against a private party on the grounds of a prescriptive right, this defense cannot be asserted against the state. A state's control of its waters is not affected by any past discharge of sewage, industrial wastes, or other pollutants.\textsuperscript{140}

The holder of a water right may grant an easement by which another person may cause what would otherwise be unreasonable pollution of the grantor's water supply.\textsuperscript{141} An easement, like a prescriptive right, cannot be asserted as a defense against the state in an abatement action.\textsuperscript{142}

A defendant in a water pollution suit may allege plaintiff's own contribution to the pollution in an attempt to avoid liability. While the defense of contributory pollution will not bar recovery, it will limit the defendant's liability to an amount apportioned according to his share of the pollution. However, unless a plaintiff provides sufficient evidence to allow a court to apportion the damages, all recovery will be denied.\textsuperscript{143}

A plaintiff whose water rights have been injured has a duty to mitigate the damages through the exercise of ordinary care.\textsuperscript{144} He must take such reasonable precautions as are necessary to prevent increased injury. If he fails to do so, the defendant will not be held responsible for

\textsuperscript{137} Note, supra note 7, at 738. However, a seasonal use, if it is exercised according to the use's nature, may qualify as "continuous." Anneberg v. Kurtz, 197 Ga. 188, 28 S.E.2d 769 (1944).


\textsuperscript{139} Eakens v. Garrison, 278 S.W.2d 510 (Tex. 1955).


\textsuperscript{141} No right to continue existing quality degradation in any State water shall exist nor shall such right be or be deemed to have been acquired by virtue of past or future discharge of sewage, industrial wastes or other wastes or other action by any owner. The right and control of the State in and over all State waters is hereby expressly reserved and reaffirmed.


\textsuperscript{143} Panther Coal Co. v. Looney, 185 Va. 758, 40 S.E.2d 298 (1946).

\textsuperscript{144} Walker & Cox, supra note 1, at 134.
any resulting harm. The burden of showing that the plaintiff has failed to exercise reasonable care is upon the defendant.145

New theories and procedures in environmental law

Public Trust

The public trust doctrine is an ancient legal principle which has been rejuvenated to deal with environmental problems. Simply presented, the doctrine states that certain resources are held in trust by the government for the public benefit.146 The government is the “guardian of those valuable natural resources which are not capable of self-regeneration and for which substitutes cannot be made by men.”147 The idea that land may exist as a public resource first developed under the Roman legal system, and although there is no evidence that this public right of ownership was ever asserted against the government, the development of the idea that property may be publicly as well as privately owned was a significant contribution to the public trust doctrine.148 Under the English common law, ownership of the lands and waters of the kingdom was vested in the King who could dispose of them at his pleasure. However, his obligations as sovereign included the duty to use the lands and waters for governmental purposes, that is, the public interest.149 The King’s dual role resulted in his ownership rights being divided into two categories. His private rights, or proprietary interests, were classified as the jus privatum. His governmental duties, which included protection of the public’s interest, were classified as the jus publicum. Where rivers, tidal waters, or their beds were concerned, this interest included the public’s right of navigation, travel, and fishing.150 The King, as a personal proprietor, could convey his proprietary interest, the jus privatum. However, since the public’s interest, the jus publicum, could never be alienated, a grantee from the King always took subject to this interest.151

Early American law reflects the Roman and English practice of pro-

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146. J. Pearson, Environmental Rights and Virginia’s Public Trust Doctrine, May 18, 1970 (unpublished article on file with the Wm. & Mary L. Rev.).
149. Id.
150. Id.
151. Id.
tecting certain public uses. The classic American case of the application of trust principles is *Illinois Central Railroad v. Illinois*. The case involved a grant to the Illinois Railroad of all the land underlying Lake Michigan for a distance of one mile out from the shoreline and extending one mile in length. Four years later the state legislature brought an action to have the original grant declared invalid. The Court, while declaring the original grant invalid, ruled that a state may not irrevocably relinquish its authority over an area in which it has the responsibility to exercise its police power. To grant essentially the entire waterfront of a major city to a private company was, in effect, to abdicate legislative authority over navigation. The Court asserted that states have special regulatory obligations over shorelands so that title to the navigable water of Lake Michigan is "different in character from that which the State holds in lands intended for sale. . . . It is held in trust for the people of the state that they may enjoy the navigation of waters, carry on commerce over them, and have the liberty of fishing therein free from the obstruction or interference of private parties." This decision has established what has been termed a "model for judicial skepticism," meaning that whenever a "state holds a resource which is available for the free use of the general public, a court will look with considerable skepticism upon any governmental conduct which is calculated either to reallocate that resource to more restricted uses or to subject public uses to the self-interest of private parties." According to the *Illinois Central* position, a state holds the lands under navigable waters in trust for the public purposes of navigation, commerce, and fishing. Abdication of control over a large tract of the land under a given body of water violates this trust, however, lesser conveyances may not violate it. A court must determine, on a case by case basis, whether a given alienation infringes upon the *jus publicum*. Prior to *Illinois Central*, Virginia courts adhered to the rigid rule that the state could never alienate trust property. Thereafter, the courts...
began to develop principles more in line with the original common law concept that a state may transfer trust land, subject to certain public rights.¹⁵⁹

The main body of Virginia's trust doctrine was formulated between 1916 and 1932. In *City of Hampton v. Watson*¹⁶⁰ the court accepted the *Illinois Central* rule that trust land is alienable so long as trust purposes are not compromised.¹⁶¹ However, the court further enunciated the important principle that the rights included in the *jus publicum* may change with the needs of the public.¹⁶²

In *Hampton*, a lessee of oyster beds from the state brought an action of trespass on the case against the City of Hampton to recover damages for its alleged unlawful pollution of the waters of Hampton Creek.¹⁶³ The court, in denying relief to the plaintiff, reasoned that since the state holds its tidal waters for the benefit of all the public, it may use these waters for furthering the public good.¹⁶⁴ The court asserted that the state guards the health of its people for the benefit and protection of the public at large and under present sanitary standards, sewerage systems for all thickly settled communities have become an imperative necessity, a public right, which is superior to the leasing by the State of a few acres of oyster land.¹⁶⁵

In effect, the court said that the plaintiff's interest was subject to the public's interest, the *jus publicum*, which included protection of the public health through sewage disposal. The court's elevation of sewage disposal to an interest protected within the *jus publicum* indicates that this concept is fluid, and may change with the needs of the public.¹⁶⁶

¹⁵⁹ Pearson, *supra* note 146, at 11.
¹⁶⁰ 119 Va. 95, 89 S.E. 81 (1916).
¹⁶¹ This position had been accepted in an earlier Virginia case. Richardson v. United States, 100 F 714 (C.C.E.D. Va. 1900).
¹⁶² 119 Va. at 96, 89 S.E. at 81. The Pure Food and Dairy Department of the Commonwealth of Virginia had notified the plaintiff that he would not be permitted to sell his oysters without first transplanting them to unpolluted waters. *Id.* at 97, 89 S.E. at 81.
¹⁶³ *Id.* at 100, 89 S.E. at 82.
¹⁶⁴ *Id.* at 101-02, 89 S.E. at 82. This reasoning was affirmed eight years later. James & Kanawha Power Co. v. Old Dominion Iron & Steel Corp., 138 Va. 461, 122 S.E. 344 (1924).
¹⁶⁵ Pearson, *supra* note 146, at 12. The court supported its ruling by quoting from a New Jersey opinion which stated that, "the history of sewers shows that from time immemorial the right to connect them [sewers] with navigable streams has been regarded as part of the *jus publicum* and whenever tidal streams can conveniently be reached, they have been employed as the medium of discharge to the sea." 119 Va. at 101, 89 S.E. at 82, quoting from *City of Newark v. Sayre*, 60 N.J. Eq. 361, 45 A.
Such an interpretation supports the argument that the absolute necessity of protecting our environment requires that environmental rights be protected as part of the *ius publicum*, as will be discussed below.

It must be remembered that in *Hampton* the plaintiff was a lessee who did not claim absolute ownership of the beds in issue. In previous decisions involving claims of absolute ownership, the supreme court had been unwilling to deviate from its pre-*Illinois Central* position that the state could not grant trust property. Any doubt concerning the state's ability to grant trust property was dispelled by two subsequent decisions.

In *James River & Kanawha Power Co v. Old Dominion Iron & Steel Corp.*, the court, in referring to the ownership of certain beds of the James River, observed that there are certain public uses of navigable waters which the State does not hold in trust for all the public, and of which the State cannot deprive them, such as the right of navigation, but, subject to these public rights, there is no reason why the beds of navigable streams may not be granted unless restrained by the Constitution.

The court further remarked that the legislature holds the power of disposition of state property subject only to the public's right in such land. These statements are mere dictum, however, for the court felt bound to follow a previous decision upholding the inalienability of trust land. The court reasoned that to overturn precedent would result in confusion and possibly prove catastrophic to investments made in reliance upon it.

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985 (1909). Arguably, this indicates that sewage disposal has always been part of the *ius publicum* in Virginia. If so, the ruling in *Hampton* would not support the contention that the interests protected by the *ius publicum* may change. However, the court's language indicates otherwise. By emphasizing that under present sanitary standards, sewage systems have become a necessity and a public right the court indicated that it was reacting to a new problem and protecting an interest heretofore unprotected.


168. *Id.* at 469, 122 S.E. at 346.

169. *Id.*


171. 138 Va. at 475, 122 S.E. at 348.
Any ambiguity which may have resulted from the dicta and the holding in *James River & Kanawha Power Co* was clarified in *Commonwealth v. City of Newport News*. The state sought to restrain the City of Newport News from dumping untreated sewage into the waters of Hampton Roads, pursuant to state legislation. The Commonwealth alleged that the untreated sewage polluted the waters and rendered shellfish taken therefrom unfit for human consumption which, in turn, destroyed the right of fishery. The state relied on the trust theory in contending that the right of fishery was a protected interest incident to the *jus publicum*. Since this argument relied primarily on the *Illinois Central* theory, the court examined that decision in detail.

The court criticized the use of the term "trust," believing it more logical to say that the legislature lacked the power to deny the people certain uses, such as navigation in tidal waters, because of limitations imposed by the people in their capacity as sovereign. Limitations on state sovereignty, the court reasoned, are derived from the United States Constitution and the Virginia Constitution. However, of these limitations, only section 175 of the old Virginia Constitution contains explicit restrictions upon the powers of the state legislature to dispose of tidal waters. The court interpreted this section as applying only to private uses. Therefore, it was held not to restrict legislative authority to allow the use of tidal waters for public purposes.

Finding no explicit constitutional proscriptions, the court examined the *jus publicum*, an inherent constitutional limitation upon state

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172. 158 Va. 521, 164 S.E. 689 (1932).
173. Id. at 526, 164 S.E. at 689.
174. Id. at 533, 164 S.E. at 692.
175. Id. at 536, 164 S.E. at 693.
176. Id. at 541, 164 S.E. at 694.
177. Id. at 553, 164 S.E. at 699. This section of the old Constitution provided:
The natural oyster beds, rocks and shoals, in the waters of this State shall not be leased, rented or sold, but shall be held in trust for the benefit of the people of this State, subject to such regulations and restrictions as the General Assembly may prescribe, but the General Assembly may, from time to time, define and determine such natural beds, rocks or shoals by surveys or otherwise.

Va. Const. art. XIII, § 175. This section is now part of the revised Virginia Constitution, Va. Const. art. XI, § 3.
178. 158 Va. at 554, 164 S.E. at 699. The court stated that the prohibition against leasing, renting, or selling the natural oyster beds prohibited the legislature from alienating the state's proprietary rights therein. This, when read in conjunction with the provision requiring that the beds, rocks, and shoals shall be held in trust for the people, prohibited the State from authorizing a private use which would substantially impair the public use of the natural beds. Id. at 553, 164 S.E. at 699.
power. The court reasoned that the Virginia Constitution, by its very purposes, denied the legislature power to impair the *jus publicum* and the concomitant rights of the people. It was held that the legislature may not transfer the proprietary rights of the state, if such transfer would "relinquish, surrender, alienate, destroy, or substantially impair the exercise of the *jus publicum.""

The court then considered whether fishery was included in the *jus publicum* by comparing fishery with navigation, a right which is held to be within the *jus publicum*. Navigation is part of the *jus publicum* because it is public in nature and is intimately related to liberty, a basic constitutional right. However, the right of fishery was held to be without the *jus publicum* as it is unrelated to a basic constitutional right and its exercise is essentially private, rather than public in nature. Consequently, the legislation enabling the City of Newport News to discharge sewage into the waters of Hampton Creek was upheld as a valid exercise of legislative discretion.

*Newport News* established standards for determining which interests are protected from state alienation. The courts will seek specific constitutional language to ascertain whether a public right is protected. Absent this language, a right may still be protected because it is part of the *jus publicum*. The *jus publicum* includes all rights which are public in nature and are closely related to basic constitutional rights.

The revised Virginia Constitution, which became effective on July 1, 1971, contains an article which provides:

To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands, and its historical sites and buildings. Further, it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.

179. Id. at 546, 164 S.E. at 696.
180. Id.
181. Id. at 547, 164 S.E. at 697
182. Id. at 549-50, 164 S.E. at 698.
183. Id. at 550, 164 S.E. at 698. See Pearson, supra note 146, at 18.
184. 158 Va. at 551, 164 S.E. at 698.
185. Id. at 556, 164 S.E. at 700.
186. Pearson, supra note 146, at 19.
Arguably, this raises environmental rights to the constitutional level. If so, the legislature is required to protect these rights. However, the conservation article appears to be a general policy settlement rather than a trust declaration, and therefore the courts may interpret it as lacking the specificity necessary for recognition of a constitutional trust. If the necessary constitutional specificity is held to be lacking, environmental rights appear to qualify as incidents of the *jus publicum* under the “impliedly constitutional” test established in *Newport News*. The right to a clean environment is certainly fundamental, as any right becomes meaningless absent a livable environment. With respect to environmental rights being “public in nature,” it is difficult to conceive of anything falling more aptly into this category. Whether the courts will find either of these arguments to be persuasive is unknown.

**Constitutional Right**

If an argument based on the revised Virginia Constitution or on the Public Trust Doctrine proves ineffective, then the environmentalist may turn to the Constitution of the United States as a basis for contending that every citizen has a right to enjoy a clean and livable environment. The fifth and fourteenth amendments provide that neither the United States nor any state shall deprive any person of “life, liberty, or property without due process of law.”

The “due process” argument may be explained by examining statements made by two Justices of the Supreme Court. Mr. Justice Frankfurter in *Wolf v. Colorado* stated that, “[d]ue process of law conveys neither formal nor fixed nor narrow requirements. It is the compendious expression for all those rights which the courts must enforce because they are basic to our free society.”

Earlier, in *Meyer v. Nebraska*, Mr. Justice McReynolds, in discussing the meaning of liberty guaranteed by the due process clause said:

> While the court has not attempted to define with exactness the liberty thus guaranteed, the term has received much consideration and some of the included things have been definitely stated. Without doubt, it denotes the right to enjoy those privileges

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190. U.S. Const. amend. V
191. Id. amend. XIV, § 1.
192. Id.
long recognized at common law as essential to the orderly pursuit of happiness by free men.\textsuperscript{194}

These statements support the contention that environmental rights are necessarily included in the "compendious expression" of due process. A healthy environment is "basic to our free society" and "essential to the orderly pursuit of happiness by free men." \textsuperscript{195}

An analysis of the evolution of the "privacy" doctrine also suggests that environmental rights are secured by the due process clause. In \textit{Griswold v. Connecticut},\textsuperscript{196} the Court invalidated a Connecticut anti-birth control statute because it intruded upon the marriage relationship, which was "within the zone of privacy created by several fundamental constitutional guarantees." \textsuperscript{197}

Mr. Justice Douglas' majority opinion examined previous cases in which rights not specifically enumerated had been protected under the umbrella of explicit guarantees. These cases suggested that the "specific guarantees in the Bill of Rights have penumbras, formed by emanations from those guarantees that help give them life and substance." \textsuperscript{198} He asserted that "without [these] peripheral rights the specific rights would be less secure." \textsuperscript{199} E. F Roberts describes the "penumbra" theory as follows:

Finding a zone of privacy protected by the Bill of Rights was no easy task since privacy nowhere is mentioned therein Thus it must be understood that each of the specific rights inventoried in the Bill of Rights may have "penumbras that help give them

\textsuperscript{194} 262 U.S. 390, 399 (1923).
\textsuperscript{195} \textit{Civil Liberties}, April, 1970, at 3.
\textsuperscript{196} 381 U.S. 479 (1965).
\textsuperscript{197} \textit{Id.} at 485.
\textsuperscript{198} \textit{Id.} at 484. Justice Goldberg, in a concurring opinion, agreed that the concept of liberty protects fundamental personal rights which are not specified in the Bill of Rights. He emphasized that the ninth amendment indicates that the framers believed there are "additional fundamental rights, protected from governmental infringement, which exist alongside those fundamental rights specifically mentioned in the first eight constitutional amendments." \textit{Id.} at 488. Justice Harlan, also concurring, stated that the relevant inquiry was whether the "Connecticut statute infringes the Due Process Clause of the Fourteenth Amendment because the enactment violates basic values implicit in the concept of ordered liberty." He felt the determination was not dependent on the Bill of Rights and the unconstitutionality could be based solely on violation of the Due Process Clause of the Fourteenth Amendment. \textit{Id.} at 500. The "penumbra" and "due process" theories were rejected by dissenting Justices Black and Stewart. \textit{See}, \textit{Id.} at 510-18, 528-30.
\textsuperscript{199} \textit{Id.} at 482-83.
life and substance.” Similarly, the First Amendment guarantees of free speech, press and religion implicitly guaranteed a further “freedom of association” so that a state cannot demand membership lists from legitimate groups. This example, moreover, also illustrates that the First Amendment protects “the privacy” of one’s associations. The Third Amendment’s clause prohibiting the unconsented-to quartering of soldiers in any house during peacetime reflects “another facet of privacy.” As we have already seen, the Fourth Amendment protects privacy and so does the Fifth Amendment when it forbids self-incrimination. Finally, the Ninth Amendment tells us that the very act of listing certain rights in the Bill of Rights must not be construed to deny the existence of “others retained by the people.” Privacy, therefore, is imminent within the penumbras surrounding several Amendments and, within the interstices wherein these several penumbras overlap, there is authority for the proposition that the Bill of Rights did create a right of marital privacy so fundamental that the statutes involved herein had to be declared unconstitutional for infringing thereupon.

The evolving character of the “right of privacy” doctrine suggests that due process is not a static concept. As society changes, new problems require that heretofore “unseen rights” receive positive protection. Griswold presents a basis on which to formulate an argument that there is a constitutional right to an environment fit for human habitation. Under Justice Douglas’ “penumbral” theory, it is clear that without a livable environment all enumerated guarantees would be “less secure.”

A constitutional right to a clean environment was recently asserted in a United States District Court. The Environmental Defense Fund (EDF) brought a class action to enjoin defendant corporation from emitting noxious sulfur compounds and other toxic substances into the

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Missoula Regional Ecosystem, alleging that the emissions constituted a violation of its members' rights, as guaranteed by the due process clauses of the fifth and fourteenth amendments. The court, in considering plaintiff's constitutional contention, recognized that the right to life, liberty, and property may not be denied without due process of law, and, apparently relying on the "penumbra" theory, held that "a person's health is what, in a most significant degree, sustains life." The court further asserted that "each of us is constitutionally protected in our natural state of life and health." The case was dismissed, however, because these constitutional protections were held applicable only against governmental action, rather than that of private parties. Since defendant was a private corporation, its activities were not proscribed by the due process clause, and hence the court's extension of due process protection to the right to a healthy environment must be read as dictum.

This dictum was disregarded by another district court where EDF, and other conservation groups, sought to enjoin the Army Corps of Engineers from constructing a dam across the Cosatot River in Arkansas. Although a temporary injunction was granted on the basis of the Corps' failure to file an adequate environmental impact statement in accordance with the National Environmental Policy Act, the court rejected the plaintiffs' constitutional argument. While admitting that "[s]uch claims, even under our present Constitution are not fanciful and may some day, in one way or another, obtain judicial recognition," the court nevertheless dismissed the claim, due to its reluctance to adopt a theory which had not met with approval in the higher courts.

205. 1 Environmental Rep. 1640.
206. Id. at 1641.
207. Id.
208. Id.
209. Id. at 1642. If the action had been brought after July 10, 1970, the necessary state action could have been found because on that date, the Montana State Board of Health, in compliance with Montana's Clean Air Act, granted defendant-corporation a variance from the pollution standards set by the board. Note, supra note 204, at 170.
210. 11. at 1641.
212. Id. at 759.
213. Id. at 739.
214. Id.
215. Id., quoting from Spector Motor Serv., Inc. v. Walsh, 139 F.2d 809 (2d Cir. 1944). This same hesitancy resulted in denial of a constitutional claim in a recent
As this court indicates, it is doubtful that a theory of constitutionally protected environmental rights will find acceptance absent recognition by the Supreme Court. Whether the Court will be receptive to the idea of a constitutional right to a clean environment must await adjudication. However, the impact of public opinion on constitutional interpretation cannot be overstated. A favorable climate exists, and continued public action should facilitate recognition of this elemental right.

Standing to Sue

If a constitutional right to an undefiled environment were recognized, every citizen affected could assert an alleged violation of his right in the courts. Until such right is recognized, however, determination of who has access to the courts in order to seek redress is of the utmost significance. In many environmental suits, the plaintiff’s most difficult burden is establishing standing to assert an alleged wrong. The question of standing, or the right to petition a court for redress is most important in regard to the ability of a private individual to challenge governmental decisions adversely affecting the environment.

Control and regulation of many of our valuable resources is vested in governmental agencies, which often appear to be aligned with the interests they are charged with regulating. If conservation groups or interested private citizens are to be effective, they must have access to the courts in order to challenge administrative decisions which they believe fail to consider environmental factors.210 The standing of conservation groups to assert conservational, aesthetic, and recreational interests is being hotly debated in the federal courts.

In 1971, the Court of Appeals for the Fourth Circuit ruled on the question of standing in West Virginia Highland Conservancy v. Island


(a) Any person aggrieved by a final decision in a contested case, whether such decision is affirmative or negative in form, is entitled to judicial review thereof under this chapter either in the Circuit Court of the city of Richmond or in any court of record having jurisdiction in the city or county in which such person resides or in which is located the principal office of his business, or in which is located his property affected by the decision complained of.
Creek. Therein, West Virginia Highlands Conservancy sought preliminary and permanent injunctions against the supervisor of the Monongahela National Forest, and the Island Creek Coal Company, requiring them to halt mining and timber-cutting activities in a national forest in order to preserve the wilderness characteristic of that area. A district judge granted a preliminary injunction from which the defendant appealed on the grounds that the Conservancy lacked standing to bring the action. In affirming, the court of appeals discussed the standards for standing established by the Supreme Court in Data Processing Service v. Camp and Barlow v. Collins. These decisions formulated a dual standing requirement. First, in order to challenge an administrative decision, a plaintiff must establish a "case or controversy" within the Article III limitation of judicial power, by showing that the challenged agency action would cause him injury. Second a plaintiff must show that the interest in question is "within the zone of interests to be protected or regulated by the statute or constitutional guarantee in question."

The court in Island Creek held that the Conservancy satisfied both elements of the test. The alleged injuries to the group's aesthetic, conservational, and recreational values complied with the injury requirement of the Data Processing test. Furthermore, since the Conservancy sought to protect the same interests with which the National Environ-

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217. West Virginia Highlands Conservancy v. Island Creek Coal Co., 441 F.2d 232 (4th Cir. 1971).
218. Conservancy is a non-profit membership corporation dedicated to preserving natural, scenic and historic areas in the West Virginia Highlands. It has over two hundred members who reside principally in West Virginia, Pennsylvania and the District of Columbia. It publishes a newsletter and sponsors field trips for the pleasure and education of visitors to the highlands. One of its main concerns is the protection of an 18,000 acre area within the Monongahela National Forest known as the Otter Creek Basin. It has prepared a detailed study of the Otter Creek drainage area, sponsored hikes along Otter Creek and organized meetings to discuss the future of Otter Creek.
221. 397 U.S. at 152.
222. Id. at 153.
mental Policy Act and the Wilderness Act were concerned, those interests were “within the zone of interests” accorded statutory protection.

The court discussed a contrary result which was reached by the Court of Appeals for the Ninth Circuit in Sierra Club v. Hickel. The Sierra Club had been denied standing to challenge the Secretary of the Interior’s decision to allow commercial development of a portion of Sequoia National Park. The club, relying on its special interest in the conservation of national parks, contended that “its interests would be vitally affected” by the acts of the Secretary. The court concluded that, absent an allegation that the plaintiff’s property would be damaged; that its organization or members would be endangered; or that its status would be threatened, it lacked the “direct interest” needed to confer standing. This decision, which has been highly criticized, will be evaluated by comparison with other significant decisions.

In a very similar fact situation, the second circuit reached a different result. In Citizens Committee For Hudson Valley v. Volpe; the Sierra Club, the Citizens Committee for Hudson Valley, and the New York Village of Tarrytown objected to the construction of the Hudson River Expressway. Two of the plaintiffs—the Citizens Committee and the Sierra Club—made no claim that the proposed project threatened any direct personal or economic harm to them, but instead they “asserted the interest of the public in the natural resources, scenic beauty and historical value of the area immediately threatened with drastic alteration, claiming that they were aggrieved when the Corps acted adversely to the public interest.”

224. 441 F.2d at 234.
225. 433 F.2d 24 (9th Cir. 1970), cert. granted, 91 S. Ct. 870 (1971).
226. Id. at 30. The Sierra Club is a non-profit membership corporation having approximately 78,000 members nationally. It is interested in the conservation of national parks and forests, especially the lands on the slopes of the Sierra Nevada Mountains.
227. Id. at 29.
228. Id. at 30.
229. 425 F.2d 97 (2d Cir.), cert. denied, 91 U.S. 237 (1970). The planned construction required dredging and filling in portions of the Hudson River, a navigable waterway. The United States Army Corps of Engineers issued a permit authorizing the operation pursuant to its authority under the Rivers and Harbors Act of 1899, 33 U.S.C. § 401 et seq. The plaintiffs contended that the proposed construction involved both a “dike” and a “causeway” within the meaning of § 401, which meant that the Corps was required to secure the approval of Congress and the Secretary of Transportation before issuing the permit. The district court enjoined the project until approval was obtained. The circuit court of appeals affirmed. 425 F.2d at 100.
230. Id. at 102.
The court of appeals extended an earlier decision so as to grant standing. In Scenic Hudson Preservation Conference v. FPC, a conservation group and three New York towns were found to have standing to challenge an order of the Federal Power Commission which granted a license to Consolidated Edison Company of New York to construct a hydroelectric project on the Hudson River. The court, relying on the judicial review provision of the Federal Power Act, found the plaintiffs to be injured parties because Congress intended to protect non-economic as well as economic interests. In order to ensure that the public interest in the aesthetic, conservational and recreational aspects of power development will be adequately protected, "those who by their activities and conduct have exhibited a special interest in such areas, [are] included in the class of 'aggrieved' parties." Although there was no corresponding review provision within the Rivers and Harbors Act, the Volpe court granted standing based on the Administrative Procedure Act, which provides that a person "aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." The plaintiffs were considered "aggrieved" within the meaning of three relevant statutes: the Department of Transportation Act, the Hudson River Basin Compact, and a United States Army Corps of Engineers regulation. The court stated:

[T]he public interest in environmental resources—an interest created by statutes affecting the issuance of this permit—is a legally protected interest affording these plaintiffs, as responsible representatives of the public, standing to obtain judicial review of

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231. 354 F.2d 608 (2d Cir. 1965).
234. Department of Transportation Act, 49 U.S.C. § 1653 (f) (1970). This section of the Act declares that "special effort should be made to preserve the natural beauty of the countryside".
236. 33 C.F.R. § 209.120(d) (1971). The regulation requires that the Corps evaluate all relevant factors, including the effect of the proposed work on navigation, fish, wildlife, conservation, pollution, aesthetics, ecology, and the general public interest before issuing a permit.
agency action alleged to be in contravention of that public interest.\(^{238}\)

The *Sierra Club* court distinguished *Scenic Hudson* on the ground that the statute involved in *Scenic Hudson* specifically granted the right of review to an injured party, whereas in *Sierra Club* no such statute was involved.\(^{239}\) But this argument failed to reconcile *Volpe*, in which there was no such statute.

The *Sierra Club* holding adds a third element to the Supreme Court's dual standing test. Not only must the interest in question be protected by a statute but the same statute must confer standing. Therefore, *Sierra Club* allows judicial review only upon legislative permission. The *Sierra Club* court also distinguished *Volpe* on the factual basis that other plaintiffs who had standing were joined in those actions whereas, in *Sierra Club*, the club was the sole plaintiff.\(^{240}\) This reasoning seems specious because the *Volpe* court could have separated the plaintiffs, and denied standing to the conservation groups while permitting standing to the other plaintiffs, and thereby reached the same result on the merits.\(^{241}\) Since the court did not separate the club, it appears that the club fulfilled the standing requirement.

Other circuits are facilitating environmental actions by liberalizing standing requirements.\(^{242}\) *Sierra Club*, decided on questionable grounds, is a step backwards because it restricts standing. Although the Supreme Court has established standards for determining standing, some courts do not understand their application.

The resulting confusion is exemplified by *EDF v. Hoerner-Waldorf*, a decision by a district court within the *Sierra* circuit.\(^{243}\) The plaintiff, a New York public-benefit membership corporation, was summarily granted standing although it was not joined by a local concern. The *Sierra Club* decision denies standing in such an instance, but the *Waldorf* court failed even to mention *Sierra Club*.

The situation in the fourth circuit has been aptly stated by the District Court of Maryland. In granting standing to a West Virginia cit-
zen, a Maryland citizen, and a Pennsylvania corporation to challenge a decision of the Secretary of Agriculture concerning the Challis National Forest, the court stated,

The Federal Government has been encouraging the citizens of all the States to use and enjoy the National Parks, National Forests and National Seashores. The Court is loath to dismiss such a case as this for lack of standing until the Supreme Court decides *Sierra Club v. Hickel* or the Fourth Circuit issues a controlling decision.244

The Supreme Court, having granted certiorari in *Sierra Club*, is in a position to clarify the confusion surrounding standing. Hopefully it will support the trend toward liberalization.245

**Class Actions**

One of the major barriers to a plaintiff seeking redress for harm caused by pollution is the superior financial, legal, and technical resources possessed by many polluters. Rule 23 of the Federal Rules of Civil Procedure ameliorates this disparity of power, by providing a means by which members of a large group may sue as representatives of the class without joining every member. There are four prerequisites to a class action set forth in section (a)

1. the class is so numerous that joinder of all members is impracticable,
2. there are questions of law or fact common to the class,
3. the claims or defenses of the representative parties are typical of the claims and defenses of the class, and
4. the representative parties will fairly and adequately protect the interests of the class.246

In addition, class actions are maintainable only if one of the conditions set forth in section (b) is found to exist.

245. The federal water pollution legislation which passed the Senate by a vote of 82 to zero on November 2nd contains a provision which provides for citizen participation in the enforcement of government regulations. If enacted, the bill would allow anyone to bring a civil suit against an alleged violator of a federal or state abatement order. Also, suit could be initiated against an EPA administrator for failure to perform non-discretionary duties. BUREAU OF NATIONAL AFFAIRS, ENVIRONMENTAL REPORTER, CURRENT DEVELOPMENTS 789 (1971).
The advantages of a class action are numerous. The potentially prohibitive costs of suit, including obtaining experienced counsel, providing expert witness fees, and financing technical research, can be distributed among the members of the class.\textsuperscript{247} Also, since the courts "balance equities,"\textsuperscript{248} a class action presents the court with the true social costs of defendant's pollution. The cost of abatement must then be measured against the total class loss rather than the loss of one or two plaintiffs.

The class action also has a tremendous potential for presenting, before the public and judicial view, the critical effect of environmental degradation.\textsuperscript{249} This capacity has led one commentator to describe it as "the judicial analogue to the mass demonstrations of the streets \ldots \text{whose success} often hinges less on the ultimate outcome of the particular case than on the publicity, visibility and aroused popular reaction it evokes."\textsuperscript{250}

However, the effectiveness of the rule has been severely limited by the recent Supreme Court decision in \textit{Snyder v. Harris}.\textsuperscript{251} Therein it was held that when suit is brought on the basis of diversity of citizenship and there is no joint or common right among the class but only a collection of individual rights joined for convenience, the claims of the members may not be aggregated for jurisdictional purposes. This means that the representative, and each member of the class, must individually satisfy the $10,000 jurisdictional amount\textsuperscript{252} where the right sued upon is not jointly or commonly held.\textsuperscript{253} As a result, litigants with small claims, due to the impossibility of aggregation, will be forced to assert their rights in state courts. State courts have been generally unresponsive to the requests for liberalization of the class action concept in environmental suits,\textsuperscript{254} and therefore the practical effect of the \textit{Snyder} decision is to preclude redress for the small claim litigant due to the financial impracticability of suit in state courts.

Due to the scarcity of class action suits in Virginia, it is difficult to present the requisite standards for such a suit. However, a few re-

\begin{itemize}
\item \textsuperscript{247} See Comment, \textit{supra} note 105, at 1098.
\item \textsuperscript{248} Text accompanying notes 118-22 \textit{supra}.
\item \textsuperscript{249} See Comment, \textit{supra} note 105, at 1098.
\item \textsuperscript{251} 394 U.S. 332 (1969)
\item \textsuperscript{252} 28 U.S.C. § 1332 (1970).
\item \textsuperscript{253} J. Moore, A. Vestal & P. Kurland, Moore's Manual § 5.12[5].
\item \textsuperscript{254} N. Landau & P. Rheingold, The Environmental Law Handbook § 1.10(d) (1971).
\end{itemize}
strictions on class actions may be discerned. First, it is maintainable only in cases in which the number of parties interested is so great, “as to make difficult or impossible the joinder of all because some are not within the jurisdiction or because their whereabouts is unknown or where if all were made parties to the suit its continued abatement by the death of some would prevent or unduly delay a decree.” The Virginia requirements are more stringent than the Rule 23 “impracticability” test. The “difficulty” or “impossibility” of the Virginia joinder requirement will generally preclude a plaintiff from instituting a representative suit against a polluter.

Second, class actions are limited to suits in equity. This presents a difficulty. Courts which may be reluctant to grant injunctive relief might be willing to award damages. While the most desirable relief in an environmental suit is abatement of pollution, the awarding of damages also has a beneficial effect. A polluter, conscious of the fact that he may be faced with an action for damages, will be more likely to install pollution control equipment where he knows there is a possibility of an aggregate claim being initiated by a single plaintiff. Since in Virginia class action for damages is unavailable, the deterrent of an aggregate claim is destroyed.

**Qui Tam**

Legal writers herald the ancient principle of *qui tam* as an effective means of abating pollution. *Qui tam* is an action brought by an informer under a statute which establishes a penalty for violation of the statute. Such a statute must provide that the informer may recover part of the penalty in a civil action and that he may sue for himself and for the state. An informer, after having given the government information which might lead to conviction of a violator against whom a fine could be assessed, may commence the action himself should the government fail to act within a reasonable time.

The writ *qui tam* is most often spoken of in conjunction with the Rivers and Harbors Act of 1899, which prohibits the depositing of refuse into a body of navigable water without a permit from the Army Corps of Engineers. The act also prohibits placing on the bank of a

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256. See Starrs, supra note 250, at 427
258. LANDAU & RHEINGOLD, supra note 254, § 1.10(f).
navigable waterway material that could be washed into the waterway so as to impede navigation.\textsuperscript{259} Violation of the act is a misdemeanor which subjects the violator to a fine not exceeding $2,500, nor less than $500, or imprisonment for not more than one year, nor less than 30 days, or both. Provision is also made for payment of one-half of the fine collected to the person or persons giving information which leads to conviction of the violator.\textsuperscript{260}

Although legal writers exalt the penalty section of the Rivers and Harbors Act as a means by which a private citizen can avoid recalcitrant government administrators by bringing his own action to collect the penalty,\textsuperscript{261} the judiciary has taken a different view. Regardless of what has been written, \textit{qui tam} actions under the Rivers and Harbors Act have proven totally ineffective because of their complete dependence on statutory grant.\textsuperscript{262} The fact that the statute entitles the informer to share in the penalty does not necessarily give him the right to bring an original action to recover such penalty. In order for \textit{qui tam} to be available, the enactment which authorizes the penalty must also authorize the informer to bring a civil action to collect it.\textsuperscript{263}

The Rivers and Harbors Act of 1899 contains no statutory authority for a \textit{qui tam} action, and in fact implicitly rules out the writ by predicing recovery upon conviction of the violator. The informer's rights are entirely dependent upon a conviction by the Department of Justice under a criminal proceeding, and the resulting imposition of a fine.\textsuperscript{264}

A recent Congressional proposal would remedy the ineffectiveness of the \textit{qui tam} action under the Rivers and Harbors Act\textsuperscript{265} by providing

\textsuperscript{260} Id. § 411.
\textsuperscript{261} See, e.g., Landau & Rheingold, supra note 254 § 1.10(f); Casto, \textit{The Use of the Corps of Engineers Permit Authority as a Tool for Defending the Environment}, 11 Nat. Res. J. 1 (1971); Comment, supra note 118, at 102; Note, \textit{Water Pollution Control Under the Refuse Act of 1899}, 32 Mont. L. Rev. 120, 127 (1971).
\textsuperscript{262} E.g., Bass Anglers Sportsman's Soc'y v. U.S. Plywood-Champion Papers, 324 F Supp. 302 (S.D. Tex. 1971). The most recent \textit{qui tam} action in Virginia was decided in 1970. Although a fine of $1,000 was collected from the violator, the informer was denied recovery because the United States Attorney based his complaint on § 412 of the Act which imposes civil instead of criminal liability for any violation. Since an informer is entitled to one-half of the fine under § 411 only upon conviction of the violator, the recovery of a civil penalty nullified the informer's right to recovery. Shipman v. United States, 309 F Supp. 441 (E.D. Va. 1970); Reuss v. Moss-American, Inc., 323 F Supp. 848 (E.D. Wis. 1971).
\textsuperscript{264} Id.
that if the United States Attorney fails to institute action within 60 days of receiving information concerning a violation, the person furnishing such information can institute a civil action to recover the penalty. The bill would increase the penalties for violation to a minimum of $10,000 and a maximum of $25,000. If this amendment is enacted, the statute would become an effective means of protecting the environment through citizen action.

CONCLUSION

The "reasonable use" rule should govern utilization of all water. There is no scientific or legal merit in applying different rules of law to the various sources of water. This is true because the sources of water are so intimately related that pollution of one source—for example, diffused surface water—will affect another source, such as a stream. Under existing law, the use of stream water must be reasonable; however, the use of diffused surface water, even though it vitally affects the quality of stream water, is not subject to the requirement of "reasonable use." Since application of the "reasonable use" rule is basically a balancing procedure, the factors considered by the courts are of critical importance. The judiciary has indicated a willingness to consider non-economic factors in this balancing process. The supreme court has asserted that regardless of the public importance of a polluter's use, the rights of others cannot be destroyed. This forthright approach should be extended by including the public's interest in a clean environment as a factor to be considered in the balancing process.

The prohibition against joining contributing polluters not acting in concert is an impediment to the effective control of pollution. Virginia should follow the minority of jurisdictions which hold concurrent polluters jointly and severally liable while placing the burden of apportionment on the polluters.

With reference to the new concepts in environmental law, it appears that Virginia has a viable tool for environmentalists in its public trust doctrine. The enactment of a conservation article in the Virginia Constitution adds support to the argument that environmental rights should be protected according to trust principles, and may provide a means for challenging governmental decisions which fail to consider environmental factors.

The recognition of a constitutional right to a clean environment and

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266. Walker & Cox, supra note 1, at 136.
267. Pearson, supra note 146, at 28.
increased access to the courts through liberalization of standing requirements must await determination by authorities beyond the state level. However, should that determination result in decisions favorable to environmentalists, it can only be hoped that Virginia courts will not hesitate to recognize this progress.

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