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TORTIOUS WATER AND LAND USE IN THE BIG CYPRESS SWAMP

STEVEN D. ROBINSON*

I. INTRODUCTION

A search is presently underway by creative attorneys to tie solutions to environmental problems to an existing common law system. This article presents such a relationship in the field of Florida water law with particular reference to the crisis in the Big Cypress Swamp, north and northwest of the Everglades National Park. Water, climate, and the out-of-doors are essential to Florida's unique personality. Access to these elements form a right which must be protected by our courts.

Changes are occurring rapidly in the South Florida ecosystem. Man's misuse of his water supply has accelerated ecological change to a rate one hundred times greater than the rate of change in a natural evolving system.¹ Scientists predict a damaging ecological change if the Big Cypress Swamp is drained for development. To prevent this development, a number of courses are open including government condemnation and zoning ordinances. This article will explore a third possible remedy, injunctive relief.

II. SCIENTIFIC BACKGROUND

The Big Cypress Swamp is located directly north of the western half of the Everglades National Park. One half of the water flowing into the park comes from the Big Cypress area. At present this area is substantially unpolluted. However, as development begins, water pollution will occur causing serious harm to the Everglades National Park. In fact, extensive development could destroy the entire South Florida ecosystem.

A report of the Environmental Study Group to the Environmental Studies Board of the National Academy of Science, National Academy of Engineering, stated that:

¹ J.D., University of Miami 1968; Member of the Florida Bar.
1. T. THOMAS, A DETAILED ANALYSIS OF CLIMATOLOGICAL AND HYDROLOGICAL RECORDS OF SOUTH FLORIDA WITH REFERENCE TO MAN'S INFLUENCE UPON ECOSYSTEM EVOLUTION, REPORT TO THE UNITED STATES NATIONAL PARK SERVICE 2 (1970) [hereinafter cited as THOMAS].
Substantial commercial and residential activities in this area would adversely affect the quality and quantity of water flowing into the northwest section of the Everglades Park and, in addition, would affect the water available to the coastal populations of Southwest Florida.2

While the focus of the Environmental Study Group was the inevitable development around the proposed South Florida jetport, their findings apply equally to any population intrusion. The group found that three major harms would result from development: decrease in the quantity and quality of water for urban uses, an adverse change in the health of the community, and an adverse effect on the Everglades National Park.3 It would be possible to control the first two harms; the third is seemingly impossible to control. The study group suggested condemnation and the establishment of a water conservation district.4 While this writer basically agrees with the conclusions of the study group, the purpose of this article is to discuss an alternative to such action.5

Any legal discussion of this type must be predicated upon an examination of the scientific facts which explain the causes and the actual nature of the potential harm. In contrast to land on the east coast of Florida (primarily within Conservation Area III which is administered by the Central and South Florida Flood Control District), the water flow in the western half of the state passes through privately owned lands. There is a drainage area of 2450 square miles, and water generally flows in a southward direction. (See figure 2 infra). The United States Geological Survey divided the area into three subareas.6 The first subarea drains into Conservation Area III. This conservation area holds water used by the population of the southeast Florida coast, the agriculture industry of that area, and the Everglades National Park. The water is unpolluted, and the area is presently undeveloped. Water from the second subarea flows into the Gulf Coast estuaries through extensive drainage canals. The third and largest subarea, containing 1450 square miles, is the area pertinent to this paper. This area drains naturally southward and supplies water to the Everglades National Park. This drainage is through sloughs and strands, principally the Okaloacoochee Slough and the Fakahatchee

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2. Environmental Study Group to the Environmental Studies Board of the National Academy of Science, National Academy of Engineering, Environmental Problems in South Florida 5 (1970) [hereinafter cited as Environmental Study Group].
3. Id. at 3.
4. Id. at 6.
5. But see R. Eisenbud, The Gum Slough Controversy: Analysis, Diagnosis, Prognosis, at 64, April 19, 1971 (unpublished thesis at University of Miami School of Law) which states that a taking by eminent domain would set the unfortunate and expensive precedent of requiring the government to purchase all lands which ecologically threaten lands the government wishes to protect.
Strand which are particular natural concentrates in the flow. (See figure 1 infra).

The ecology of the area is water dominated. Plant life exists in areas inundated by water most of the year. The diverse and abundant animal life is primarily aquatic. Many of the species such as the American Alligator, wood ibis, Florida Everglades kite, Southern bald eagle, and Florida panther are rare and in danger of extinction.

The natural flow is crossed by a number of canals and roads. The Tamiami Trail, crossing from east to west, has 47 bridges along a 39-mile reach of canal to insure the distribution of water flow southward. On

7. Id. at 22.
8. Id. at 24.
the far western side of the swamp land, development in the 188 square mile tract called Golden Gates Estates has already diverted part of the flow. These same developers own the Fakahatchee Strand, but have not yet developed it.9

The rainy season in the Big Cypress lasts from June through mid-winter, and drainage southward occurs slowly during most of the year. Runoff is slow, and water is stored for extended periods of up to four

9. Id. at 25.
months beyond the rainy season. When water drains through drainage canals, the recession is rapid, occurring immediately after rainfall and upsetting the natural flow.\(^\text{10}\)

Fortunately, at present, the Big Cypress is relatively unpolluted, containing concentrations of nitrogen, phosphorous, organic carbon, and persistent pesticides in the same relative quantities as found in other similarly uninhabited areas and much lower concentrations than those found in the urban areas of the state.\(^\text{11}\) Most of the nitrogen is organic, indicative of a natural environment. The average phosphorous concentrations are one-fourth that found in the Upper Saint Johns River which traverses populated areas. Organic carbon, a measure of the level of vegetal matter and other wastes, measured less than one-fifteenth of the concentration found in Dade County canals.\(^\text{12}\)

The use of persistent pesticides results in a phenomena called biologic magnification, whereby toxins become more concentrated in organisms higher in the food chain.\(^\text{13}\) Interference with reproduction and increased frequency of disease in the fish population are the two major dangers resulting from pesticide contamination. The pesticides encountered in Big Cypress are primarily components of the DDT family. Their concentration, as measured in the sedimentation of the Big Cypress, is about one-half that in Broward County canals. The aquatic animals and plants contain a higher concentration of persistent pesticides than do the sediments. Fish, including sunfish, large mouth bass and Florida spotted gar, collected in the Golden Gate canal near Naples, contained concentrates of DDT from 290 to 7430 micrograms per kilogram. This compares to 5.09 micrograms per kilogram found in the sediment, illustrating the higher concentrations near the top of the food chain.\(^\text{14}\)

The development of the flora and fauna of the Big Cypress depends particularly on seasonal fluctuations in water levels. However, the ecologic system is able to adapt to the natural catastrophies of flood, hurricane and drought.\(^\text{15}\) The seasonal fluctuations in water level generally are about three feet per year, although in some years the variance is as much as six feet.\(^\text{16}\) The land which consists of pine, palm and palmetto forest, wet prairie, cypress forest, and ponds has a varying water cover. The result is complete inundation in the wet seasons compared to localized water concentrations in the sloughs and ponds during the dry season. This balanced system provides rich sources of food for commercially important marine animals. The biomass is a food source for fish, snakes, alligators, and predatory and wading birds.\(^\text{17}\)

\(^{10}\) EVERGLADES-JETPORT ADVISORY BOARD, THE BIG CYPRESS WATERSHED 6 (1970); GEOLOGICAL SURVEY, supra note 6, at 30.

\(^{11}\) GEOLOGICAL SURVEY, supra note 6, at 46.

\(^{12}\) Id. at 49.

\(^{13}\) Id. at 51.

\(^{14}\) Id.

\(^{15}\) Id. at 55.

\(^{16}\) Id. at 60.

\(^{17}\) Id. at 62.
The Fakahatchee Strand is located to the north and west of the Everglades National Park. (See figure 1 infra). It is hydrologically connected to the park in times of high water. Water also passes through the Barron River Canal. To the east above the Gum Slough, the drainage is directly into the park, averaging 585,500 acre feet per year out of a total inflow of 1,164,100 acre feet. Only 16 percent of the park area receives this water, which amounts to 55 percent of the inflow.18 As a result of man's development activities, the fresh water table in the South Florida area has already become six feet lower.19 Drainage would continue this trend. In addition, accelerated runoff into canals would occur giving the ground less time under inundation and thereby affecting the ecosystem. The discharged water would represent both potential floodwaters and water potentially salvageable for urban use.20 However, proper controls (weirs) in canals might be utilized to maintain water tables and, with the use of new wells, all the water needs for the populated west coast could be supplied. Pollution would have to be controlled to prevent constriction of the use of the shallow aquifer.21 The entire area is hydrologically linked, and any pollution would pose a threat to the entire area.

Another major effect of drainage would be the movement of salt water areas further inland—salt water intrusion. Salt water is two and one-half percent denser than fresh water and exerts two and one-half percent more pressure at comparable depths. When the two come in contact at the same level, the seawater pushes the fresh water back. This movement is checked only if the fresh water is two and one-half percent higher than the seawater. The Collier County aquifer is approximately one hundred feet thick. Therefore, the point of demarcation is where the fresh water level is two and one-half feet higher than the seawater (sea level).22 A lowering of the water table would affect this balance. Near Jupiter on the Loxahatchee River, the only natural river outlet on the East Coast, upstream development and drainage has already moved the balance point over a mile upstream.23 At Golden Gates on the West Coast, drainage of two hundred square miles of wetlands caused extensive salt intrusion.24 Only an inland water conservation area, as exists on the lower east coast, will effectively prevent such intrusion.

Environmental effects of increased salinity will produce intolerable conditions for estuarine species. Silt and mud from construction activities will affect limthic forms, covering them, reducing light penetrations, and covering the hard substrata necessary for larval development. Pesticide

18. Id. at 66.
19. THOMAS, supra note 1, at 85.
21. GEOLOGICAL SURVEY, supra note 6, at 82.
22. ENVIRONMENTAL STUDY GROUP, supra note 2, at 41.
24. ENVIRONMENTAL STUDY GROUP, supra note 2, at 42.
levels would be increased. The estuarine environment produces ditritus from the red mangrove and the decomposition of various microorganisms. This production only occurs in the correct brackish mixture. Ditritus is the major food source in brackish waters, and sixteen commercial species are dependent on it at some stage in their life cycles.25

As great as the potential harm from controlled and regulated development would be, the potential harm from individual development without controls would be many times worse. Thus, a recent post trial situation in the Gum Slough area of the Big Cypress becomes eminently important. In Groover v. A.B.E. Options, Inc.,26 owners of land in the Gum Slough were prohibited from establishing a drainage district pursuant to the General Drainage Act of 1913, Chapter 298 of the Florida Statutes. The owners submitted the required petition to the Circuit Court of Monroe County. The Circuit Court held that the statutory tests for the creation of a district were not satisfied. The unsatisfied tests required that the district be to the advantage of the owners of real property therein, or that the district be in the interest of the public health, convenience, or welfare.27 The landowners are now draining their lands at their own expense without the use of the special taxing district under the Act. This draining is under no control, and its haphazard nature is posing a great danger to the ecosystem. This writer believes that such drainage and land development is contrary to common and civil law recognized in Florida. The remainder of this article will explore the development of this law and suggest possibilities for its application to the current problems in the Big Cypress Swamp.

III. NATURE OF WATER AND WATERCOURSES

As long ago as the Institutes of Justinian, running waters, like the air and the sea, were res communes—things common to all and property of none. Such was the doctrine spread by civil law commentators and embodied in the Napoleonic Code and in Spanish Law. This conception passed into the common law. From these sources, but largely from civil-law sources, the inquisitive and powerful minds of Chancellor Kent and Mr. Justice Story drew in generating the basic doctrines of American water law.28

Water itself under civil and common law has a unique status. In Roman law, it was res communes, things the property of which belonged to no person. In the Code of Napoleon, water is defined as, “things which belong to no one, and the use of which is common to all.”29

25. GEOLOGICAL SURVEY, supra note 6, at 63.
27. See FLA. STAT. § 298.01 (1969).
29. C. KINNEY, IRRIGATION AND WATER RIGHTS 466-67 (2d ed. 1912) [hereinafter cited as KINNEY].
Under the common law, water is the common property of everybody. The running waters of the earth are not lands, tenements, hereditaments, or susceptible to actual ownership. A suit may be brought against land lying at water's bottom, not against the water itself. It can be owned only when actually reduced to possession.\(^3\)

The Spanish legal influence in Florida comes from the *Partidas* which are a modified form of Roman Law. They declare that the things belonging in common to all the living creatures of the world are the air, rain, water, sea and its shores.\(^3\) Since the statement is not confined to running water, a problem arose as to when water was actually reduced to possession. Fortunately, under the common law, the Spanish definition was held to be a misinterpretation of the Roman Civil Law.\(^3\)

Under both civil and common law tests, running water is an entity apart from the land. A landowner has certain limitation-imposing responsibilities toward his use of the running water, while he has unlimited rights to minerals and top soil.

Under the common law, whenever a “watercourse” exists, the doctrine of riparian rights which controls water usage is applicable. Where there is no watercourse, various jurisdictions have chosen different rules relating to rights of usage. Whether there is a watercourse or not, interference with usage or omission in a landowner’s responsibilities is an actionable tort.\(^3\)

Before exploring modern interpretations in the area of riparian rights, one must define “watercourse” and inquire whether the definition fits the hydrological conditions in the Big Cypress.

Scientific opinion views water movement as a unified hydrological cycle made up of rainfall, drainage, underground watercourse movement, random seepage, and movement in an above ground watercourse. However, the courts, citing precedents that predate modern scientific knowledge on the nature of water flows, continue to make distinctions among the forms of water movement.\(^3\)

A watercourse may be defined as a body of water issuing *ex jure naturae* from the earth, and by the same law pursuing a certain direction in a defined channel, till it forms a confluence with tide water...\(^3\)

\(^\text{30. Id. at 467.}\)
\(^\text{31. Id. at 983.}\)
\(^\text{33. See generally Restatement of Torts, ch. 40, 41 (1939). [The corresponding sections in the Second Restatement are not yet completed].}\)
"A watercourse consists of bed, banks, and water."386 Banks are "the elevations of land which confine the waters to their natural channel when they rise to the highest point at which they are confined to a definite course or channel."371 Together the banks and bed form the channel.38 The channel is the area through which the water flows. Because they are naturally occurring geological formations, the bank and bed of a channel are subject to endless change, and thus the law cannot fix the precise locations for any length of time.

A river may be fed by the rains directly, without any immediate collection of the water in the bowels of the earth, and still be a river, and . . . a river which naturally runs dry during a great part of the year does not cease to be a river merely because at times it is accustomed to become dry.389

The Big Cypress drains water collected from sources southwest of Lake Okeechobee. (See figure 2 infra). There are no defined or traditionally shaped rivers, but drainage is through sloughs. The Okaloacoochee Slough and the Fakahatchee Strand are the principal natural concentrates of the flow.

Sloughs are "[t]opographic depressions in the form of wide, shallow channels. . . ."40 They form natural drainage canals. The Fakahatchee Strand is the largest slough in the Big Cypress, connecting ponds and conducting water in a slow southerly movement.41 A slough can have a channel if it has well defined banks, even though at points the channel is very wide.42

A determination of whether sloughs are "watercourses" is necessary for a strict application of the doctrines of riparian rights. In Davis v. Ivey,43 the court accepted plaintiff's definition of "watercourse" to include "cypress swamps and ponds with rising ground forming ridges between them. These ponds and swamps connected with other ponds and swamps, forming 'strands' [sloughs], . . ." whereby water moved in a particular direction.44

In Groover v. A.B.E. Options, Inc.,45 Judge Lopez held that riparian rights existed in the watercourse extending from the Big Cypress to the Everglades. This ruling was not appealed, therefore the possibility that a

41. Id.
42. See generally Kinney, supra note 29, at 491 n. 10; Cederburg v. Dutra, 3 Cal. 572, 86 P. 838 (1906).
43. 93 Fla. 387, 112 So. 264 (1927).
44. Id. at 392, 112 So. at 266.
higher court might eventually hold that only a drainage area exists, requires analysis of the Big Cypress as a surface drainage area. As will be shown, tightly drawn categories are not dispositive of problems in this area. Instead, water law is evolving universally towards a hydrologically related rule of "reasonable use." The reason for seeking tight fitting categories is to prevent defenses based on condemnation without compensation. A landowner, not permitted to drain his land, would be forced to use it solely for recreation in order not to interfere with his neighbors' water rights. However, as in zoning law, the best use is not indicative of the use which must be allowed. Even under zoning law there would not be a taking or a cause of action for inverse condemnation if the best use of the land were prohibited. To the contrary, those draining their lands are in fact taking the lower owner's valuable water property right.

IV. Riparian Rights and Pollution

Ownership of the banks of a waterbody causes riparian rights to attach (the word "ripa" means bank). These rights allow the landowner to use water flowing through his property. Kent summarizes the law as follows:

Every proprietor of lands on the banks of a river has naturally an equal right to use of the water which flows in the stream adjacent to his lands, as it is wont to run (currere solebat), without diminution or alteration. . . . He has no property in the water, but a simple usufruct while it passes along. . . . The owner must so use and apply the water as to work no material injury or annoyance to his neighbor below him.

The nature of the right was explained in Taggart v. Town of Jaffrey:

A right to the natural flow of the brook, not unreasonably diminished or polluted, was inherent in the land, and one of the rights of use and occupation of which the title was composed. . . .

The law follows the principles of equality which require that the corpus of flowing water become no one's property and that, aside from a limited use for domestic and agricultural purposes by upper riparian owners, each riparian owner has the right to have the water flow down to him in its natural volume and channels, unimpaired in quality. The riparian system does not permit water to be reduced to possession so as to become property which may be carried away from the stream for commercial or nonriparian purposes.

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46. See generally 35 Fla. Jur., Zoning § 10 (1961); City of Miami v. Zorovich, 195 So.2d 31 (Fla. 3d Dist. 1967); Neubauer v. Town of Surfside, 181 So.2d 707 (Fla. 3d Dist. 1966); City of Miami v. Walker, 169 So.2d 842 (Fla. 3d Dist. 1964); Waring v. Peterson, 137 So.2d 268 (Fla. 2d Dist. 1962).

47. J. Kent, Commentaries *439-40.

48. 75 N.H. 473, 477, 76 A. 123, 125 (1910).

In England, pollution is in itself an unlawful act and a nuisance. Pollution differs from diversion and obstruction of a stream to which a test of reasonable justification applies.\(^5\) In addition, there is no difference between pollution occurring in any part of the hydrological cycle—water in a defined channel, water without a defined course, or water percolating through the soil. The law is stated as follows by Justice Lindley:

But prima facie no man has the right to use his own land in such a way as to be a nuisance to his neighbor, and whether the nuisance is effected by sending filth on his neighbor's land, or by putting poisonous matter on his own land and allowing it to escape on his neighbor's land, or whether the nuisance is effected by poisoning the air which his neighbor breathes, or by the water which he drinks, appears to me wholly immaterial. If a man chooses to put filth on his own land he must take care not to let it escape on to his neighbor's land, *Tenant v. Goldwin* (1 Salk. 21, 360).\(^6\)

In *Hodgkinson v. Ennor*, Justice Blackburn quotes *Tenant v. Goldwin*, a case involving nuisance caused by a leaking privy, "He whose dirt it is, must keep it that it may not trespass." Pollution is generally defined in English common law as

the addition of something to water which changes its natural qualities so that the riparian proprietor does not get the natural water of the stream transmitted to him. Thus, the addition of hard water to soft water, the raising of the temperature of the water and the addition of something which on meeting some other substance already in the water, each in themselves harmless, caused pollution. . . .\(^7\)

The law stated in *Tenant v. Goldwin* is part of Florida law under the statute incorporating the common law of England prior to July 4, 1776.\(^8\) The English cases cited herein which were decided subsequent to 1776 derive their precedent from this prior case and are commentary on it.

In England, the diversion of water from its natural watercourse is
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unreasonable, per se. In *Shury v. Piggot,* the court held that a water-course begins *ex jure naturae,* and having taken a course naturally, it cannot be diverted. "The course of a spring, is a natural course, and current, and to stop this, may be a nuisance to the commonwealth and a private wrong."  

The leading case in Florida is *Tampa Waterworks Co. v. Cline.* This case involved pollution of water in an underground stream and established a person's right to receive water from the proprietor above substantially undiminished in quantity and uncorrupted in quality. In addition, the court stated that:

> The right to the benefit and advantage of the water flowing past one owner's land is subject to the similar rights of all the proprietors on the banks of the stream to the reasonable enjoyment of a natural bounty, and it is therefore only for an unauthorized and unreasonable use of a common benefit that one has just cause to complain.

The court held that an underground stream is a waterbody. Although it affirmed the lower court decision which denied relief (because on the facts relief was not merited), the court held that there is, in Florida, a common law right to enjoin pollution and diversion of water.

The tort of pollution (relating to water quality) and the tort of misusage (water quantity) are similar since both protect rights of a riparian owner. The Everglades is subject to a number of actionable harms. One is the loss of water which is necessary for the sustenance of the native flora and fauna whose very lives are water dependent. In addition, the life-cycle of the flora and fauna depends on the continued existence of water as it naturally flows through existing pathways. This need must be compared with the right of up-water landowners to use land as they choose. Just for example, alligators must be compared to livestock, tropical vegetation to concrete structures, and water for the west coast as balanced against the need for living space for a populated Central South Florida.

There is little practical difference between diverting a quantity of water from another to oneself and changing the quality of water before it flows to another. The rules are substantially the same where property is riparian to a watercourse. The basic principles applicable to both torts are comparatively simple, but worth mentioning at this point. The basic applicable principle is "*Sic utere tuo ut alienum non laedus.*" "Use your

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57. *Id.* at 281.
58. 37 Fla. 586, 20 So. 780 (1896).
59. *Id.* at 595, 20 So. at 782; *accord,* Lamb v. Dade County, 159 So.2d 477 (Fla. 3d Dist. 1964) (right to undiminished flow in watercourse); *cf.,* Koch v. Wick, 87 So.2d 47 (Fla. 1956) (where percolating water is concerned, use is based on reasonableness and beneficial use of land).
60. *Cf.,* notes 1-25 *infra* and accompanying text.
own property in such manner as not to injure that of another. However, in the United States, this absolute rule is qualified by the defense of reasonable conduct. A tortfeasor’s reasonableness is compared to the use of he who suffers the harm. A number of factors are relevant to this determination. The social value of the defendant’s use is compared to the social value of the plaintiff’s. Does the use advance or protect the public good? Private business has some social value, but the public is better served by a public use, such as the use of Everglades water by natural wildlife. Environmental harm under this test would certainly outweigh private benefit. Utility is determined from the point of view of a disinterested third party. Social values of the conflicting uses must be weighed.

A comparison of social values was involved in the Florida case of Taylor v. Tampa Coal Co. In that case, the defendant unreasonably appropriated water from a lake. The court held that the use of land for pleasure, recreation, and health constitutes a use sufficient to allow a remedy for an unlawful interference with its natural condition. The court further held that there was no distinction between use of the property as a farm or as a summer residence.

Natural uses are preferred over artificial ones. This is especially true where the “upstream” use is artificial and the “downstream” use is natural. In Deetz v. Carter, the defendant used his land for agriculture, an artificial use, while the plaintiff used the water for domestic, household uses. The court held that the plaintiff had a right to preservation of adequate water quality as well as quantity.

In a determination of reasonableness, one must look at the suitability of the use to the particular watercourse and to the customs and usages with respect to it. An intentional invasion of another’s interest in use and enjoyment of land is unreasonable if the harm is substantial, and if the use and enjoyment interfered with is a use well suited to the character of the locality, while the harmful conduct is not. This is, in effect, common law zoning. The above stated rule is particularly relevant in areas where uses are not heterogeneous. In the Big Cypress, almost all present uses are recreational.

Another factor to be considered is the relative ability to avoid harm.

When a riparian proprietor knows to a substantial certainty that his use of water will interfere with another’s use of water, his use lacks utility unless he has taken all practicable steps to avoid or minimize the harm.

61. R. CLARK, WATERS AND WATER RIGHTS § 210-4(A) at 46 (1967) [hereinafter cited as 3 CLARK]; BLACK’S LAW DICTIONARY 1551 (4th ed. 1951).
62. RESTATEMENT OF TORTS § 853, comment a at 362 (1939).
63. 46 So.2d 392 (Fla. 1950).
64. Accord, Duval v. Thomas, 114 So.2d 791, 795 (Fla. 1959).
66. RESTATEMENT OF TORTS § 831 (1939).
67. Id., § 853, comment g at 366-67.
Even if one admits that there is utility in the use of the Big Cypress for agricultural purposes, an obligation would accrue to avoid all possible harmful effects. Then, although all practicable steps are taken, the competing social values and the suitabilities for use must still be compared. In other words, this factor is of secondary importance in any determination.

An important consideration in some states, other than Florida, is whether a use is riparian. In these states, if the use is non-riparian, its utility is considered to be of less value than a riparian use. Diversion of water for draining purposes is a non-riparian use, and when weighted against a riparian’s consumptive use, it is definitely prohibited. The logic of this rule is consistent with the civil law rule that diversions of water from natural watercourses are prohibited.

The analysis just described was originally developed to resolve competing uses of water, but section 849 of the Restatement of Torts states that where non-trespassory invasions of a person’s interests in the private uses of water occur (such as pollution of water), the parties are still governed by the above rules.

V. SURFACE DRAINAGE AND PERCOLATING WATER

Another interpretation of the existing situation in the Big Cypress situation is that the flow is mere surface drainage, or water percolating through the ground. Fortunately, in all but one circumstance the legal tests to be applied are at least as protective of surface drainage water rights as they are of strictly riparian rights. The weight of authority is moving toward the more equitable “reasonable use rule,” where a balancing (as discussed above) will lead to optimal beneficial use of waters. The “reasonable use rule” is replacing the so-called “common enemy doctrine,” a misinterpretation of English common law which is still in force in a few states.

The “reasonable use test” has its origins at least as far back as 1862 in Bassett v. Salisbury Manufacturing Co. The New Hampshire court discussed the lack of logic in a rule which allowed a person to dig close enough to a neighbor’s property to draw off his water by percolation, but at the same time prohibiting drawing of water directly from a watercourse. Recognizing the interrelationship of the hydrologic cycle, the court stated,

[These benefits and injuries may often be quite similar in cases of underground and surface drainage, and of drainage of water-]
courses. In such inquiries the ultimate source of the water is
never regarded; and the immediate source seems to us equally
immaterial; since it in no way changes the nature or effect of
the water, and the regulations now settled by the law of water-
courses were established, not because of any peculiarity in the
origin of water in streams, but because of the good or harm that
may result from its management or use.\textsuperscript{71}

The court refused to consider whether there were any distinctions in
different types of water flow, but (as dictum) stated that it would apply
an overall test which emphasized an "accurate discrimination of the
facts essential to their correct application, with reference to the rights of
others, and the legal necessities of the cases under their varying cir-
cumstances."\textsuperscript{72}

This doctrine was applied to surface drainage in \textit{Swetts v. Cutts}.\textsuperscript{73}
The court held as a matter of law that it is more reasonable to divert
percolating or surface drainage than water in a watercourse, but that
there is no absolute right to drain as there is under the "common enemy
doctrine." The only difference between the "reasonable use test" and
the modern view of riparian rights is that the owner from whose property
water naturally drains has the use of all needed water so long as his use
is reasonable. The law of riparian rights weighs the reasonableness of
both competing uses and the possible harm to both users.

Florida adopted the rule of reasonable use in \textit{Cason v. Florida
Power Co.}.\textsuperscript{74} In this case, the court held that the question of whether
percolating water, which was the result of the construction of a dam by
the defendant, caused actionable damage to the plaintiff's property was a
mixed question of law and fact to be submitted to a jury. The court held
that uses of property are independent and correlative and depend upon
the reasonability of the use.\textsuperscript{75}

In Great Britain, the right to divert water from its natural flow is
also based upon a test of reasonableness. The diverting of water which
changes its path to the complete exclusion of the lower owner is always
prohibited. In \textit{Nuttall v. Bracewell},\textsuperscript{76} the court stated that if the defendant
had injuriously affected the flow of water in a stream to his neigh-
bor below, such action would have been unreasonable.

However, there exists a seemingly conflicting line of English cases
which has become engrained and expanded in American common law.
These cases espouse what has been called the "common enemy doctrine."
The doctrine had its origin in the case of \textit{Harcourt v. Spicer} where Judge
Brudnel stated:

\begin{itemize}
\item \textsuperscript{71} 43 N.H. 569, 576 (1862).
\item \textsuperscript{72} Id. at 579.
\item \textsuperscript{73} 50 N.H. 439 (1870).
\item \textsuperscript{74} 74 Fla. 1, 76 So. 535 (1917).
\item \textsuperscript{75} Id. at 6-7, 76 So. at 537.
\item \textsuperscript{76} L.R. 2 Ex. 1 (1866).
\end{itemize}
If I have an acre adjoining your acre, and my acre is flooded, I may make a course to avoid the water, and if it floods your acre yet I shall not be punished for it is legal for me to make this ditch on my own land. And water is an element which naturally descends, and so you may make a course and so on until it comes to a river or a drain.  

The holding has been limited in England to the right to maintain a permanent natural drainage condition. A lower landowner may not block the flow in a natural drainage channel, even if it floods his property. Farnham states,

[T]here is no general right to fight surface water as a common enemy. All rightful acts with regard to it are confined within very narrow limits what have not been fully defined. And to state generally that such water is a common enemy, or that there is a right to fight it at common law, cannot be otherwise than misleading.

In the United States, an expanded version of the doctrine was accepted as the prevailing common law in Walker v. New Mexico & S.P. R.R., a Supreme Court decision decided in 1897. The American version of the "common enemy doctrine" is illustrated in Jordan v. City of Benwood which stated:

Each owner may fight surface water as he chooses. He may use it all, divert it away from the lower land . . . . [h]e may, in the use of his land, cause it to flow differently upon his neighbor's land from what it did before.

One justification of the doctrine has been that the rule encouraged development and improvement in unsettled country. In Florida, flood control programs hinted at this doctrine. As America has developed, the doctrine has evolved into a less strictly applied rule, or has been discarded entirely. As with the English version, the rule is presently applied only to the question of whether one may obstruct drainage channels, and not to the question of the right to divert drainage away from a lower owner.

Natural drainage cannot be obstructed. An excellent rationale for this rule was offered in Gormley v. Sanford.

[T]he right of the owner of the superior heritage to the [natural] drainage is based simply on the principle that nature has ordained such drainage, and it is but plain and natural jus-

77. 12 Hen. 8, 2 pl. 2 (as cited in 3 H. FARNHAM, LAW OF WATER AND WATER RIGHTS § 889(b) at 2587, note 1 (1904) [hereinafter cited as 3 FARNHAM]).
78. 3 FARNHAM § 889(b) at 2590.
79. 165 U.S. 593 (1897).
80. 42 W. Va. 312, 315, 26 S.E. 266, 267 (1896).
tice that the individual ownership arising from the local laws should be held in accordance with pre-existing laws and arrangements of nature. As water must flow, and some rule in regard to it must be established where land is held under artificial titles created by human law, there can clearly be no other rule at once so equitable and so easy of application as that which enforces natural laws. There is no surprise or hardship in this, for each successive owner takes with whatever advantages or inconveniences nature has stamped upon his land.82

In direct contrast to the "common enemy doctrine," the civil law strictly prohibits any diversion of water from its natural course.

If waters have their course regulated from one ground to another, whether it be the nature of the place, or by some regulation, or by a title, or by an ancient possession, the proprietors of the said grounds cannot innovate anything as to the ancient course of the water.83

Both the upper and lower landowners have a responsibility not to obstruct the natural flow.

In Martin v. Jett,84 the court interpreted the Code Napoleon, Article 640, as forbidding the owner of the superior estate to do anything which might aggravate the condition of the inferior one. The superior estate owner has the right to clear and cultivate his land; however, the civil law does not permit reclamation of lands naturally covered by water to the injury of other property.

VI. FLORIDA DECISIONS

The leading Florida case on diversion of waters is Brumley v. Dorner,85 where the court adopted the following rule:

The almost universal rule, as gathered from the decisions, is that no person has the right to gather surface waters that would naturally flow in one direction by drainage, ditches, dams, or otherwise, and cast them on the land of the lower owner to his injury.

The Florida courts have strictly interpreted the civil and common law rules and have fashioned a rule which reflects the balancing test of water use in general. However, in the particular case where one party gathers water that would naturally flow in one direction, and by drainage canals or otherwise diverts it from its natural course and casts it on a lower owner to his injury, the one who diverts the water will be liable for his action, even if his use is more reasonable than that of the other

82. 52 Ill. 158, 162 (1869).
83. 3 FARNHAM, supra note 77, § 889a at 2586 quoting DOMAT, CIVIL LAW (Cushing's ed.) § 1583 at 616.
84. 12 La. 501 (1838).
85. 78 Fla. 495, 501, 83 So. 912, 914 (1919).
party. In *Brumley* the use of an injunction to prevent such injury was upheld. The opinion recites the civil law right to have surface water carried from the upper proprietor in its natural course and states that surface water is not a natural enemy which an upper proprietor may cast down upon the lower proprietor at his will.

Florida courts have been consistent in holding that a complete diversion of water either from a watercourse or from a natural surface course is unreasonable. In *State Road Department v. Newhall Drainage District*, the Florida Supreme Court upheld the lower court action granting injunctive relief to the plaintiffs, Newhall Drainage District and a landowner, which enjoined the defendants, the Board of Commissioners of the Everglades Drainage District and the State Road Department, from undertaking proposed drainage. The chancellor found that the proposed drainage would serve no useful purpose and that serious danger and sanitary problems to the complainants would result. The case supports the use of injunction by one governmental agency against another governmental agency's interference with the use of land. Here, potentially damaging flood control was enjoined.

In *Seaboard All Florida Ry. Co. v. Underhill*, a complaint, which alleged that the railroad built an embankment causing a diversion of water onto and flooding of the plaintiff's land, was held to state a cause of action. In *Atlantic Coast Line Ry. v. Hendry*, the defendant blocked the natural drainage of the plaintiff's land and was held liable for the resulting damage. The defendant airline in *Lawrence v. Eastern Air Lines* filled low property which caused water to be diverted from its natural course onto complainant's property. The court held that persons changing or restraining the flow of water must guard against the consequences of extra-ordinary rainfall. The airline was merely attempting to improve its property, but was liable for the injury it caused.

In Florida, the only change in the condition of drainage of surface waters which is not actionable is a change which increases the flow without diversion from a natural watercourse. This rule was established in *Edason v. Denison*. Defendant deepened a drainage ditch on his property for the protection and improvement of his lands. This caused the accelerated flow to sometimes inundate plaintiff's servient estate. The supreme court held that the plaintiff had no actionable right, relying primarily on *San Gabriel Valley Country Club v. Los Angeles County*.  

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86. See, e.g., Stoer v. Ocala Mfg., Ice & Packing Co., 157 Fla. 4, 24 So.2d 599 (1946); Dade County v. South Dade Farms, Inc., 133 Fla. 288, 182 So. 858 (1938); Arundel Corp. v. Griffin, 89 Fla. 128, 103 So. 422 (1925); Pearce v. Pearce, 97 So.2d 329 (Fla. 2d Dist. 1957).
87. 54 So.2d 48 (Fla. 1951).
88. 105 Fla. 409, 141 So. 306 (1932).
89. 112 Fla. 391, 150 So. 598 (1933).
90. 81 So.2d 632 (Fla. 1955).
91. 142 Fla. 101, 194 So. 342 (1940).
92. 182 Cal. 392, 188 P. 554 (1920).
The rule of *San Gabriel Valley Country Club* and *Edason* has not been widely adopted in other jurisdictions and appears to be inconsistent with the protection usually afforded a landowner whose property had been interfered with. To hold that diversion of surface water from a potential user is in all cases unreasonable, or that unreasonable appropriation of surface water is actionable, while holding at the same time that discarding excess water onto another's land in a natural drainage course is a harm without a legal remedy, is not justifiable in logic, good sense, or as a matter of public policy.

It should be required at least that the disposal of increased amounts of surface water on another's land would be permitted only if under the particular facts, the action is reasonable, as determined under the tests previously discussed. Otherwise the law will be inconsistent with the other diversion cases where relief was granted because the diverted water flows caused excess water damage to the plaintiff's property. In *Seaboard All Florida Ry. Co. v. Underhill,* a railroad embankment caused plaintiff's land to become flooded. In *State Road Department v. Newhall Drainage District,* the proposed culvert would also have caused flooding on the complainant's land. In *Stoer v. Ocala Manufacturing, Ice & Packing Co.,* the complaint alleged that at times the defendant's construction caused overflowing on the plaintiff's land and flooding of his crops. In that case, the plaintiff was denied relief because the court charged him with a duty to keep the channel open as part of his responsibility in the cooperative drainage area in which both parties owned property. However, the court stated that prohibiting the overtaxing of the watercourse to the injury of a lower proprietor was the object of the rule in *Brumley v. Dorner.*

In *Dade County v. South Dade Farms* the court affirmed an injunction prohibiting the county commission from removing a dam plaintiffs had erected on a county right of way. The purpose of the dam was to prevent flooding of plaintiff's 18,000 acres. The court approved the chancellor's finding which prevented the county from removing the dam.

Most land is burdened with the hazard or benefits of water according to the laws of nature, but in order that less harm be done and greater justice be accomplished, the better policy seems to be that no proprietor be called upon to unreasonably suffer by land of another a burden greater than is natural whether he be an upland or the lower land proprietor.

Here, by self-help, South Dade Farms prevented the very harm the
plaintiff in *Edason v. Denison* was forced to endure. Furthermore, the holding in *New Homes of Pensacola, Inc. v. Mayne* appears entirely inconsistent with the holding in *Edason*. The court in *Mayne* held,

> [t]here appears to be no sharp dispute between the parties to this appeal as to the basic principles of law which should be applied to this case. The law of Florida is well settled that the owner of the higher adjoining land has on the lower land for the discharge of surface water naturally flowing onto the lower land from the dominant estate ordinarily extends only to surface water arising from natural causes, and cannot be increased or made more burdensome by the acts or industry of man.

Law from other jurisdictions is also instructive in defining the rights of parties to uninterrupted flow of water courses. In *San Gabriel Valley Country Club*, a California court justified its holding by saying that upon the diversion of water an innocent property owner would receive the wet burden of a new channel whereas an increased flow without diversion merely passed the burden on to someone who already has water drained onto his property. The court, applying a strict doctrine derived from old cases, held that any damage is *damnum absque injuria*. To the argument that the natural capacity of the channel was exceeded, thereby flooding plaintiffs lands, the court cited *Mizell v. McGowan*, which urged that the term, natural capacity, was difficult to define and that the limitation would be difficult to enforce in suits against joint tortfeasors. The act was lawful, thus the injury was not actionable. Again, a simpler disposition would have been to use a test of reasonableness of increased flow and to compare the parties' equities. While the case has not been expressly overruled, California has developed an important new test regarding discharge of surface water. In *Keys v. Romley*, the California Supreme Court modified its civil law rule and held that a landowner has the responsibility to take reasonable care in the use of his property to avoid injury to adjacent property owners through the manipulation of surface waters. Any person threatened has a concurrent duty to take reasonable precautions to protect his property. If both landowners' uses are reasonable, then the injury must be borne by the landowner who changes the natural system of drainage. Justice Mosk stated: "Consistent and wise application of the California rule encourages profitable and enjoyable use of property, and provides a basis for mutual resolution of problems caused by errant surface waters." The question of reasonableness is one of fact, determined upon

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99. 169 So.2d 345, 347 (Fla. 1st Dist. 1964) (emphasis added).
100. 129 N.C. 93, 39 S.E. 729 (1901).
102. 64 Cal. 2d 396, 412 P.2d 529, 50 Cal. Rptr. 273 (1966).
103. Id. at 409, 412 P.2d at 537, 50 Cal. Rptr. at 281.
a consideration of all the relevant circumstances, including such factors as the amount of harm caused, the foreseeability of the harm which results, the purpose or motive with which the possessor acted, and all other relevant matter. In applying this test to the situation at hand, this writer feels the equities favor the Everglades Park. There, harm to the lower landowner is particularly severe, and correct management of the surface waters must be borne by the upper landowners.

To summarize, under Florida law a lower landowner has a cause of action if his land is alongside a watercourse, or if his land is intruded upon by a new drainage channel. He has no right if he owns property which is part of an existing drainage system and, if an upper landowner uses that system to a greater capacity. The hydrological cycle is interdependent and interrelated, as the body of water law should be. Rigid conflicting rules should only apply to conflicting situations. The water resources of South Florida take many forms, but their best use will depend on proper managerial direction. This direction, in turn, will depend on a pragmatic approach to water rights.

VII. INJUNCTION

The use of the injunction is illustrated in *North Dade Water Co. v. Adken Land Co., Inc.* In that case, a temporary injunction was upheld and made permanent against a polluter discharging effluent from a sewerage disposal plant into a lake situated on the defendant's property and then through a conduit to a lake situated on plaintiff's property.

In *Seaboard All Florida Ry. Co. v. Underhill*, the court stated:

The regular and recurrent flooding, though occurring only at a particular season during the year, constitutes a nuisance as well as an actionable wrong, and since it interferes with the right of enjoyment of the lands in the manner in which complainants have been heretofore using them... equity has jurisdiction to protect complainants against what amounts to a burdening or partial destruction of their estate.

In an injunctive action relative hardships are weighed. Usually it is considered a hardship to enjoin operation of an otherwise lawful use. However, the uniqueness of the Everglades renders a complainant's damage remedy at law a nullity. Damages would be of no use to the public which stands to lose its irreplaceable wildlife. As long as the Everglades shows the scientific probability of substantial harm, an injunction should lie to protest that ecosystem.

104. *Id.* at 410, 412 P.2d at 537, 50 Cal. Rptr. at 281.
105. 114 So.2d 347 (Fla. 3d Dist. 1959).
107. 3 R. Clark, *supra* note 60, § 218.3(B) at 161; *City of Miami v. City of Coral Gables*, 233 So.2d 7 (Fla. 3d Dist. 1970).
The appropriativeness of injunction against tort depends upon a comparative appraisal of all of the factors in the case, including the following primary factors:

(a) the character of the interest to be protected . . . ,
(b) the relative adequacy to the plaintiff of injunction and of [other] remedies . . . ,
(c) plaintiff's delay in bringing suit . . . ,
(d) plaintiff's misconduct . . . ,
(e) the relative hardship likely to result to defendant if injunction is granted and to plaintiff if it is denied . . . ,
(f) the interest of third persons and of the public . . . , and
(g) the practicality of framing and enforcing the order of judgment. . . .

Interests deserving protection would include environmental factors and would not be limited to economic interests. Public interest considerations include aesthetic attractiveness, public health, and comfort. Injunctive relief will lie for a party who has a legal or equitable right to waters being diverted or polluted. Thus an owner of property along a watercourse or surface flow is a proper plaintiff. The right to bring a suit has not yet been expanded to non-property owners. The harms anticipated in the Big Cypress are equally felt by members of the public, particularly those sensitive to harmful disruption of the environment. Environmental protection organizations have the same interest as landowners in the outcome of any suit involving ecological factors. In *Scenic Hudson Preservation Conference v. Federal Power Commission*, the plaintiff was an unincorporated non-profit association consisting primarily of conservationist organizations. The Conference was held to be a proper party under the Federal Power Act which permits an appeal by those "aggrieved by an order issued by the commission." Cases are providing standing to a larger number of persons to challenge governmental functioning. Whether this same development will apply to

111. 354 F.2d 608 (2d Cir. 1965).
suits where the government is not the defendant, so as to permit, for example, public interest groups not owning land in the path of water flow to sue to enjoin the flow, is the important question if the National Park Service fails to act to prevent harm to the wildlife the Park protects. All the necessary requisites for a “case of controversy” exist along with a proper adversary context and the deep personal interest and commitment of an organization dedicated to environmental protection.

VIII. CONCLUSION

Success in the application of the principles of water law to environmental problems in the Big Cypress will depend upon a recognition that there is social utility in nature and in the Everglades National Park. Until now economic consideration, such as profitable use of private property, expansion of the economic base, increased production, and meeting the housing needs of a growing population, have been salient. Now, as the once vast wilderness is being sacrificed to these considerations, man must realize that without the natural out-of-doors, providing a necessary sense of freedom, living on the earth and satisfaction of man’s wants will lose much of their importance. The environment itself is important. Its social utility is immense. Modern water law permits us to make value judgments to resolve these competing factors. These judgments must necessarily stress factors which are environmental.