

LAW AND POLICY FOR WATER RESOURCES MANAGEMENT IN FLORIDA

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Resumo: A maneira como a Flórida lida com a administração de recursos hídricos envolve agências em nível federal, estadual, regional e local. Esses programas de regulamentação e planejamento destinam-se à qualidade da água da superfície e do subsolo, à quantidade da água, às áreas úmidas, ao planejamento urbano e à proteção de bacias fluviais. Os programas têm sido desenvolvidos ao longo das últimas décadas sob diferentes ambientes políticos, com responsabilidades delegadas a agências com diferentes competências e representações eleitorais. Embora o Estado tenha visto melhora geral na sua administração de recursos hídricos, ainda continua existindo problemas com superposições e lacunas na forma geral de se lidar com o assunto.

Introduction

Water, and water-related resources provide many services and functions. Ideally, human activities and natural resources in a river basin will be managed in an integrated, coordinated manner in order to prevent human uses of the basin to inordinately interfere with the natural functioning

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of the basin in its undisturbed state. This approach is gaining importance in the United States, and this paper will address some of the efforts being made to manage ecosystems and watersheds in Florida. Although Florida has a good program of water resource regulation, it is still somewhat fragmented, and is carried out by different agencies with different responsibilities.

1. Primary regulatory agencies

Water resources in Florida are regulated by several federal, state, regional and local agencies, producing moderate levels of overlap in both geographic and subject matter jurisdiction.

1.1. Federal Environmental Protection Agency and Army Corps of Engineers

At the federal level, water resource regulation is focused in two agencies, the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (ACOE). Both are very large bureaucracies, with many thousands of employees, and several field offices in Florida. In the area of water regulation, the most important responsibility of the EPA is controlling the discharge of pollutants from point sources under the Clean Water Act (CWA). The EPA also has responsibilities for managing nonpoint stormwater pollution under the CWA and has authority to veto permits for impacts to wetlands under another CWA program.

The ACOE has a long history of involvement in dredging and draining the southern portions of Florida, including the construction of approximately 1700 miles of canals, levees and pumps to control surface and subsurface water in and around the Everglades. The ACOE has primary responsibility for regulating the discharge of dredged or fill material under the CWA, and plays a major role in controlling the conversion of wetlands to other uses.

1.2. Florida Department of Environmental Protection and the Environmental Regulatory Commission

The Florida Department of Environmental Protection (DEP), established in 1994 by consolidating the former Department of Environmental Regulation and Department of Natural Resources, is the lead state agency in water quality planning and regulation. The DEP has permitting jurisdiction over many installations and activities with effects on water pollution, water consumption, wetlands, land use and wildlife. The DEP is one of the larger state agencies. In addition to its Tallahassee headquarters, it maintains several district offices throughout the state. The standard setting body for the DEP is the Environmental Regulation Commission (ERC), a group of citizens and professionals appointed by the Governor to assist in the process of setting many types of environmental permitting criteria for the DEP. The ERC normally conducts public hearings around the state, at which it receives and discusses information relevant to the issues it is considering.

1.3. Florida Water Management Districts

In addition to the DEP, the state is divided into five Water Management Districts, established along hydrologic boundaries. The WMDs are responsible for many of the water related planning and permitting programs in Florida. Each District is governed by non-paid board members appointed by the Governor, subject to confirmation by the Florida Senate. Governing board members are appointed to four-year terms, and are selected according to criteria in the Act, based primarily on residency within designated hydrologic units or within certain political jurisdictions. A district may also be divided into basins, each governed by a basin board composed of three to five members who are responsible for the planning of primary water resource development projects, and secondary water control facilities for guidance of local government and private local owners.

Water management district governing boards are responsible for the overall planning and administration of district programs, including those of basin boards, as well as preparation of a water use plan and implementation of the regulatory programs addressed in the Water Resources Act. They are authorized to employ an executive director, tech-

nical staff and legal staff to assist in the planning and administration of their programs. The appointment of an executive director must be confirmed by the Florida Senate.

Generally, the districts may gather information and develop plans; construct and operate works; acquire lands for water management; regulate well construction and license well drillers; regulate surface water management facilities; and regulate the consumptive use of water through permitting, water shortage plans, and water emergency orders. Permits may be required for the consumptive use of water; location, construction, repair, or abandonment of water wells; utilization of works or lands of the district; construction of projects involving artificial recharge; and construction, alteration, maintenance and operation of dams, impoundments, reservoirs or associated works (surface water management and storage systems). District funding is derived from four sources: 1.) direct state appropriations, 2.) permit application fees, 3.) ad valorem taxes, and 4.) issuance of bonds. The applicable sections of the Florida Statutes (FLA. STAT.) state that permit application fees may not be more than a district's costs in processing, monitoring and inspecting for compliance.²

1.4. Florida Local Governments

In addition to the regulatory and planning programs instituted by state and regional agencies, Florida requires local governments to play a role in managing water resources. The Local Government Comprehensive Planning and Land Development Regulation Act (Growth Management Act)³ requires that local governments devise comprehensive plans to guide and control future development. Comprehensive plans are long-range policy documents which provide guidance for local government regulatory activities.

Local comprehensive plans must be consistent with the goals and objectives expressed in the State Comprehensive Plan, codified at Chapter 187, Florida Statutes. The state comprehensive plan general goal for water resources is to "assure the availability of an adequate supply of water for all

² FLA. STAT. § 373.109 (1991).

³ FLA. STAT. § 163.3161-163.3215 (1991).

competing uses ... and maintain the functions of natural systems and the overall present level of surface and ground water quality.”⁴ The plan contains many policies and objectives related to protection of water supplies, water quality and natural systems.

The Growth Management Act requires that local government comprehensive plans include the following elements relating to protection of water and environment: 1.) capital improvements element; 2.) future land use element; 3.) general sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge element; and 4.) conservation element. Local governments must implement and enforce the objectives of their comprehensive plans by adopting and enforcing land development regulations which are consistent with the comprehensive plan.⁵

This article does not address local environmental and land use regulatory programs which affect water resources. There are 67 counties in Florida, and several hundred city governments, many of which have one or more planning and regulatory departments to implement local programs for environmental and land use control related to water resources.

2. Water quality protection

2.1. Federal Clean Water Act

In 1972, in response to growing concerns over water quality and environmental integrity, Congress enacted amendments to the Federal Water Pollution Control Act in order to better restore and maintain the “chemical, physical and biological integrity of the nation’s waters.”⁶ The act became known as the Clean Water Act (CWA). Section 301(a) of the Act⁷ prohibits the “discharge of any pollutant” by any “person” or entity into “waters of the United States,” except in compliance with specified provisions of the

⁴ FLA. STAT. § 187.201(8)(a) (1991).

⁵ Local governments must adopt land development regulations within one year after submission of a comprehensive plan or an amendment.

⁶ Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500; 86 Stat. 931 (1972); codified as amended at 33 U.S.C. (United States Code) §§1251-1376 (1976).

⁷ 33 U.S.C. § 1311(a) (1982).

CWA. Most important among these are the National Pollutant Discharge Elimination System (NPDES) permit program of Section 402 and the dredge and fill program of Section 404.

2.1.1. “Point Source” Pollution Control

The Section 402 NPDES program,⁸ administered by the Environmental Protection Agency (EPA), requires a permit for industrial and municipal point source discharges of pollutants into waters of the United States. A “point source” includes discrete conveyances like pipes, ditches, channels and wells, but also landfill leachate collection systems, boat discharges, and overflow from mining operations. Agricultural stormwater discharges and return flows from irrigated agriculture are not included in the definition of a point source and do not require a permit under this section. There are also several categories of discharges which, even though they may fit the definitions of the permit program, are excluded from having to obtain a permit. Among these are nonpoint agricultural or silvicultural pollutants including runoff from orchards, crops, pastures and forest lands.

“Pollutants” are broadly defined to include almost any type of chemical, biological agent, liquid, gas or solid waste. “Waters of the United States” are also very broadly defined to include almost any category of surface water which has any relationship to interstate commerce, including many wetland systems. The definition does not include waste treatment ponds or lagoons. The CWA includes provisions which allow states to take over the permitting program. As long as EPA controls the program in a state, the program does not apply to discharges to groundwater. However, EPA’s approval of a state NPDES program is conditioned on the state having legal authority to control the disposal of pollutants into wells. So while EPA cannot require an NPDES permit for discharges to groundwater, states are required to do so in order to take over the NPDES program from EPA.

There are five types of permit conditions: technology-based limitations, water quality-based limitations, monitoring and reporting requirements, standard conditions and special conditions. *Technology-based limi-*

⁸ 33 U.S.C. § 1342 (1982).

tations are industry-specific and are based on technological and economic capabilities. Any more stringent limitations necessary to insure that a discharge complies with applicable state *water quality standards* must also be included in NPDES permits. These limitations are designed to protect the quality of receiving waters, and are not based on technological or economic factors. *Monitoring requirements* are the primary means for determining whether permit limitations are being met. Among other things, the permit-holder must monitor discharges at designated frequencies, using designated analytic techniques, and must report the results to EPA. *Standard conditions* for NPDES permits include provisions such as the duty to minimize or prevent permit violations which are reasonably likely to damage human health or the environment; the duty to properly operate and maintain all facilities and equipment; and the duty to report any planned changes to the facility, any anticipated non-compliance, and transfers to new owners or operators. *Special conditions* to address site-specific conditions may also be attached to NPDES permits.

2.1.2. “Non-Point Source” Pollution Control

The original CWA accomplished very little relative to non-point source pollution, the type of diffuse pollution that washes off of roads and parking lots, agricultural and forestry operations, construction activities, etc. Non-point source pollution has been identified as a significant problem in surface waters, but it cannot be addressed by the same technological controls imposed on point sources through the NPDES program. It is more appropriately addressed through land use planning and production controls which are politically unpopular and therefore difficult to implement. Originally, the CWA required that states address non-point pollution through an area-wide planning and management process, which actually made very little difference in the amounts and rates of non-point source pollution.

Section 208 of the Act required states to identify areas which as a result of urban-industrial concentrations or other factors, have substantial water quality control problems, and to designate an organization to develop an area-wide waste treatment management plan for those areas. At a minimum, these plans had to address agricultural and silvicultural pollution

sources, mining-related sources, construction-related sources and salt water intrusion into rivers and lakes resulting from human activities. Based on the priorities identified in these plans, the states are required to develop strategies, including “best management practices” (BMPs), for controlling the non-point pollution. BMPs are methods and practices for controlling such pollution. They include structural and non-structural controls and operation and maintenance procedures, which can be applied to reduce or eliminate the introduction of pollutants.

Section 319 of the Act, enacted in 1987, also addresses non-point source pollution. The section first requires states to identify waters which are in particular need of actions to control non-point source pollution in order to attain applicable water quality standards. It also requires states to identify the types of non-point sources which contribute to such pollution. These assessment reports are then to be used to prepare a state management program for controlling non-point pollution. The program must be implemented in the four years after being submitted to EPA. These management programs must be developed in cooperation with any local, regional or interstate entity that is planning for the implementation of non-point source pollution controls. The act includes grant funding to states to assist them in implementing the management programs, and requires states to submit reports every two years which describe the nature and extent of nonpoint sources of pollution and the programs being implemented to eliminate those sources.

2.2. State of Florida Permit Programs

2.2.1. Surface Water Pollution Control

Chapter 403, Florida Statutes, and DEP administrative rules establish the state’s program for regulation of surface water pollution. Basically, the legislation provides that no installation that is reasonably expected to be a source of water pollution will be operated, maintained, constructed, expanded or modified without an appropriate and current permit, unless exempted by rule. An installation is defined as any structure, equipment, facility or operation that may emit water contaminants. The law also states

that: No person, without written authorization of the DEP, shall discharge into waters within the state any waste which, by itself or in combination with the wastes of other sources, reduces the quality of the receiving waters below the classification established for them.

a. Surface Water Classifications

“Waters” are very broadly defined to include almost every type of water in the state, whether on or underneath the surface. The DEP has classified all surface waters in the state into one of five classes. Class I waters are those designated for use as potable water supplies; Class II are designated for use in shellfish propagation or harvesting; Class III are designated for use as recreation, propagation and maintenance of healthy, well-balanced populations of fish and wildlife; Class IV are designated as agricultural water supplies; and Class V are designated for navigation, utility and industrial use. The classifications are in order of protection required, with Class I waters having the most stringent water quality criteria and Class V the least stringent criteria.

The DEP has classified all surface waters as Class III (recreation, propagation and maintenance of healthy, well-balanced populations of fish and wildlife), except for certain waters placed in other classifications. Additionally, certain waterbodies are also designated as Outstanding Florida Waters, or Outstanding National Resource Waters, which allows little or no lowering of water quality. Generally, these types of waterbodies are required to have exceptional recreational or ecological significance. They can be designated as special waters after public fact-finding workshops, an economic impact analysis, and a finding that the environmental, economic and social benefits of the designation outweigh the environmental, economic and social costs.

b. Minimum Water Quality Standards

Minimum water quality standards applicable to all surface waters require that they be “free from” domestic, industrial, agricultural or other human-induced thermal and non-thermal components of discharges at all times and in all places. Basically, these criteria prevent the creation of nuisance conditions or the discharge of acutely toxic discharges that could cause cancer or birth defects in humans or significant wildlife or fish populations,

or pose a serious danger to public health, safety or welfare. In addition to these minimum criteria, there are "general water quality criteria" which apply to all surface waters. The general criteria include standards for arsenic, biochemical oxygen demand, chlorides, chromium, copper, detergents, fluorides, lead, nutrients, oils and greases, pH, phenolic compounds, radioactive substances, turbidity and zinc among others. Each classification of surface water also has water quality criteria specific to that classification.

c. Zones of Mixing

Discharges to surface water are normally allowed a "zone of mixing," within which the general water quality criteria do not apply. A zone of mixing is an area adjacent to points of discharge where the water quality may be temporarily degraded in order to allow the discharge to meet standards. However, the minimum water quality standards may not be violated within these zones. Zones of mixing must be requested during the permitting process, and must be specifically limited in size and shape. The DEP also recognizes that in certain areas, because of natural conditions or human factors that cannot be controlled, dissolved oxygen levels or other water quality criteria might not meet applicable standards. Under these circumstances, the background conditions for dissolved oxygen can become the applicable criteria, though this may only occur after public hearings. For other water quality criteria, the existing levels may become what are known as "site specific alternative criteria," after a demonstration that the proposed levels are more appropriate due to natural background conditions or human factors that cannot be controlled. This process may not be applied to alter the minimum criteria, nor to many of the general water quality criteria.

d. Permit Conditions

During the surface water permitting process, if the DEP finds that a proposed discharge will reduce the quality of the receiving waters below the classification established for them, it must deny the application and refuse to issue a permit. If the department finds that the proposed discharge will not reduce the quality of the receiving waters below the classification established for them, it may issue an operation permit if it finds that such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.

In insuring that discharges will meet the designated water quality standards, the DEP enforces *technology-based effluent limitations* applicable to industrial waste discharges. These are minimum waste treatment requirements, based on particular treatment technologies. Many federal effluent limitations, guidelines and standards are incorporated by reference. No state permit may contain an effluent limitation that is less stringent than one contained in an NPDES permit issued by the EPA. Generally, all domestic wastewater facilities must at a minimum, provide secondary treatment of wastewaters. All new facilities and modifications of existing facilities must be designed to achieve an effluent after disinfection containing no more than 20 mg/l BOD (biological oxygen demand) and 20 mg/l total suspended solids, or 90% removal of each of these pollutants from the wastewater effluent.

The DEP also requires that all discharges meet *water quality-based effluent limitations* when necessary to meet water quality standards. These are limitations which are necessary to ensure that water quality standards in a receiving water will not be violated. They are determined by application of scientific methods, including modeling.

2.2.2. Groundwater Pollution Control

The DEP's authorizing legislation for permitting of discharges to groundwater is contained in Chapter 403, Florida Statutes. Chapter 403 requires that all discharges to groundwater go through a permitting process unless exempted, and that they comply with technology based effluent limitations (TBELs), such as secondary treatment for domestic waste, and water quality based effluent limitations (QBELs), such as the treatment necessary to meet water quality standards and protect beneficial uses.

a. Groundwater Classifications

Chapter 62-520.410 Florida Administrative Code (Fla. Admin.Code) classifies all groundwater according to its designated use, level of confinement and level of dissolved solids. Class G-I is identified as potable water use groundwater in a single source aquifer with total dissolved solids (TDS) of less than 3000 mg/l. No aquifers have been classified as G-I. Class G-II is potable water use groundwater in aquifers with TDS content

of less than 10,000 mg/l, unless otherwise classified by the Environmental Regulation Commission (ERC). Most of Florida's accessible groundwater is classified in this category. Class G-III is nonpotable groundwater in unconfined aquifers, which has either been reclassified by the ERC as having no reasonable potential as a future source of drinking water or has been designated as an exempt aquifer. Class G-IV is nonpotable groundwater in confined aquifers.

b. Groundwater Quality Standards

DEP's groundwater rules contain several important provisions, which are somewhat similar to the approach taken in surface water permitting. First, they establish the "minimum criteria" water quality applicable to all groundwater.⁹ These are also known as "free froms," since the language of the rule states that all groundwater at all times and places must be "free from" any humanly induced, nonthermal components of discharges in concentrations which alone or in combination with other components:

- 1) Are harmful to plants, animals, or organisms that are native to the soil and responsible for treatment or stabilization of the discharge relied upon by Department permits.
- 2) Are carcinogenic, mutagenic, teratogenic, or toxic to human beings, unless specific criteria are established for such components in Rule 62-3.404...
- 3) Are acutely toxic to indigenous species of significance to the aquatic community within surface waters affected by the groundwater at the point of contact with surface waters...
- 4) Pose a serious danger to the public health, safety or welfare...
- 5) Create or constitute a nuisance...
- 6) Impair the reasonable and beneficial use of adjacent waters.¹⁰

⁹ Rule 17-3.402, FLA. ADMIN. CODE (1990). Groundwater is defined as "water beneath the surface of the ground within a zone of saturation whether or not flowing through known and definite channels." Rule 17-3.021(11), FLA. ADMIN. CODE (1990).

¹⁰ The DEP has compiled a booklet entitled Groundwater Guidance Concentrations listing many chemicals and concentrations, and providing guidelines for the review of groundwater quality data for minimum "free from" requirements.

The second set of applicable groundwater quality standards are the primary and secondary drinking water standards for public water systems established under the Florida Safe Drinking Water Act. *Primary drinking water standards* are those necessary to prevent an adverse effect on the health of persons. The rule specifies maximum contaminant levels for several types of organics, volatile organics, inorganics, turbidity, microbiological agents and radionuclides. *Secondary drinking water standards* are oriented more to protection of the public welfare, including factors such as taste, odor and color. The list of maximum contaminant levels includes those for chloride, color, copper, corrosivity, fluoride, foaming agents, iron, manganese, odor, pH, sulfate, zinc and total dissolved solids. The ERC normally adopts all federal Environmental Protection Agency standards in these areas.

c. Zones of Discharge

In addition to classifying aquifers and setting the groundwater quality criteria applicable to each classification, the DEP's groundwater rules establish permitting and monitoring requirements. Basically, the rules state that unless exempted, no installation may directly or indirectly discharge to groundwater any contaminant that causes a violation of any of the water quality criteria and standards, except within a "zone of discharge," (ZOD) which is similar to a zone of mixing for surface water discharges.

No ZOD is allowed for direct discharges into wells or sinkholes that connect to G-I or G-II groundwater, except for recharge projects from surface water or other groundwater of comparable quality. Generally, the only ZOD allowed in a G-I area will be for domestic wastewater and stormwater sites. In addition, no ZOD is allowed for discharges that may cause an imminent hazard to the public or environment through contamination of groundwater supplies of drinking water or surface water affected by groundwater.

Within a ZOD located in a G-I or G-II area, the water discharge must meet only the "free from" minimum water quality criteria. Outside of a ZOD, Class G-I and G-II aquifers must meet the primary and secondary drinking water standards. If natural background levels of any of the listed constituents are higher than the stated maximum, the background value becomes the prevailing standard for a particular G-I or G-II aquifer.

Class G-III groundwater only has to meet the “free from” criteria, thus installations discharging to G-III groundwater are exempt from obtaining a ZOD permit as long as the discharge does not threaten to impair the designated use of adjacent waters, such as G-I or G-II groundwater. Installations discharging to G-IV groundwater are also generally exempt from ZOD permit requirements; Class G-IV water quality criteria are established on a case by case basis.

d. Monitoring

The DEP requires monitoring and reporting programs for any installations discharging to groundwater, though monitoring plans required by a local ordinance may be substituted if the requirements are in substantial compliance with the DEP’s requirements. Monitoring plans must show the location of the wells proposed for measuring background and downgradient levels of groundwater quality. The plans must also include construction details, a water sampling and chemical analysis protocol to determine background quality of the groundwater and any deviation of groundwater quality in the downgradient wells. Information supplied must include hydrogeological information on the characteristics of the aquifer; the waste disposal rate, and frequency and method of discharge; the characteristics of the waste; and other potential pollution sources within one mile (1.6 km).

Exemptions to monitoring include:

- 1) Domestic sewage treatment installations with less than 100,000 gallons (378,500 l) per day design capacity;
- 2) stormwater facilities;
- 3) agricultural fields, ditches and canals; and
- 4) livestock waste lagoons exempted under old Rule 62-6.300 (limiting the number of animals).
- 5) wastewater ponds, cooling ponds or other discharge waters meeting the minimum “free from” criteria and the applicable standards for the receiving groundwater and contiguous surface waters are also exempted.

The first four exemptions apply only so long as the discharges present no potential hazard to human health, the environment, or a source of drinking water, and as long as the facilities do not discharge directly to groundwater. Several of these exemptions are coming under increasing criticism and are currently being examined by the state.

3. Water quantity protection

Water quantity protection refers to the management scheme by which the state attempts to sustainably balance the human uses of water and efforts to control the flow of water with the needs of natural systems. Industrial, agricultural and domestic needs are the primary categories of consumptive uses of water, while almost any form of development requires that the flow of rain water from that development be controlled. Natural systems such as rivers, lakes, forests, wetlands and estuaries have all evolved with certain amounts and flows of water generally being present at certain times of year. The biological components of these systems have also evolved based on the dominant water regime in those systems. When humans take large amounts of water out of a system, or otherwise manipulate the quantity, rate, timing or distribution of water flows in that system, the system will not function as it has evolved. The resulting damage can have severe economic, as well as environmental, impacts.

3.1. State of Florida

Florida's approach to these issues is generally embodied in legislation known as the Water Resources Act.¹¹ The Water Resources Act was adopted in 1972 as a comprehensive approach to water planning and management. The general purposes of the Act are to provide for management of water and related land resources; promote conservation, development and proper utilization of surface and groundwater; provide water storage; prevent damage from floods, soil erosion and excessive drainage; preserve natural resources, fish and wildlife; and promote recreational

¹¹ FLA. STAT. Ch. 373 (1991).

development.¹² The Water Resources Act granted most regulatory authority to the state Department of Environmental Regulation, but directed it to delegate authority to regional water management districts to the maximum extent possible. As mentioned earlier, the Act divides Florida into five regional water management districts (WMDs), generally established along hydrological boundaries.¹³ There are several planning and regulatory programs established by the Act.

3.1.1. State Water Use Plan

The Water Resources Act requires the Department of Environmental Protection (DEP) to “study existing water resources in the state; the means of conserving and augmenting such waters; existing and contemplated needs and uses of water for protection and procreation of fish and wildlife, irrigation, mining, power development, and domestic, municipal, and industrial uses; and all other related subjects....”¹⁴ The DEP must cooperate with the Office of the Governor to formulate an “integrated, coordinated plan for the use and development of the waters of the state, based on the above studies.”¹⁵ The plan is to be known as the State Water Use Plan, which is intended to serve as a functional element of the state comprehensive plan,¹⁶ and to aid in the guidance of the district governing boards and other agencies in the administration and enforcement of the Act.¹⁷ In preparing the State Water Use Plan, the DEP must “give careful

¹² FLA. STAT. § 373.016 (1991).

¹³ These include the Northwest Florida Water Management District, the Suwannee River Water Management District, the St. Johns River Water Management District, the Southwest Florida Water Management District, and the South Florida Water Management District.

¹⁴ FLA. STAT. § 373.036(1) (1989).

¹⁵ *Id.*

¹⁶ Originally, the State Water Plan was to have included the state water use plan, together with the DEP’s water quality standards and classifications. This approach has not been taken in developing the State Water Plan. The State Comprehensive Plan, Chapter 187, FLA. STAT., includes several policies and goals directly supporting the maintenance of adequate freshwater flows, including: 1.) establish minimum seasonal flows and levels for surface watercourses with primary consideration given to the protection of natural resources, especially marine, estuarine, and aquatic ecosystems (§187.201(8)(b)4.); 2.) protect and restore long-term productivity of marine fisheries habitat and other aquatic resources (§187.201(9)(b)7.); 3.) discourage the channelization, diversion, or damming of natural riverine systems (§187.201(8)(b)7.); 4.) reserve from use that water necessary to support essential nonwithdrawal demands, including navigation, recreation, and the protection of fish and wildlife (§187.201(8)(b)14.).

¹⁷ FLA. STAT. § 373.036(10) (1989).

consideration to the requirements of public recreation and to the protection and procreation of fish and wildlife.”¹⁸

3.1.2. District Water Management Plans

The Act also requires the water management districts to prepare District Water Management Plans (DWMP).¹⁹ The DWMP must include an assessment of water needs and sources for the next 20 years, including specific geographical areas that have water resource problems which have become critical or are anticipated to become critical within the next 20 years. Based on economic, environmental, and technical feasibility analyses, a course of remedial or preventive action must be specified for each current and anticipated future critical problem. District Water Management Plans must also identify areas where data collection, water resource investigations, water resource projects, or the implementation of regulatory programs are necessary to prevent water resource problems from becoming critical. The DWMPs must be updated every five years.

3.1.3. Minimum Flows and Levels

One of the most significant and, until recently, least observed provisions of the Water Resources Act requires the WMDs to establish what are termed “minimum flows and levels”²⁰ for all watercourses, lakes and aquifers. Minimum flows for surface watercourses are defined as “the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area.” Minimum water levels are “the level of ground water in an aquifer and level of surface water at which further withdrawals would be significantly harmful to the water resources of the area”.

The importance of these requirements is that setting ecological limits implies setting a baseline standard beyond which withdrawals for consumptive uses will not be permitted. Florida is a water rich state, and there has been very little pressure to fulfill this requirement. A few such standards have been set in special cases, but recent concerns over the state’s rapid

¹⁸ FLA. STAT. § 373.036(7) (1989).

¹⁹ FLA. STAT. § 373.036(4) (1989).

²⁰ FLA. STAT. § 373.042 (1989).

population growth and increasing demand for consumptive uses of the resource have increased the pressure on the WMDs to establish minimum flows and levels in order to protect minimal amounts of water for nonconsumptive, ecological purposes.

3.1.4. Water Shortage Planning

The Water Resources Act also requires the WMDs to plan for water shortage emergencies that occasionally result from droughts. All districts have established these plans, which normally include phased responses to such occurrences. These generally begin with simple restrictions on the times and days during which water may be used, and usually include actual cutbacks or cutoff of water for certain non-essential uses during the most extreme periods of drought.

3.1.5. Consumptive Use Permitting: Ch. 373, Part II

a. Generally

Florida takes over 90% of its drinking water from underground sources, though surface water sources are becoming increasingly important. The Water Resources Act preempted the traditional common law for allocating water in Florida, and in its place substituted a comprehensive administrative system for creating and apportioning water rights.²¹ All water in Florida is now subject to regulation, whether diffused or defined, on the surface or below the ground, percolating or flowing in defined channels. The water management districts are authorized to require permits for any consumptive use of water except individual domestic use. The districts can impose reasonable conditions on permits to ensure the use is “consistent with the overall objectives of the district” and “not harmful to the water resources of the area.”²² The permit applicant must establish that the proposed use is a “reasonable-beneficial”²³ one, that will not interfere with any presently existing legal use of water, and that is consistent with the public interest.

²¹ FLA. STAT. § 373.217 (1989).

²² FLA. STAT. § 373.219(1) (1989).

²³ “Reasonable-beneficial use” is defined as “the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.” FLA. STAT. § 373.19(4). Criteria for determining reasonable-beneficial use are codified in Rule 17-40.401(2), FLA. ADMIN. CODE (1990).

Although each of the water management districts has implemented a consumptive use permitting program, not all users are required to apply for a permit. The only statutory exemption is for domestic consumption of water by individual users, defined as “individual personal household purposes of drinking, bathing, cooking, or sanitation.”²⁴ The districts also have varying thresholds, based on actual use, withdrawal capacity, or well size, above which users are required to seek permits. Other users may qualify for general permits or exemptions. Users exempted from the permitting system presumably continue to be subject to common-law duties.

Consumptive use permits are granted for fixed periods of time. The duration of the permit may not exceed 20 years, except that public facilities may be permitted for up to 50 years if necessary in order to assure funding for the project. If insufficient water is available to meet the needs of competing applicants, the use that best serves the public interest will be favored. Water use may also be restricted during times of water shortage. Permits are revocable only for material false statements, for willful violation of permit conditions of the Act, and for nonuse of the water supply. Thus, except during times of water shortage or emergency, permittees have certainty of use. The districts generally allow free transfer of permits, provided the use and conditions of withdrawal remain the same.

b. Protection of Natural Systems in Permitting Criteria

One policy of the Water Resources Act is “to preserve natural resources, fish and wildlife”²⁵ and the criteria utilized in the consumptive use permitting process evidence concern for the protection of the quantity and timing of water deliveries to natural ecosystems.²⁶ The permit criteria which require reasonable-beneficial use, and consistency with the public interest, incorporate consideration of the needs of natural ecosystems.

One component of the reasonable-beneficial use standard involves the integrity of natural systems and fish and wildlife habitat. The Act also addresses protection of instream and in-place water needs for habitat purposes

²⁴ FLA. STAT. § 373.019(6) (1991).

²⁵ FLA. STAT. § 373.016(2)(3) (1989).

²⁶ See, e.g., *Pinellas County v. Lake Padgett Pines*, 333 So.2d 472 (Fla 2d DCA 1976) (Chapter 373, Florida Statutes, requires consideration of the overall environmental effects of a prospective use, and not simply its effect on the water resource).

by authorizing the DEP and each district governing board to reserve from permitted uses “water in such locations and quantities, and for such seasons of the year, as in its judgment may be required for the protection of fish and wildlife or the public health and safety.”²⁷ Provision for such reservations must be made by rule or regulation and must be subject to periodic review and revision in light of any change in conditions.

One problem with the Act is that certain WMDs provide less consideration of riverine and estuarine habitat values in their consumptive use permitting requirements and water shortage plans. There are also large differences among the districts in the ability to address the impacts of a proposed use on environmental values. The Water Resources Act does not require that the districts engage in dialogue with, or accept comments or modifications from any other federal or state agency with expertise in environmental matters, as does the state’s Surface Water Improvement and Management (SWIM) Act. Such a requirement would clearly allow for more scientifically informed decisions, and provide for better representation of the public interest in the permitting process.

Another weakness in the existing regulatory scheme involves the process by which impoundments and instream water withdrawals are permitted. Generally, the water management districts do not have permit systems addressing dam and reservoir operations. Though occasionally subject to general requirements concerning dam operations, water withdrawals are often permitted without express consideration of the manner in which the dam is operated relative to instream flows. The current approach makes it difficult to separate a diversion’s impacts on the downstream river from the more basic, and usually more significant, impact of the dam and reservoir.

²⁷ FLA. STAT. § 373.223(3) (1989).

4. Wetland regulation

4.1. Federal

4.1.1. Rivers and Harbors Act of 1899

Prior to 1972, the most significant federal law regulating development activity in waterbodies and wetlands was Section 10 of the Rivers and Harbors Act of 1899,²⁸ which requires a permit from the U.S. Army Corps of Engineers for any activity, including excavation and construction, which alters the “course, location, condition, or capacity of a navigable water of the United States.”²⁹ As interpreted over the years, and finally adopted under the Corps’ regulations, “navigable waters” have come to be defined as: “...those waters that are subject to the ebb and flow of the tide, and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.”³⁰

According to its regulations, the Corps has jurisdiction over navigable waters that extends laterally to the mean high water mark in tidal areas, and to the ordinary high water mark in non-tidal freshwater areas. Problems associated with precise location of the ordinary high water mark however, have meant that in most cases it cannot be used to accurately establish jurisdiction. (Want:1984:7). Even then, by limiting the Corps’ jurisdiction to those lands within the mean high water line in coastal areas, or ordinary high water lines in non-coastal areas, the Act usually fails to protect adjacent wetlands, which can easily stretch well beyond those jurisdictional limits.

In 1968, the Corps expanded its limited navigational review of Section 10 permits with a “public interest review,” that includes consideration of economics, historic values, general environmental concerns, aesthetics, land use, flood damage prevention, effect on wetlands, and fish and wildlife values.³¹ During the early 1970’s federal authorities began

²⁸ 33 U.S.C. § 403 (1982).

²⁹ See *U.S. v. Moretti*, 526 F.2d 1306 (5th Cir. 1976).

³⁰ *Daniel Ball v. U.S.*, 77 U.S. 557 (1871); *Economy Light and Power Co. v. U.S.*, 256 U.S. 113 (1921); *U.S. v. Appalachian Electric Power Co.*, 311 U.S. 377 (1940); *U.S. v. Stoeco Homes, Inc.*, 498 F.2d 597 (3d Cir. 1974)

³¹ 33 C.F.R. §320.4(a)-(o) (1984); upheld in *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970).

vigorously enforcing Section 10 to protect tidal wetlands in Florida from massive dredge and fill projects, primarily located in the Florida Keys and Tampa Bay area. The success of those enforcement efforts certainly discouraged developers from attempting similar dredge and fill activities in the salt marsh wetlands further north on Florida's coast. (U.S. Congress:1984:55). However, jurisdictional limitations and the lack of a citizen suit provision combine to make the Rivers and Harbors Act relatively ineffective in the effort to protect wetlands.

4.1.2. Clean Water Act: Dredge and Fill (Section 404 Program)

Under the Clean Water Act, the discharge of most pollutants is subject to regulation by the U.S. Environmental Protection Agency (EPA) and the states. The discharge of dredged or fill material, however, is primarily regulated by the Army Corps of Engineers (ACOE) under Section 404 of the Act, with some authority given to EPA.³² Under Section 404, a permit from the Corps is required before discharging dredged or fill material into "navigable waters," an all inclusive term that covers almost every natural aquatic and wetland system. The criteria for evaluating Section 404 permits applications give the EPA the authority to deny or restrict a permit for dredge or fill activity that would have an adverse affect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife or recreational areas.³³

Section 404 applies to many wetland systems, defined as:

"those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."³⁴

³² 33 U.S.C. § 1344. EPA shares authority with the Corps for administration of the Section 404 program. Permitting authority may also be delegated to the states.

³³ 33 C.F.R. § 231 (1984).

³⁴ 33 C.F.R. § 328.3(b).

A direct connection to navigable waters is not necessary for jurisdiction. A wetland is “adjacent” to such water, and thus regulated, if it is: “bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are ‘adjacent wetlands.’”³⁵

The decision whether to issue a Section 404 permit is based on the application of public interest review criteria adopted by the Corps and guidelines adopted by EPA under Section 404(b)(1) of the Act. Public interest review requires evaluation of the “probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest.”³⁶ A permit will be denied if issuance is determined to be contrary to the public interest after considering and balancing all relevant factors, including:

“conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.”³⁷

In addition, the Corps considers the need for the structure; the practicability of using alternatives; the extent and permanence of effects; cumulative effects; and the effects on wetlands. Special protection is given to wetlands that: serve significant natural biological functions; are set aside for study or as sanctuaries or refuges; are significant to natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics; shield other areas from wave action, erosion or storm forces; are valuable flood water storage areas; are important for groundwater discharge to maintain baseflows or for recharge; which purify water; or are unique or scarce resources.

³⁵ 33 C.F.R. § 328.3(c) (1984).

³⁶ 33 C.F.R. § 320.4(a)(1984).

³⁷ 33 C.F.R. § 320.4(a). The rules further provide that “the specific weight of each factor is determined by its importance and relevance to the particular proposal.” *Id.* § 320.4(a)(3).

The Section 404(b)(1) guidelines, adopted by EPA, must also be followed by the Corps. In general, the guidelines prohibit the discharge of dredged or fill material which will cause or contribute to significant degradation of the waters of the United States, after considering individual and cumulative effects. All appropriate and practicable steps must be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem. Discharges that would violate state water quality standards or jeopardize an endangered or threatened species, are prohibited.

If there is a practicable alternative to the proposed discharge that would have less adverse impact, then the permit must be denied. If an activity is not “water-dependent,” then practicable alternatives are presumed to be available. An activity is not “water-dependent” unless it requires “access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose.”³⁸

For projects that are water-dependent, such as marinas, or for which there are no practicable alternatives, a Section 404 permit may still be received, provided impacts to aquatic resources can be reduced to acceptable levels or mitigated. Mitigation is controversial, but commonly used in permitting.(Association of State Wetland Managers:1986:45) (Leslie:1990:223). The concept refers to a variety of measures used to reduce the adverse impacts of a project. The Federal Council on Environmental Quality has adopted rules defining mitigation that are widely used by federal agencies.³⁹ These might include using an upland area instead of a wetland or redesigning a project to reduce impacts. More controversial are measures that compensate for the destruction of wetlands by constructing new wetlands or restoring degraded wetlands.

Several factors serve to weaken the Clean Water Act’s effectiveness in preserving wetlands and the endangered species that depend on them. First, Section 404(f) allows significant exemptions from the permit process, including any discharges for “normal” farming, forestry and ranching activities; for maintenance or repair of dikes, dams, bridges and transportation structures; for the construction or maintenance of farm drainage or irriga-

³⁸ 40 C.F.R. § 230.10(a)(3) (1984).

³⁹ 40 C.F.R. § 1508.20 (1982).

tion ditches or ponds; for temporary sedimentation basins on upland construction sites; and for building farm or forest roads, or temporary roads for moving mining equipment.

Section 404(e) also allows the Corps to grant general permits on a national, regional or statewide basis, for certain activities that it determines will have minimal adverse environmental effects, either singly or cumulatively. Project applications under the general permitting process undergo much less review and analysis. Regional and statewide permits are developed on a district by district basis, and usually reflect the orientation of the particular district to wetlands protection.(U.S. Congress:1984:173). There are 36 Corps districts; though some districts are concerned with wetlands values, most pay more attention to water development projects than to careful permitting.(U.S. Congress:1984:173). The general permit process also eliminates the normal public interest review, as well as the opportunity for other agencies to comment on a particular permit, and probably contributes to cumulative loss of wetland habitat to small-scale development.(U.S. Congress:1984:174).

Nationwide permits have also been criticized as allowing discharges of dredge and fill in several potentially important categorical areas, without close review from the Corps. Critics of nationwide permits have argued that the Corps has no authority to categorically exempt areas, rather than specific activities.(U.S. Congress:1984:171-72). Discharges must meet best management practices (BMPs) to the maximum extent "practicable," however, the Corps does not consistently monitor activities for compliance with these conditions.(U.S. Congress:1984: 177-78).

4.2. State of Florida

Florida's regulation of impacts to wetlands has matured from early pro-development approaches to the passage of the Henderson Wetlands Protection Act in 1984,⁴⁰ to the Environmental Reorganization Act of 1993. Before passage of the Environmental Reorganization Act of 1993, impacts to wetlands were addressed by the DEP under the Henderson Act, and by

⁴⁰ FLA. STAT. §§ 403.91-403.938 (1991 & Supp. 1992).

the WMDs under the Water Resources Act.⁴¹ The Henderson Wetlands Protection Act prohibited any dredging or filling in surface waters without a permit. Exemptions were granted to phosphate mining and certain agricultural activities. Permit applicants had to provide reasonable assurances to the DEP that state water quality standards would not be violated, and that the project was not contrary to the public interest. If a project would affect or be located in certain areas known as Outstanding Florida Waters, such projects were required to be clearly in the public interest.

Determining the public interest required consideration of:

- 1) Adverse effects on public health, safety, welfare, or property of others.
- 2) Adverse effects on conservation of fish and wildlife, including endangered or threatened species or their habitats.
- 3) Adverse effects on navigation, the flow of water, harmful erosion or shoaling.
- 4) Adverse effects on fishing, recreational values, or marine productivity in the vicinity of the project.
- 5) Whether the project is temporary or permanent.
- 6) Adverse effects on or enhancement of significant historical and archeological resources.
- 7) Current condition and relative value of functions being performed by areas affected by the proposed activity.

If a project could not pass both water quality and public interest tests, the DEP was required to explore various project modifications that would reduce or eliminate the adverse impacts and allow the issuance of the permit. If after consideration of practicable alternatives, the project still did not meet requirements, the DEP could accept mitigation to offset any remaining adverse impacts. For water quality impacts, the DEP was required to consider mitigation measures proposed by or acceptable to the applicant that generated net improvement of water quality. For public interest test problems, the DEP was required to consider miti-

⁴¹ FLA. STAT. Ch. 373 (1991).

gation to offset the effects that would occur as a result of the project. Mitigation was defined as an action or series of actions that would offset the adverse impacts on the waters of the state that prevented the permitting of the project. These could not include cash payments unless specified for use in a designated restoration project.

The Henderson Act also required consideration of cumulative impacts and secondary impacts from proposed projects. Cumulative effects refer to potential impacts from the additive effects of many similar projects. The purpose of the analysis was to insure that DEP would consider the cumulative impacts of similar projects which are existing, under construction, or reasonably expected in the future. The secondary impact analysis took into consideration impacts that could result in the immediate future from the proposed project.

The second form of wetlands regulation by state agencies occurred under Part IV of Water Resources Act. Under the Act, the WMDs were authorized to regulate the construction, alteration, maintenance, operation, abandonment, and removal of dams, impoundments, reservoirs, works and appurtenant works. The statutory definitions of these terms encompass a broad range of development activities which are required to obtain permits for the management and storage of surface waters (MSSW).

The legislation required a permit for the construction, alteration, maintenance and operation of most real property improvements designed to control or impound surface waters in "waters in the state," which included "any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state." Wetlands are considered one type of "waters in the state" in which activities may be regulated. Regulatory authority for isolated wetlands outside DEP's dredge and fill jurisdiction was given to most of the districts in 1986. This statutory provision required WMDs that had been delegated stormwater permitting authority to adopt rules establishing more specific permitting criteria and size thresholds for isolated wetlands.

The relevant WMDs had adopted separate MSSW rules which varied in many ways. Basically, if the size or impacts of a proposed project fell below certain established thresholds, that project might qualify for a general permit, with very little permit review by District staff. If the proposed project exceeded these thresholds, it would be required to obtain an individual permit, with full review of the project's impacts. There were different definitions of wetlands in each District, separate permitting processes, different approaches to mitigation, and different thresholds for a general permit.

Generally, in order to qualify for a permit, an applicant was required to demonstrate that construction or alteration of a system would not be harmful to the water resources of the district, and that the operation and maintenance of the system would not be inconsistent with the overall objectives of the district or harmful to the water resources of the district. Chapter 373 expressly exempts certain activities from the MSSW permitting program. Normal agriculture, forestry, floriculture, or horticulture activities are exempt from the MSSW rule unless the sole or predominant purpose of the alteration is to impound or obstruct surface waters. In addition, the MSSW rule does not apply to the construction, operation, or maintenance of closed agricultural systems. However, the "taking and discharging of water for filling, replenishing, and maintaining the water level" of a closed agricultural system is subject to consumptive use regulations, and dams, dikes, and levees must be constructed, operated, and maintained to conform with generally accepted engineering practices.

The Environmental Reorganization Act of 1993 consolidated dredge and fill permits, management and storage of surface water (MSSW) permits, and permits for the alteration of mangroves into a single "environmental resource permit," or ERP. Formerly, the three types of permits were handled by different agencies. The reorganization effort was part of a general movement toward streamlining the environmental permitting process in Florida, based on a growing concern over multiple agencies with overlapping jurisdictions and frequently conflicting requirements. The ERP is now issued by either the DEP or the appropriate WMD. The water management districts have responsibility for all but the most complex dredge and fill proposals.

The Act replaces the slightly varied definitions used by the various state and local government agencies with a statutory definition of a wetland, to be used as part of a unified statewide methodology. The definition generally defines wetlands as areas inundated or saturated by surface water or ground water at a frequency and duration sufficient to support a prevalence of vegetation adapted for life in wet soil conditions. The DEP has adopted rules which refine the general statutory definition, by including specific criteria for soils and hydrological characteristics, and lists of vegetative indicator species. This standardized methodology has reduced controversies concerning which areas are subject to the permitting process. The Reorganization Act reiterated much of the operative permitting language of the Henderson Act, and required the DEP and WMDs to create dredge and fill rules relying primarily on the existing rules.

5. Towards watershed protection

5.1. Surface Water Improvement and Management Act (SWIM)

The Surface Water Improvement and Management Act⁴² was adopted in 1987 to help address several problems associated with the state's surface waters. Among the many functions of surface waters recognized by the Act are included: (a) providing aesthetic and recreational pleasure, (b) providing habitat for native plants, fish, and wildlife, including endangered and threatened species, (c) providing safe drinking water, and (d) attracting visitors and accruing other economic benefits. Factors contributing to the decline in these values include point and nonpoint sources of pollution, and destruction of the natural systems which purify surface waters and provide habitat.

The Act requires the water management districts to develop prioritized lists of water bodies in need of restoration or protection, with the highest needs for water quality restoration. Criteria for evaluating waterbodies include consideration of water quality standards violations, nutrients entering the waterbody and its trophic state, existence or need for aquatic

⁴² FLA. STAT. §§ 373.451–373.4595 (1989).

weed control, biological condition of the waterbody, reduced fish and wild-life values, and threats to public water supplies.

Once priority lists are established and approved by the DEP, the districts are required to develop surface water improvement and management (SWIM) plans for each listed waterbody. The plans must include a wide range of information involving:

- 1) the history and hydrology of the waterbody,
- 2) applicable regulatory jurisdictions,
- 3) land uses within the drainage basin and those of important tributaries,
- 4) a list of pollution sources and their owners,
- 5) a description of the existing and potential strategies for restoring or protecting the waterbody to Class III standards or better,
- 6) listings of existing and planned studies of the waterbody,
- 7) the research and feasibility studies to be performed to determine the necessary restoration strategies,
- 8) measures needed to manage and maintain the waterbody once it has been restored,
- 9) a schedule for restoration and protection of the waterbody, and
- 10) estimates of the funding needed to carry out restoration or protection strategies.⁴³

Before presentation to the water management district governing board for approval, a proposed SWIM plan must be submitted to the DEP, the Department of Agriculture and Consumer Services, the Department of Community Affairs, the Florida Game and Fresh Water Fish Commission, and relevant local governments. After considering the comments and recommendations of these agencies and the public, the governing board must approve the plan and submit it to the DEP for a final review, to assure consistency with the State Water Policy and the State Comprehensive Plan. The changes which DEP recommends in order to achieve consistency may or

⁴³ FLA. STAT. § 373.453(2) (1989).

may not be adopted by the governing board. If they are adopted, the district must publish notice of adoption of the approved plan. If the recommendations are not adopted, the plan must state the reasons for not adopting them. Plans must be updated every three years.

5.2. Wekiva River Protection Act⁴⁴

In February of 1988, amid intense public concern over increasing development near the Wekiva River, the Governor of Florida issued an executive order creating the Wekiva River Task Force.⁴⁵ The order directed the Task Force to create a report describing and evaluating existing planning, regulatory, and land acquisition programs of state, regional, and local government which pertain to the management and protection of the Wekiva River. In May of 1988, the Task Force submitted its report, which recommended new legislation and changes in current planning, management, and regulatory processes.⁴⁶

In response to the recommendations, state, regional, and local governments provided additional regulatory protection for the Wekiva River System. The Florida legislature enacted the Wekiva River Protection Act⁴⁷ (Act), which directed the counties having jurisdiction within the Wekiva River Protection Area (Wekiva Area) to revise their comprehensive plans and land development regulations to protect the Wekiva Area. The Act required the counties to adopt goals, policies, and objectives for the Wekiva Area which would protect: water quantity, water quality, and hydrology; wetlands; aquatic and wetland-dependent wildlife species; habitat of endangered and threatened species, and species of special concern; and native vegetation.

County comprehensive plans must include:

⁴⁴ See Whitney, N.S. & J.C. Elledge, *Effective Environmental Action: The Case of the Wekiva River*, WATER: LAWS AND MANAGEMENT 9B-13 (Sept., 1989) (published in the proceedings of a conference sponsored by the American Water Resources Association, Tampa, Florida, Sept. 17-22, 1989); Lowe, G. & C. Salafrio, *The Evolution of Wetland Regulation Under Chapter 40C-4, F.A.C.*, WETLANDS: CONCERNS AND SUCCESSES 557 (1989) (published in the proceedings of a conference sponsored by the American Water Resources Association, Tampa, Fla., Sept. 17-22, 1989).

⁴⁵ Fla. Exec. Order No. 88-26 (Feb. 4, 1988).

⁴⁶ Wekiva River Task Force, Report to Governor Bob Martinez (May 20, 1988).

⁴⁷ FLA. STAT. § 369.301 (1989).

- 1) Provisions to ensure the preservation of sufficient habitat for wild-life species which are under pressure.
- 2) Restrictions on the clearing of native vegetation within the 100-year flood plain.
- 3) Prohibition of development that is not low-density residential in nature, unless that development has less impacts on natural resources than low-density development.
- 4) Provisions for setbacks along the Wekiva River.
- 5) Restrictions on intensity of development adjacent to publicly owned lands.
- 6) Restrictions on filling and alteration of wetlands in the Wekiva River Protection Area.
- 7) Provisions encouraging clustering of residential development when it promotes protection of environmentally sensitive areas.

The county comprehensive plans must require that development which is permitted on property adjacent to the Wekiva River be concentrated on portions of the property furthest away from surface waters and wetlands of the river system.

In addition to planning, the Act directed the counties to develop land development regulations to implement the Wekiva River protection provisions of their comprehensive plans. The counties must develop regulations restricting the location of septic tanks within the 100 year floodplain and discharges of stormwater to the river system.

The Act required the St. Johns River Water Management District to adopt rules establishing protection zones along the watercourses in the Wekiva River System.⁴⁸ The protection zones had to be wide enough to “prevent harm to the Wekiva River System, including water quality, water quantity, hydrology, wetlands, and aquatic and wetland-dependent species” from activities regulated by the MSSW permitting program. The Water

⁴⁸ FLA. STAT. § 373.415 (1989). The boundaries of the Wekiva River System are defined in FLA. STAT. § 369.303(10) (1989).

Management District was required to consider the following factors when determining the widths of the protection zones:

- 1) The biological significance of the wetlands and uplands adjacent to the designated watercourses... including the nesting, feeding, breeding, and resting needs of aquatic species and wetland-dependent species.
- 2) The sensitivity of these species to disturbance, including the short-term and long-term adaptability to disturbance of the more sensitive species, both migratory and resident.
- 3) The susceptibility of these lands to erosion, including the slope, soils, runoff characteristics, and vegetative cover.

The Act prohibits the Water Management District from issuing an ERP permit without first obtaining the appropriate local government's certification that the proposed activity is consistent with the local comprehensive plan and is in compliance with land development regulations. An ERP permit is required prior to the "construction, alteration, operation, maintenance, abandonment or removal of a surface water management system" within the Basin which a.) serves a project with a total land area greater than or equal to ten acres (4 ha), b.) involves the placement of one half acre (0.2 ha) or more of impervious surface, or c.) is located within the Wekiva River Riparian Habitat Protection Zone.⁴⁹

Projects which trigger the ERP permitting thresholds within the Wekiva Basin must meet certain restrictive standards related to recharge rates, storage of stormwater, control of erosion and sedimentation, protection of water levels for wetlands, and protection of riparian wildlife habitat.

The rule creates a Riparian Habitat Protection Zone which includes a.) wetlands abutting the river and its tributaries, b.) uplands within fifty feet (15 m) of abutting wetlands, and c.) uplands which are within 550 feet (168 m) of the river's edge.⁵⁰ A permit applicant must provide reasonable assurance that the construction or alteration of a system will not adversely affect

⁴⁹ Rule 40C-4.041(2)(b)3,5,8, FLA. ADMIN. CODE (1990).

⁵⁰ Rule 40C-41.063(e)1, FLA. ADMIN. CODE (1990).

the abundance, food sources, or habitat of aquatic or wetland dependent species provided by the zone. Within the Riparian Habitat Protection Zone, the construction of buildings, golf courses, impoundments, roads, canals, ditches, swales, and any land clearing resulting in the creation of any system is presumed to violate the Riparian Wildlife Habitat standard.

5.3. Econlockhatchee River Protection Rule

In 1989, the St. Johns River Water Management District funded a study to develop a natural resources development and protection plan for the Econlockhatchee River Basin. At the time, the area surrounding the Econlockhatchee (Econ) River Basin was one of the most rapidly growing areas in the nation and was under intense development pressure. At least 40 major developments involving over 34,000 acres (13,760 ha) had recently been approved within the Econ Basin. Many proposed developments were adjacent to the Big Econ River, which was relatively undeveloped.

The study was conducted by consultants who were required to develop a management plan to insure no net loss of water quality, quantity, or ecological functions of the systems through acquisition, management, and land use regulations. In addition to receiving continual review by the District, the study was evaluated by the Econ River Task Force, a committee with representatives from diverse interest groups. The District and the Task Force endorsed many of the consultant's recommendations, although they condensed the recommendations and modified some of the more controversial provisions.

The study concluded that channelization of streams, rivers and tributaries of the Basin had lowered average water table levels, decreased the residence time of stormwater within the system, and decreased flooding of natural wetlands. Stormwater management systems consisting of open water ponds and straight connecting ditches maximize runoff and do not allow for adequate filtering of nutrients and pollutants. An upland buffer of natural vegetation had been removed along most of the Little Econ and some areas of the Big Econ. These buffers were needed to filter out non-point source pollution and sediments that are carried by surface water flows. Many

of the wildlife habitats within the Basin had been severely fragmented by land uses and highways.

The report found that existing local government plans and regulations did not adequately protect the natural resource values of the Econ Basin because they did not provide for protection of upland habitat adjacent to watercourses and wetlands. In addition, local governments did not protect small isolated wetlands. Environmental regulations were determined to be inadequate, despite a complex array of regional, state, and federal programs which pertained to natural resource values in the Econ Basin.

In developing a management plan for the Econ River, the report recommended the following objectives:

- 1) Maintain or improve water quality in the Econ River.
- 2) Approximate natural surface and groundwater table hydrologic regimes.
- 3) Protect significant ecological communities in the Basin.
- 4) Maintain viable populations of all existing wildlife species.

The study identified critical areas within the basin based on the location, ecological function, or sensitive nature of the area, and then proposed management and development guidelines for each such area. It was recommended that Econ protection provisions be implemented through existing District regulatory programs and local government planning and land development regulation programs.

Specifically, it was recommended that the District amend its ERP and stormwater regulations to prevent activities which would adversely affect the natural resources of the Econ Basin. The District rules should be amended to preserve riverine wetlands, establish 550 foot (168 m) buffers along each side of the river to protect water quality and aquatic and wetland-dependent species, limit groundwater drawdowns, strengthen stormwater permitting criteria, and provide for upland buffers adjacent to isolated wetlands. The study recommended that local governments implement additional protection measures including an additional 550 foot (168 m) buffer to protect upland species. It also recommended that state

environmental and growth management agencies take additional actions to protect the river, such as lowering the threshold for state and regional review of certain large developments and classifying the Econ River as an “Outstanding Florida Water.”

Despite strong developer opposition, the District ultimately adopted a rule which contains many of the recommendations from the report, and establishes development standards and review criteria similar to those adopted for the Wekiva River.

Conclusion

Though the state of Florida has developed some of the more well-respected approaches to regulating impacts to water quality and availability, as well as to the environmental aspects of water resources, the state’s policies and programs continue to evolve. Generally speaking, regulatory approaches appear to be moving towards consolidation of programs and the streamlining of regulatory review. At the same time, there is growing appreciation of the interrelationships between functions and components of natural systems, and initial attempts at incorporating these insights into planning and regulatory processes. The success of these efforts will determine whether Florida is able to maintain a superior quality of life in the face of increasing population and development pressures.

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