

“The Wekiva: Recognizing the Rights of a River”

Earth Jurisprudence

Karen Greene

April 14, 2008

“[A] man is rich in proportion to the number of things which he can afford to let alone.”¹

© All Rights Reserved, Karen Greene, 2008

¹ THOREAU, HENRY DAVID, WALDEN AND OTHER WRITINGS 166 (Joseph Wood Krutch ed., Bantam Classic Books 1989) (1854).

I. Introduction

The Wekiva River is located approximately twelve miles north of Orlando. The river runs fifteen miles from its headwater spring, located in the Wekiwa² Spring State Park, to the St. Johns River. The Wekiva River is protected by a variety of state and federal laws and has been called the most protected river in Florida.³ The Wekiva River Basin is in a transition area between temperate and sub-tropical climatic zones, and as a result, fourteen distinct native plant communities have been identified in the Wekiva Basin.⁴ These varied habitats are so diverse that the 100 or so endangered Florida black bears living in the Basin require only about one-third of the territory of bears elsewhere.⁵

Dr. Bruce Stephenson, Professor of Environmental Studies at Rollins College, states, “The Wekiva River is one of the few places in Central Florida where you can have the same experience that your grandfather and even your great-great grandfather might have had.”⁶ However, there are still significant challenges facing the river. The two most critical challenges are retaining the water quantity and quality in the river.⁷ Water quantity and quality are directly impacted by the activities of people living in the river basin.⁸

In addition to enforcing the existing laws, it is time to take a new step in the protection of the Wekiva River. We must explicitly recognize the right of the river to exist. This recognition

² The names of the river and the spring come from the Creek/Seminole language. The term ‘Wekiwa’ means ‘spring of water’ or ‘bubbling water.’ The term ‘Wekiva’ means ‘flowing water.’ This slight variation in spelling causes some confusion, but the two terms are not interchangeable. Wekiwa is properly used for the name of the spring as well as for Wekiwa Springs State Park, which is named after the spring. Wekiva is properly used for the name of the river which flows out of the spring. WEKIVA: LEGACY OR LOSS? (WMFE television broadcast Nov. 15, 2000).

³ BELLEVILLE, BILL. RIVER OF LAKES 73 (The University of Georgia Press 2000); WEKIVA: LEGACY OR LOSS?, *supra*.

⁴ PANDION SYSTEMS, INC., INVENTORY OF EXISTING CONDITIONS: WEKIVA NATIONAL WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN 25 (2007), *available at* <http://www.pandionsystems.com/pdf/reports/Inventory.Existing.Conditions.Wekiva.17Sept2007.pdf>.

⁵ WEKIVA: LEGACY OR LOSS?, *supra* note 2.

⁶ *Id.*

⁷ PANDION SYSTEMS, INC., *supra* note 4 at 41.

⁸ *Id.*

must come with a corresponding sense of duty towards the river and an awareness that human activities will need to be restricted in order to preserve the river. In order to balance the needs of the human population in the Wekiva Springshed with the right of the river to exist, it will be necessary to adopt principles of Earth jurisprudence into our legal systems. As a foundational basis for these laws, we must develop a moral or ethical system which recognizes that human beings are an integral part of the whole Earth system and therefore cannot flourish without recognizing that system.⁹

II. Principles of Earth Jurisprudence

Aldo Leopold wrote, “We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man.”¹⁰ Leopold proposed that the time was ripe for humanity to extend its sense of ethics to cover the natural world of which we are a part.¹¹ He defined an ecological ethic as “a limitation on freedom of action in the struggle for existence.”¹²

Thomas Berry has proposed that history has been shaped by movements – which he called the Great Work of the people of a particular time and place – that give meaning to life by relating “the human venture to the larger destinies of the universe.”¹³ He further proposes that the Great Work of the present generation is to “transition from a period of human devastation of the Earth to a period when humans [will] be present to the planet in a mutually beneficial

⁹ CULLINAN, CORMAC, Symposium Presentation: Framing an Earth Jurisprudence for the Planet Earth, held by Barry Law Review and the Center for Earth Jurisprudence (Feb. 28-29, 2008) (*available at* <http://www.earthjuris.org/events/02-08symposium/02-08symposium.htm>).

¹⁰ ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* viii (Oxford University Press 1968) (1949).

¹¹ *Id.* at 203.

¹² *Id.* at 202.

¹³ BERRY, THOMAS, *THE GREAT WORK: OUR WAY INTO THE FUTURE* 1 (Bell Tower 1999).

manner.”¹⁴ As part of this Great Work, we will need to revision the four basic establishments of human life: the government, the religious traditions, the university, and the commercial-industrial corporations.¹⁵ Our legal system is essentially an ethical system, recognizing the rights of individuals while at the same time balancing those rights against each other as well as against duties or responsibilities each individual has to others. Therefore, developing an ecological ethic in order to complete the Great Work of our generation requires developing an ecological jurisprudence.

Our current legal system does a poor job of regulating human behavior for the protection of the earth because that is not what our current legal system is designed to do.¹⁶ Our legal system gives expression to an underlying and defective worldview that treats most aspects of the planet earth as property or objects.¹⁷ “It is simply legally inconceivable for an object to hold rights.”¹⁸ Considering the earth and its living systems as objects denies the nature of their existence and results in treating them as outlaws.¹⁹ Existing environmental legislation does not confer rights on non-humans, but instead limits human behavior, usually to ensure human use of the non-human entity.²⁰ We need to recognize the rights of non-human entities and then overcome the difficulties of protecting those rights.²¹

Earth Jurisprudence is a redefinition of “our ideas of law and governance in order to establish a sound basis for developing laws and political institutions that strengthen mutually beneficial relations between humans and the rest of the biosphere.”²² Thomas Berry has

¹⁴ *Id.* at 3.

¹⁵ *Id.* at 72.

¹⁶ *Id.* at 66.

¹⁷ *Id.* at 67

¹⁸ *Id.* at 68.

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.* at 67-68.

²² *Id.* at 17.

developed *Ten Principles for Jurisprudence Revision* based on Earth Jurisprudence.²³ These principles assist in defining the rights of natural objects. We should use these principles to recognize the rights of the Wekiva in order to further protect this nearly pristine river.

III. Structure of the Wekiwa Springshed

The Florida Peninsula is the exposed portion of a Florida Platform and represents less than half of the total platform.²⁴ The Florida Platform is made up of three layers of rock, each with widely varying composition.²⁵ The lowest layer is the oldest and consists of igneous, metamorphic and sedimentary rocks.²⁶ The middle layer consists of variable carbonate sediments, primarily limestone and dolostone.²⁷ The upper layer consists of sand, silt, and clay mixed with variable amounts of limestone and shell.²⁸ Various geological forces caused fractures in the sediments.²⁹ Rain, made slightly acidic by carbon dioxide in the atmosphere and organic acids in the soil, dissolved some of the limestone to expand the already existing fractures, forming caves and tunnels.³⁰ The resulting topography is referred to as 'karst,' a term used to describe landforms which have been modified by the dissolution of soluble rocks.³¹ Water flows freely throughout the caverns and fractures created by this process.³²

²³ BERRY, THOMAS, *EVENING THOUGHTS: REFLECTING ON EARTH AS SACRED COMMUNITY* 149 (Sierra Club Books 2006).

²⁴ SCOTT, THOMAS M. ET AL., *FLA. GEOLOGICAL SURVEY, BULLETIN NO. 66: SPRINGS OF FLORIDA* 14 (2004), available at <http://www.dep.state.fl.us/geology/geologictopics/springs/bulletin66.htm>.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.* at 352.

³² *Id.* at 14.

The water flowing through these caverns and fractures creates three aquifers under Florida: the Floridian, Intermediate and Surficial Aquifer Systems.³³ The Floridian is the deepest of the aquifers.³⁴ In some sections, the Intermediate Aquifer System is above the Floridian.³⁵ The Surficial Aquifer overlays the Intermediate Aquifer where it is present and the Floridian Aquifer where the Intermediate Aquifer is absent.³⁶

Rainwater percolates through the ground to ‘recharge’ the aquifer.³⁷ The amount of rain which makes it into the aquifer varies throughout the state.³⁸ In some areas, more than ten inches of rain per year return to the aquifer.³⁹ In other areas, known as ‘discharge areas,’ water flows out of the aquifer.⁴⁰ Rates of recharge and discharge are affected by the underlying soil composition, but also by property development as rain cannot soak through pavement.⁴¹

Springs form when water in the aquifer (called groundwater) is forced to the surface through openings in the ground.⁴² As of 2004, more than 700 springs were known to exist in Florida, and more are found each year.⁴³ The majority of the springs occur in the north-central part of Florida because the aquifer is closest to the surface.⁴⁴ Springs are classified by their magnitude on a scale from 1 to 8, with a spring magnitude of 1 indicating a flow of greater than or equal to 64.6 million gallons per day (mgd) and a spring magnitude of 8 indicating a flow of

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.* at 23.

³⁸ PURDHAM, ELIZABETH D., FLORIDA WATERS: A WATER RESOURCES MANUAL FROM FLORIDA’S WATER MANAGEMENT DISTRICTS 54 (2002), *available at* http://www.sjrwmd.com/floridawaters/pdfs/floridawaters_complete.pdf.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.* at 54-55.

⁴² FLA. DEP’T OF ENVTL. PROT., THE JOURNEY OF WATER: GETTING TO THE SOURCE OF SPRINGS, *available at* <http://www.floridasprings.org/anatomy/jow/text>.

⁴³ SCOTT, *supra* at 3.

⁴⁴ FLA. DEP’T OF ENVTL. PROT., THE JOURNEY OF WATER *supra* note 42.

less than a pint per minute,⁴⁵ which is approximately 180 gallons per day. Since the flow of a spring can change over time, a spring's magnitude should be the median of values measured over a period of time and, ideally, the measurement should be taken in the spring vent or seep.⁴⁶ Water coming out of a spring may have been underground for days, weeks, months, years, or decades depending on the path it took to get into the ground.⁴⁷

The Wekiva River is a spring fed river.⁴⁸ Three tributaries drain into the Wekiva River: Rock Springs Run, Blackwater Creek, and the Little Wekiva River.⁴⁹ In total, at least twenty-seven springs feed the Wekiva River and its tributaries.⁵⁰ In addition to water from the springs, the Wekiva and its tributaries also receive surface water runoff.⁵¹ As a result, the Wekiva has two watersheds: the Wekiva Basin (surface water) and the Wekiwa Springshed (groundwater).⁵²

IV. The Most Protected River in Florida

The Wekiva has been called the most protected river in Florida.⁵³ More than 73,000 acres of land surrounding the Wekiva and its tributaries are in public ownership.⁵⁴ This land is managed by several entities, including the Florida Park Service, Florida Division of Forestry, St. John's River Water Management District (SJRWMD), and Orange County.⁵⁵ In addition, the Wekiva has been protected by both Federal and Florida State Legislation.

⁴⁵ FLA. GEOLOGICAL SURVEY, SPECIAL PUBL'N NO. 52: FLORIDA SPRING CLASSIFICATION SYSTEM AND SPRING GLOSSARY 13-14 (compiled by Rick Copeland) (2003), *available at* http://www.dep.state.fl.us/geology/geologictopics/springs/sp_52.pdf.

⁴⁶ *Id.* at 14.

⁴⁷ PANDION SYSTEMS, INC., *supra* note 4 at 1.

⁴⁸ *Id.*

⁴⁹ *See, Id.* at 5.

⁵⁰ FLA. DEP'T OF ENVTL. PROT., A STRATEGY FOR WATER QUALITY PROTECTION: WASTEWATER TREATMENT IN THE WEKIVA STUDY AREA, <http://www.dep.state.fl.us/central/home/water/wekivastudy.htm>.

⁵¹ PANDION SYSTEMS, INC., *supra* note 4 at 4.

⁵² *Id.* at 1.

⁵³ BELLEVILLE, *supra* note 3 at 73; WEKIVA: LEGACY OR LOSS?, *supra* note 2.

⁵⁴ PANDION SYSTEMS, INC., *supra* note 4 at 2.

⁵⁵ *Id.*

A. State Protections

1. General Protection and Miscellaneous Designations

Water in Florida is generally protected. The Florida Constitution states, “It shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provision shall be made by law for the abatement of air and water pollution . . . and for the conservation and protection of natural resources.”⁵⁶ This constitutional provision is reflected in Florida Statutes, which declare “the public policy of this state [is] to conserve the waters of the state.”⁵⁷

In addition to the general protection of the state’s waters, the Wekiva has been given specific protection under a variety of state designations. In 1983, the Wekiva was designated an Outstanding Florida Water (OFW).⁵⁸ Florida Department of Environmental Protection (DEP) policy affords OFW the highest level of protection and permits no degradation in water quality.⁵⁹ The Wekiva is also protected as an Aquatic Preserve, State Canoe Trail, and a State Wild and Scenic River.⁶⁰

2. Protection of the Land Surrounding the Wekiva River

More than 73,000 acres of land surrounding the Wekiva and its tributaries are in public ownership.⁶¹ This land was acquired over many years, beginning with the 1968 purchase of the approximately 7,700 acres which now make up the Wekiwa Springs State Park.⁶² The most recent acquisition of land in the Wekiva Basin was the purchase by SJRWMD of property

⁵⁶ FLA. CONST. art. II § 7(a).

⁵⁷ FLA. STAT. § 403.021 (2007).

⁵⁸ FLA. ADMIN. CODE ANN. r. 62-302.700 (2008).

⁵⁹ *Id.*

⁶⁰ *Wekiva Wild and Scenic River Act: Hearing on H.R. 2773 Before the Subcomm. On National Parks and Public Lands*, 106th Cong. (2000) (statement of Deborah Deal, Secretary, Friends of the Wekiva River).

⁶¹ *Id.*

⁶² *Id.* at 2-3.

adjacent to Lake Norris,⁶³ the headwaters of Blackwater Creek. As a result of these purchases, the majority of the land surrounding the Wekiva River, Rock Springs Run, Blackwater Creek and the lower portions of the Little Wekiva River are protected.⁶⁴

⁶³ *Id.* at 3.

⁶⁴ *Id.* at 1.

3. Wekiva River Protection Act

The Wekiva River Protection Act⁶⁵ was originally passed in 1988⁶⁶ and declared the Wekiva River Protection Area to be “a natural resource of state and regional importance.”⁶⁷ The Act required Orange, Lake and Seminole counties to revise their comprehensive plans and land development regulations in order to provide for protection of the water, wildlife, habitat, and native vegetation within the Wekiva River System.⁶⁸ The Act specified that residential development “shall be of a rural density and character.”⁶⁹ Despite this decree, in the decade after the law was passed, Seminole County Commissioners approved 2400 new homes in the protected area – and made no effort to hide their personal friendships with local developers.⁷⁰

The Wekiva River Protection Act only addressed surface water influences on the river since the groundwater influences on the river were not as well understood as they are now.⁷¹ As a result, the Act only protected land within the river’s watershed, and did not include the land in the Wekiwa Springshed.⁷²

4. Wekiva Parkway and Protection Act

In 2004,⁷³ the Florida Legislature passed the Wekiva Parkway and Protection Act⁷⁴ due to concern over a proposed extensive highway in the Wekiva River Protection Area.⁷⁵ The highway is intended to connect the existing State Road 429 with Interstate 4.⁷⁶ The Wekiva Parkway and Protection Act was a collaborative effort by state and local governments, numerous

⁶⁵ FLA. STAT. § 369.301-.309

⁶⁶ PANDION SYSTEMS, INC., *supra* note 4 at 4.

⁶⁷ FLA. STAT. § 369.307(3) (2007).

⁶⁸ FLA. STAT § 369.305(1) (2007).

⁶⁹ FLA. STAT. § 369.305(1)(b)(7) (2007).

⁷⁰ BELLEVILLE, *supra* note 3 at 74.

⁷¹ PANDION SYSTEMS INC., *supra* note 4 at 4.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ FLA. STAT. § 369.314-.324 (2007).

⁷⁵ PANDION SYSTEMS, INC., *supra* note 4 at 4.

⁷⁶ FLA. STAT. § 369.317 (2007).

agencies, developers, and environmentalists working together.⁷⁷ The Act specifically authorizes the acquisition of the land needed for the building of the Parkway.⁷⁸ However, the majority of the Act details conservation values and studies needed for the protection of the Wekiva River.

The Act defines a Wekiva Study Area,⁷⁹ which accounts for approximately 60% of the estimated Wekiwa Springshed.⁸⁰ The Act requires several studies related to the quality and quantity of the water in the Wekiva.⁸¹ The master stormwater management plans, wastewater facility plans and comprehensive management plans of local governments are all required to be updated in order to comply with the provisions of the Wekiva Parkway and Protection Act and with the results of the studies mandated by the Act.⁸²

Many different organizations are involved in the regulation and protection of the Wekiva River. In order to assist in coordinating the efforts of these organizations, the Wekiva Parkway and Protection Act establishes a Wekiva River Basin Commission, which is comprised of nine voting and ten ad hoc nonvoting members.⁸³ The voting members consist of one member of each of the Boards of County Commissioners for Lake, Orange, and Seminole Counties; one municipal elected official from each of Lake, Orange, and Seminole Counties; a citizen representing an environment organization; a citizen representing a land developer; and one at-large citizen who serves as chair of the council.⁸⁴ The ad hoc nonvoting members include one representative from each of the following entities: SJRWMD, Department of Community Affairs, Department of Environmental Protection (DEP), Department of Health, Department of

⁷⁷ Keith Shue, *Making Good on the Wekiva Promise*, CURRENTS (Friends of the Wekiva River, Inc., Longwood, FL.), Winter 2005, at 1.

⁷⁸ FLA. STAT. § 369.317 (2007).

⁷⁹ FLA. STAT. § 369.316 (2007).

⁸⁰ PANDION SYSTEMS, INC., *supra* note 4 at 4.

⁸¹ FLA. STAT. § 369.318 (2007).

⁸² FLA. STAT. § 369.319-.321 (2007).

⁸³ FLA. STAT. § 369.324(1) (2007).

⁸⁴ *Id.*

Agriculture and Consumer Services, Fish and Wildlife Conservation Commission, Department of Transportation, MetroPlan Orlando, Orlando-Orange County Expressway Authority and Seminole County Expressway Authority.⁸⁵

B. Federal Protection

The National⁸⁶ Wild and Scenic River Act⁸⁷ was signed into law on October 2, 1968. The intent of the Act was to preserve rivers possessing “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values . . . in free-flowing condition.”⁸⁸ An important aspect of this legislation is that the Act prohibits any department or agency from assisting in the construction of any project on or directly affecting any designated river.⁸⁹ The Wekiva Wild and Scenic River Act of 2000 amended the National Wild and Scenic River Act in order to designate the Wekiva River, Wekiwa Springs Run, Rock Springs Run, and Blackwater Creek as part of the national wild and scenic rivers system.⁹⁰

The Wekiva River is unique compared to most national wild and scenic Rivers in two respects.⁹¹ First, much of the land surrounding the Wekiva is already protected in public ownership.⁹² Land protection is one of the key strategies usually recommended for protection of a river.⁹³ Second, the Wekiva is a spring fed river, so the hydrologic forces are more complex than those affecting rivers in other parts of the country.⁹⁴

⁸⁵ *Id.*

⁸⁶ Although the Act is called the “Wild and Scenic Rivers Act,” without the “National” descriptor, this article will refer to it as the “National Wild and Scenic Rivers Act” in order to distinguish it from the “Wekiva Wild and Scenic River Act” which added the Wekiva River to the National Act and the “Florida Wild and Scenic River” designation which has also been granted to the Wekiva River.

⁸⁷ Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-87.

⁸⁸ *Id.*

⁸⁹ 16 U.S.C. § 1278(a).

⁹⁰ Wekiva Wild and Scenic River Act of 2000, PUB. L. NO. 106-299, 114 Stat. 105.

⁹¹ PANDION SYSTEMS, INC., *supra* note 4 at 1.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

Designation as a National Wild and Scenic River requires the preparation of a comprehensive management plan (CMP) to provide for the protection of the river values.⁹⁵ The preparation of the CMP for the Wekiva River is currently in process, but a draft form has been released.⁹⁶ The draft CMP identifies five outstanding values for the Wekiva River – Scenic, Recreation, Wildlife and Habitat, Historic and Cultural, Water Quality and Quantity.⁹⁷ Water quality and quantity are critical to the nature of the river itself⁹⁸ and underlie all of the other values. In addition, human activities in the river basin and springshed have a strong impact on the water quality and quantity in the river.⁹⁹ For these reasons, this paper will mainly address the values of water quality and quantity.

V. Water Quality and Quantity

“The [Florida] Legislature [found] that, in general, Florida springs . . . are threatened by actual and potential flow reductions and declining water quality. As a result of climate patterns and population changes, over the past 30 years many of Florida’s springs have begun to exhibit signals of distress, including increasing nutrient loading and lowered water flow.”¹⁰⁰ Increased nutrient levels cause the degradation of aquatic communities.¹⁰¹ Nitrate, a negatively charged ion made up of nitrogen and oxygen, is probably the most problematic form of water pollutant since it is water soluble and can be used as a food source by algae and many other plants, resulting in excessive plant growth.¹⁰² Nitrate enters groundwater and surface water as a result

⁹⁵ 16 U.S.C. § 1274(d)(1).

⁹⁶ PANDION SYSTEMS, INC., *supra* note 4.

⁹⁷ *Id.* at i.

⁹⁸ *Id.* at 41.

⁹⁹ *Id.*

¹⁰⁰ FLA. STAT. § 369.315 (2007).

¹⁰¹ PANDION SYSTEMS, INC., *supra* note 4 at 46.

¹⁰² MACTEC, PHASE I REPORT: WEKIVA RIVER BASIN NITRATE SOURCING STUDY ES-3 (2007), *available at* <http://www.dep.state.fl.us/water/wekiva/docs/phase-i-final-report.pdf>.

of human influences like wastewater, septic tanks and fertilizers.¹⁰³ Maintaining the volume of water in a river is important because the character of the river is determined by its flow characteristics and because the flow impacts aquatic communities and sometimes water quality.¹⁰⁴

A. Water Quality

The Wekiva Parkway and Protection Act required a reduction of nitrogen levels in order to protect the surface and groundwater quality within the Wekiva Basin.¹⁰⁵ SJRWMD and DEP commissioned a study of nitrate sources within the Wekiva Basin. The Phase I Report is complete and consisted of collecting and synthesizing existing information in order to provide a preliminary understanding of nitrate levels within the Wekiva River Basin.¹⁰⁶ Based on the information collected, a Phase II study was designed which will consist of field collection and analyses in order to bridge information gaps identified in the Phase I Report.¹⁰⁷

Inputs are the actual sources of nitrogen.¹⁰⁸ The Phase I study used available information to determine input levels from fertilizers (broken into categories based on land use), livestock, wastewater discharge, septic tanks and atmospheric deposition.¹⁰⁹ Loadings are the portion of the inputs which actually reach surface water or groundwater.¹¹⁰ Some inputs are used for their intended purpose (for example, some fertilizer is taken up by plants rather than washing away in the surface water).¹¹¹ The groundwater loading in the Wekiva Basin is estimated at 1,700 metric

¹⁰³ *Id.* at ES-3-4.

¹⁰⁴ PANDION SYSTEMS, INC., *supra* note 4 at 46.

¹⁰⁵ FLA. STAT. § 369.318 (2007).

¹⁰⁶ MACTEC, *supra* note 102 at ES-1.

¹⁰⁷ *Id.*

¹⁰⁸ *See, Id.* at ES-4.

¹⁰⁹ *Id.* at ES-4-5.

¹¹⁰ *Id.* at ES-5.

¹¹¹ *Id.* at ES-5-6.

tons of nitrate a year.¹¹² However, the springs in the Wekiva Basin only discharge approximately 230 metric tons of nitrate per year.¹¹³ This discrepancy may be caused by a variety of reasons: overestimation of loadings, a reduction in nitrate levels caused by chemical processes occurring while the groundwater moves from its source to the springs, groundwater underflowing the springs and discharging outside the Wekiva Basin, or discharges may reflect the result of loadings some time in the past.¹¹⁴ The latter possibility reflects the fact that water coming out of a spring may have been underground for days, weeks, months, years, or decades depending on the path it took to get into the ground.¹¹⁵

As of 2004, 54% of land use in the Wekiva Study area is forest or open land.¹¹⁶ Residential uses account for 24% of land use and 13% of land use is agricultural.¹¹⁷ The remaining 9% is comprised of a mixture of transportation, commercial, industrial, institutional and golf course or other recreational uses.¹¹⁸ Residential use is a large portion of the land use, accounting for 41% of the nitrate loading to the Wekiva Basin.¹¹⁹ Agricultural land use accounts for 33% of nitrate loading in the Basin.¹²⁰ When considered by source rather than land use, 54% of nitrate loading comes from fertilizers (this includes all fertilizer regardless of the underlying land use).¹²¹ Septic tanks account for 22% of nitrate loading by source and domestic wastewater accounts for 10%.¹²² However you look at the data, it is clear that human activity, in particular

¹¹² *Id.* at ES-7.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ PANDION SYSTEMS, INC., *supra* note 4 at 1.

¹¹⁶ MACTEC, *supra* note 102 at 1-4.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.* at ES-8.

¹²⁰ *Id.*

¹²¹ *Id.* at ES-7.

¹²² *Id.*

fertilizer use for our lawns and crops, is the major source of nitrates entering the groundwater in the Wekiva Basin.

B. Water Quantity

Nine out of ten Floridians get their water from the aquifer.¹²³ In 2005, approximately 1.3 billion gallons of fresh water were used per day in the SJRWMD.¹²⁴ The public water supply accounted for 46% and agriculture accounted for 30% of the fresh water used.¹²⁵ By 2025, water usage in the SJRWMD is expected to increase to 1.8 billion gallons per day, an increase of approximately 42%.¹²⁶ On average, each person in the SJRWMD currently uses 160 gallons of water per day.¹²⁷ Lawn and landscape irrigation can account for more than 50% of residential water use.¹²⁸

The United States withdrew less total freshwater in 2000 than it did in 1975, despite population growth.¹²⁹ In addition, per capita use nationally was less in 2000 than in 1975.¹³⁰ However, the trend is the opposite in Florida – total freshwater withdrawals increased by 46% between 1970 and 2000.¹³¹ Per capita freshwater use in Florida was 140 gallons per day in 1955; in 2000 per capita freshwater use in Florida was 174 gallons per day.¹³² In developing countries, 20 to 30 liters (approximately 5.5 to 8 gallons) per day per capita are considered sufficient to meet basic human needs.¹³³

¹²³ WEKIVA: LEGACY OR LOSS, *supra* note 2.

¹²⁴ FLA. DEP'T OF ENVTL. PROT., TAPPING NEW SOURCES: MEETING 2005 WATER SUPPLY NEEDS 23 *available at* http://www.dep.state.fl.us/water/waterpolicy/docs/RWSP_ASR_2006.pdf.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ SJRWMD, *Do Your Part to Save Water and Money*, Florida Water: It's Worth Saving, *available at* <http://www.sjrwmd.com/floridaswater/conservation/index.html> (last visited Apr. 13, 2008).

¹²⁸ SJRWMD, Lawn and Landscape Irrigation Rule Frequently Asked Questions, <http://sjr.state.fl.us/irrigationrule/FAQs.html> (last visited Apr. 13, 2008).

¹²⁹ Cynthia Barnett, *Unfiltered: The Truth About Water in Florida*, FLORIDA TREND, August 2005, at 40, 44.

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Id.*

¹³³ <http://www.un.org/waterforlifedecade/factsheet.html>

By 2025, water usage in the SJRWMD is expected to increase to 1.8 billion gallons per day, an increase of approximately 42%.¹³⁴ In order to meet the increase in demand, SJRWMD is pursuing a variety of alternative water supply development plans – including six surface water projects¹³⁵ which involve directly tapping the St. Johns River.¹³⁶ While developing alternative water sources, SJRWMD is constrained to keep impacts on rivers, springs, and groundwater levels at an acceptable level.¹³⁷

“M[inimum] F[low] L[evel]s define for how often and for how long high, average, and low water levels and/or flow should occur to prevent significant harm” to an aquatic system.¹³⁸ Minimum Flow Levels (MFLs) have been set for eight of the springs in the Wekiva System, as well as for the river itself and Blackwater Creek.¹³⁹ The Wekiva Parkway and Protection Act required SJRWMD to update the MFLs for Rock Springs and Wekiva Springs.¹⁴⁰

Flow data for both Wekiwa Springs and Rock Springs show a trend of decreasing springflow between the early 1970s and 2003.¹⁴¹ Factors contributing to this decline may include effects of urbanization, groundwater pumping, and a long-term decline in annual rainfall.¹⁴² All of these factors are a direct result of human activity.

The water quality and quantity of a river are the very essence of a river’s being. If we fail to protect the water quality and quantity of the Wekiva River, we fail to protect the river in any meaningful sense. The existing legislation and regulation of water issues in the Wekiva Basin

¹³⁴ FLA. DEP’T OF ENVTL. PROT., TAPPING NEW SOURCES, *supra* note 124 at 23.

¹³⁵ *Id.* 24.

¹³⁶ SJRWMD, WATER FOR THE FUTURE: WATER SUPPLY ASSESSMENT AND WATER SUPPLY PLAN 1, 4, *available at* http://www.sjrwmd.com/publications/pdfs/fs_watsupply_assessment.pdf.

¹³⁷ *Id.* at 2.

¹³⁸ SJRWMD, WATER FOR THE FUTURE: MINIMUM FLOWS AND LEVELS, *available at* http://sjr.state.fl.us/publications/pdfs/fs_minflowlevels.pdf.

¹³⁹ FLA. ADMIN. CODE ANN. r. 40C-8.031(1)(a)-(c) (2007).

¹⁴⁰ FLA. STAT. § 369.318(6) (2007).

¹⁴¹ PANDION SYSTEMS, INC., *supra* note 4 at 46.

¹⁴² *Id.*

indicates a desire that the Wekiva continue to exist in as natural a state as possible. However, the reasons given for the river's continued existence are generally related to human water and recreational needs rather than a recognition of the intrinsic value of the river. In order to move forward with the task of protecting the river in the future, we should explicitly acknowledge the right of the river to exist for its own sake.

VI. Earth Jurisprudence Provides a Framework for Protecting the Rights of the River.

The first and most important step in developing Earth Jurisprudence principles is recognizing that other members of the Earth Community have rights.¹⁴³ Once we have this recognition, we can develop an Earth Jurisprudence which “reflect[s] a particular human community's understanding of how to regulate itself as part of the Earth Community.”¹⁴⁴ Thomas Berry developed *Ten Principles for Jurisprudence Revision* based on principles of Earth Jurisprudence.¹⁴⁵ All of these principles are helpful in developing a recognition of the rights of non-human entities. However, we will only consider three of these principles in developing the concept of rights for the Wekiva River.

1. “*The natural world on planet Earth gets its rights from the same source that humans get their rights: from the universe that brought them into being.*”¹⁴⁶

The American Declaration of Independence declares that people are entitled to a “separate and equal station [by] the Laws of Nature and of Nature's God.”¹⁴⁷ The station referenced is a political system of self-governance, in this case, one separate from England. The turn of phrase relies on the Founders' understanding that human self-governance gains its

¹⁴³ CULLINAN, *WILD LAW: A MANIFESTO FOR EARTH JUSTICE* 116 (GREEN BOOKS 2002).

¹⁴⁴ *Id.* at 125.

¹⁴⁵ BERRY, *EVENING THOUGHTS*, *supra* note 23 at 149.

¹⁴⁶ *Id.*

¹⁴⁷ THE DECLARATION OF INDEPENDENCE para. 1 (U.S. 1776).

authority from Laws of Nature and is at the same time somehow elevated onto a separate level. We can reclaim this phrase and use it to create a system of governance which recognizes that since human beings are part of Nature, our laws ought to coincide with the Laws of Nature and recognize the rights of all non-human components of the natural world.

We are faced with the same problem Copernicus faced centuries ago: we must acknowledge that humanity is not the center of all existence.¹⁴⁸ The problem is the same; we are simply viewing it from a new angle. Of course, whether we accept the proposition or not, it still remains true: humanity, and therefore human law, is a subsidiary of the Earth.¹⁴⁹ At times, as illustrated by the American Declaration of Independence, we have been able to recognize that authority for human law flows from the Laws of Nature.

However, humanity does not make up the whole of Nature. If there are Laws of Nature, those Laws should be for the benefit of each part of Nature. The American Declaration of Independence famously states, “We hold these truths to be self-evident, that all men are created equal, and are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness.”¹⁵⁰ In other words, if one person is to have the protection of the laws, then all people must have equal protection. This is a basic principle of governance. If humanity, as a part of nature, gains benefits and its legal authority from the Laws of Nature, then all of nature must have equal protection under Nature’s Law. Since human law is a subsidiary of the Laws of Nature, human laws should hold as self-evident that all of nature has certain unalienable rights.

¹⁴⁸ CULLINAN, WILD LAW, *supra* note 143 at 89.

¹⁴⁹ *Id.* at 90.

¹⁵⁰ THE DECLARATION OF INDEPENDENCE para. 2 (U.S. 1776).

2. “Every component of the Earth community, both living and nonliving, has three rights: the right to be, the right to habitat or a place to be, and the right to fulfill its role in the ever-renewing processes of the Earth community.”¹⁵¹

Thomas Berry’s enumeration of rights for members of the Earth Community clearly echoes those enumerated in the American Declaration of Independence.¹⁵² The right to Life is rephrased as a right to be. A river, for example, does not ‘live’ in the sense we generally use the term, but the river does exist and retains a right of existence. Recognizing a right to exist is a foundational premise for protecting the Wekiva River. The Wekiva’s two most critical challenges are retaining the water quantity and quality in the river.¹⁵³ If the river loses its water quality and quantity, it ceases to exist, or at the very least becomes something other than it was.

The right to Liberty implies a right be free from interference with existence. The traditional ‘American Dream’ of a house in the suburbs surrounded by a white picket fence grows out of this concept of freedom from interference. Americans seem to equate a certain sense of Liberty with the protection of a personal space where they can create the life they desire to live. Perhaps because this is so ingrained into people, we have an inherent ability to understand the need for nature to have a habitat. The main legal protections to the Wekiva River to date have been to protect the land surrounding the river, insuring that it has a place to be. However, while much of the land is currently legally protected, it is not guaranteed to the river as a right.

¹⁵¹ BERRY, EVENING THOUGHTS, *supra* note 23 at 149.

¹⁵² All rights are role specific. BERRY, EVENING THOUGHTS, *supra* note 23 at 149. Recently, the Spanish legislature passed a resolution granting great apes the right to life, the freedom of liberty and protection from torture. <http://blogs.discovermagazine.com/80beats/2008/06/27/great-apes-have-the-right-to-life-and-liberty-spain-says>.

The resolution marks the first time a national government has proposed granting legal rights to non-humans and is expected to become law within the next year. *Id.* Since great apes are so closely related to humans, it is perhaps logical that they would become the first non-human entity to be granted rights and that those rights would closely mirror ‘human rights.’ But non-human entities which are not as closely related to humans have roles and needs which are dramatically different not only from humanity, but also from each other. As Thomas Berry is fond of writing, “[t]he rights of an insect would be of no value to a tree or a fish.” BERRY, EVENING THOUGHTS, *supra* note 23 at 150. Each non-human entity has rights that flow naturally from the role that entity has in its environment. Therefore, the rights of each entity are unique to that entity.

¹⁵³ PANDION SYSTEMS, INC., *supra* note 4 at 41.

The Right to the Pursuit of Happiness is an ambiguous concept for humans. What does it really mean to be happy, and how exactly does one go about pursuing happiness? Each person on planet Earth would likely give a different answer to this question. Berry's conception of a right for a member of the Earth Community to fulfill its role in the ever-renewing processes of that community is analogous in complexity. The Wekiva River, for example, plays multiple roles in the Earth community. Some of those may be clear to us, like providing habitat for limpkins or a water source for humans. Others might reveal themselves if we look more carefully, like supporting a varied habitat for plants and animals and a protected travel route for foraging black bears. Perhaps others are hidden from us because we do not yet know the right questions to ask. Acknowledging the right of the Wekiva River to fulfill its role in the Earth community is only a beginning point as we strive to fully understand the various roles it plays and develop a system for reconciling sometimes conflicting roles.

3. *"The universe is composed of subjects to be communed with, not primarily of objects to be used. As a subject, each component of the universe is capable of having rights."*¹⁵⁴

I chose to write this paper because I currently live less than two miles from the Wekiwa Spring. I am not a native Floridian – I moved here six years ago from the Northeast. For five years, I have lived in the Wekiva River Basin. For most of the last six years, I have had a State Park pass. I have visited several of the State Parks in Florida, but the one I visit most often and most regularly is the Wekiwa Springs State Park. Like the majority of the 250,000 annual visitors to the Wekiwa Springs State Park, my primary use of the Park is swimming in the spring,¹⁵⁵ although I have also hiked and canoed in the park.

While writing this paper, I decided to canoe as much of the river and its tributaries as possible to enhance my perspective of the river. I spent one day canoeing the nine miles on the

¹⁵⁴ BERRY, EVENING THOUGHTS, *supra* note 23 at 149.

¹⁵⁵ WEKIVA: LEGACY OR LOSS?, *supra* note 2.

Rock Springs Run, from just south of Orange County's Kelly Park to about half a mile north of the confluence of Rock Springs Run and Wekiwa Springs Run. I spent another day canoeing down the Wekiva River from Wekiwa Springs State Park. I canoed about five miles, then turned around and paddled back upstream against the current.

As I paddled, I thought about communing with the river. What does it mean to commune with a nonliving entity like a river? I do not find it difficult to think about communing with living species; after all, living species have similar drives as humans – to find adequate food and shelter, to procreate and raise their young to survive complex challenges. But I am not sure what drives a river. Does anything really? The river just is. I struggle with the idea of simply being. It seems as though there is always something that must be done. There are to-do lists and calendars and one-year plans and five-year plans. We all “rush and rush until life's no fun.”¹⁵⁶ It is so difficult to just be.

The evening I returned home from canoeing Rock Springs Run, I received a phone call informing me that one of my friends tried to commit suicide. Everything else in my life was put on hold while I did whatever I could to help her through her time of crisis. I did not know the right things to say or to do. Yet in the moments of confusion and uncertainty, images from my trip down the river came back to me: the silence, the impossible green of the surrounding forest, the shock of the cold water when I tipped the canoe. One image returned over and over: a moment of gliding with my paddle out of the water, listening and looking. A moment of grace; a moment of being.

There was a real possibility that I could never have had that moment of grace on the river. At one time, Orange County proposed crushing the limestone in Rock Springs and using it for

¹⁵⁶ ALABAMA, *I'm in a Hurry*, on AMERICAN PRIDE (RCA 1992).

road fill.¹⁵⁷ If they had, the Rock Springs Run would look nothing like it does now. Perhaps it would not exist at all.

Andy Kimbrell, one of the attorneys on the landmark case *Massachusetts v. EPA*,¹⁵⁸ has said that we are facing not just an environmental crisis, we are facing a moral crisis.¹⁵⁹ Each of us, working together, has to do something to resolve that crisis.¹⁶⁰ Part of working together to solve this crisis is finding a commonality of experience that we can use as a starting place for discussing these complex and sometimes controversial issues.¹⁶¹

Communing with the natural world is a revelatory experience. In a literal sense, every bend of the river reveals something new: a limpkin wading knee deep in the river while eating an apple snail, an alligator floating gently on the surface disappears without a ripple, a green heron perched on a log jutting out over the river, a three foot gar swimming just above the white sand of the river bottom. The river also held revelations about me. As I paddled mile after mile, the river became a part of me and, in truth, I fell in love with it.

When I returned home, I became very conscious that, like nine out of ten Floridians, the water running out of my tap comes from the Floridian Aquifer.¹⁶² I started to think about how my use of that water might affect the quantity of water in the Wekiwa Spring and how any chemicals on my lawn might affect the quality of water in the spring. I started asking the moral question: is it right for me to use this water in this way at this time?

I met people on the river also. One day, it was about twenty Environmental Studies students with their professor. Clearly most of them had never canoed before; they spent almost

¹⁵⁷ WEKIVA: LEGACY OR LOSS, *supra* note 2.

¹⁵⁸ 127 S. Ct. 1438 (2007).

¹⁵⁹ ANDY KIMBRELL, Symposium Presentation: Framing an Earth Jurisprudence for the Planet Earth, held by Barry Law Review and the Center for Earth Jurisprudence (Feb. 28-29, 2008) (*available at* <http://www.earthjuris.org/events/02-08symposium/02-08symposium.htm>).

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² WEKIVA: LEGACY OR LOSS, *supra* note 2.

as much time lodged in snags and running into the shore as they spent moving down the river. When a limpkin sounded its haunting call as they passed by, some of them were scared – everything was unknown and they were not sure if that sound came from a dangerous creature. Another day I met two vacationing families from Ontario who were taking a break from Disney to experience Florida in its natural state. The day I tipped my canoe in Rock Springs Run, a retired couple from Naples helped me drag it onto the shore and dump the water out of the bottom. On one trip I met three canoes full of twenty-something friends. Two were native Floridians and the others were visiting from Ohio. The native Floridians wanted their friends to see “the real Florida – not Disney,” so brought them out on the Wekiva River.

During the busy summer season, the Wekiwa Springs State Park rents 200 canoes per day on the weekends and 60 canoes per day during the week.¹⁶³ Canoes are also available for rental at four other locations on the river.¹⁶⁴ In their own ways, each person in those canoes has communed with the river. As a result, each of the people in these canoes now has a common experience from which a dialogue can begin.

VII. Conclusion

The Wekiva River has a long history of legal protection – it has been forty years since the state purchased the first piece of land in the Wekiva Basin. As a result, it is one of the few rivers in Florida which is in near pristine condition. However, the Wekiva still faces serious environmental challenges – and the source of those challenges is activity occurring outside of the protected lands surrounding the river. The most crucial of these challenges is maintaining the quality and quantity of water in the river. Human activities are the major source of threat to the

¹⁶³ PANDION SYSTEMS, INC., *supra* note 4 at 14.

¹⁶⁴ *Id.* at 14-15.

quality and quantity of the Wekiva's water. Principles of Earth Jurisprudence call for the recognition of rights of non-human entities. These principles should be applied to the Wekiva. We should explicitly recognize the right of the Wekiva to be, the right of the Wekiva of a place to be, and the right of the Wekiva to fulfill its role in the ever-renewing processes of the Earth community.