UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF FLORIDA MIAMI DIVISION

CASE NO. 02-80309-CIV-ALTONAGA/Turnoff

FRIENDS OF THE EVERGLADES, INC., *et al.*,

Plaintiffs,

vs.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, *et al.*,

Defendants.
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ORDER SETTING FORTH FINDINGS OF FACT AND CONCLUSIONS OF LAW

THIS CAUSE came before the Court for a non-jury trial beginning on January 9, 2006 and ending on April 19, 2006. The Court heard testimony from over 20 witnesses, and approximately 165 exhibits were entered into evidence.

I. BACKGROUND

Plaintiffs, Friends of the Everglades ("FOE") and Fishermen Against Destruction of the Environment ("FADE"), filed suit against the South Florida Water Management District ("SFWMD") on April 8, 2002. FOE, an organization of over 6,000 members, was formed by Marjory Stoneman Douglas to preserve and protect the Everglades. (*Comp.* [D.E.1] at 2). FADE was founded by a group of fishermen and conscientious conservationists concerned about the degradation of Lake Okeechobee. (*See id.* at 3). The SFWMD is an independent, special district of the State of Florida charged with the operation and maintenance of certain pump stations that pump water into Lake Okeechobee. (*See id.* at 4).

The Complaint sought an order requiring the SFWMD to obtain a National Pollution Discharge Elimination System ("NPDES") permit under the Clean Water Act ("CWA"), 33 U.S.C. § 1251 *et seq.*, before the SFWMD could discharge water containing pollutants into Lake Okeechobee by means of the S-2, S-3, and S-4 pump stations. Jurisdiction was based on the "citizen suits" provision of the CWA, 33 U.S.C. § 1365(a),[1] and federal question jurisdiction under 28 U.S.C. § 1331. The case was consolidated with *Florida Wildlife Federation v. So. Florida Water Mgmt. Dist.*, Case No. 02-80918-Civ (*see Dec. 9, 2002 Order* [D.E. 39]), and the latter case was accordingly closed. The Florida Wildlife Federation ("FWF") is a statewide non-profit conservation and education organization with a mission of preserving, managing, and improving the water resources and fish and wildlife habitat of Florida. (*Comp.* [D.E. 1 in 02-80918-Civ] at 3).

The City of South Bay, Florida, and United States Sugar Corporation ("U.S. Sugar") were granted permission to intervene as Defendants in an order dated October 2, 2002. [D.E. 23].[2] In support of intervention, U.S. Sugar asserted that it has substantial sugar cane growing and harvesting operations in the S-2 and S-3 drainage basins served by the pump stations at issue, that it has

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[1] Section 1365(a) provides, in part, that

> any citizen may commence a civil action on his own behalf –
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> (1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the eleventh amendment to the Constitution) who is alleged to be in violation of (A) an effluent standard or limitation under this chapter or (B) an order issued by the Administrator or a State with respect to such a standard or limitation, or
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> (2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator.
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> The district courts shall have jurisdiction, . . . to order the Administrator to perform such act or duty, as the case may be, and to apply any appropriate civil penalties under section 1319(d) of this title.

[2] The undersigned subsequently granted the City of South Bay, Florida's Motion to Withdraw. [D.E. 212].

property interests in the crops, that operation of the pump stations prevents its crops from being flooded and destroyed, that issuance of the requested NPDES permits for previously unregulated structures could cause U.S. Sugar to lose a statutory entitlement for an agricultural exemption from NPDES permitting, and that, in short, any decision requiring the SFWMD to obtain a NPDES permit would be devastating for U.S. Sugar's operations. (*See Mem. in Supp. of Mot. to Intervene* [D.E. 18] at 2-3).

The Miccosukee Tribe of Indians of Florida ("Miccosukee") was granted leave to intervene as a Plaintiff in an order dated December 9, 2002. [D.E. 40]. In support of intervention, Miccosukee maintained that backpumping of pollutant-laden waters by the SFWMD into Lake Okeechobee threatened Miccosukee's way of life in the Everglades and Lake Okeechobee, and that the destruction infringed on Miccosukee's ability to practice its religion and on its traditional bases of subsistence, commercial activities, and natural resources. (*Mot. to Intervene* [D.E. 24] at 4).

Much later, on May 2, 2005, the United States of America, on behalf of the United States Army Corps of Engineers ("Corps") and the United States Environmental Protection Agency ("EPA"), was granted permission to intervene as a Defendant. [D.E. 263]. The United States maintained it had a compelling interest in the litigation because for decades the Corps had been building a comprehensive network of levees, water storage areas, pumps and canal improvements in South Florida, and the S-2, S-3, and S-4 pump stations were part of the Central and South Florida Project. As for the EPA, that agency administers the NPDES permitting program in conjunction with the states, including Florida, that have assumed responsibility for issuing permits within their borders under 33 U.S.C. § 1342. (*See* [D.E. 198] at 1-2).

On May 12, 2003, the case was reassigned to the docket of the undersigned. [D.E. 77]. After

the Supreme Court accepted certiorari in yet another related case styled *So. Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, Case No. 98-6056-Civ ("*S-9 Case*"), all proceedings were stayed by order dated July 1, 2003. [D.E. 147]. On January 21, 2005, after the Supreme Court entered its decision in the *S-9 Case*,[3] the Court granted the SFWMD's Motion to Reopen the Case. [D.E. 179].

The pleadings have been amended several times by all parties since the inception of the litigation. Miccosukee's Second Amended Complaint, filed on February 22, 2005, among other things, added as a named Defendant Henry Dean, Executive Director of the SFWMD, in his official capacity. [D.E. 188].

Plaintiffs seek the following relief: (1) a judgment declaring that the SFWMD (and its representatives) has violated, and is in continuing violation of, the Clean Water Act, 33 U.S.C. § 1251 *et seq.*; (2) an order enjoining the SFWMD from continuing to violate the CWA; (3) an injunction requiring the SFWMD (and its representatives) to obtain a NPDES permit for its backpumping activities at the S-2, S-3, and S-4 pump stations; (4) an order requiring the SFWMD to provide Plaintiffs with a copy of all reports it submits to the state or federal government concerning the discharge of water to Lake Okeechobee (the "Lake");[4] and (5) an award of attorney's fees and costs. No affirmative relief is sought against Intervenor-Defendants, U.S. Sugar. An issue raised by the SFWMD consistently in its pleadings is its defense of sovereign immunity.

The undersigned denied the parties' cross-motions for summary judgment in an order dated November 23, 2005 [D.E. 527], and the trial followed. During and after the trial, the undersigned

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[3] *See So. Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95 (2004).

[4] FWF has not specifically requested the furnishing of such reports.

reviewed the evidence admitted, and considered all applicable law and arguments presented by counsel. The following findings of fact and conclusions of law are therefore made pursuant to the requirements of Rule 52 of the Federal Rules of Civil Procedure.

II. FINDINGS OF FACT

A. Historical Description of Lake Okeechobee and the Everglades

The landscape of South Florida today is markedly different from that which existed prior to the extensive settlement and development the area has experienced since the late 19th century. The Court's analysis begins with a description of the area as it existed prior to development efforts. The description focuses primarily upon the southern portion of Lake Okeechobee and the northern portion of the Everglades. Today this combined area is known as the Everglades Agricultural Area ("EAA").

Lake Okeechobee has been referred to at various times throughout recorded history as Laguna Del Espiritu Santo (1763), Lak du St. Esprit (1780), Lake Mayacoo (1835), and Lake O-Kee-Cho-Bee (1839, 1856). (*See Trial Tr. Feb. 14, 2006*, 58:22-59:8, 60:17-20, 63:6-18, 65:3-66:14). To the south of Lake Okeechobee (in the area now known as the EAA and, further south, the Everglades) was an immense and vast wetland referred to by Native Americans as "grassy water." (*See Joint Pretrial Stip.* [D.E. 536], Attach. 5B ¶ 6). The "grassy water" area encompassed some three million acres. (*See id.*). Today, the Everglades is less than half of its pre-drainage size. (*See id.*, ¶ 48). Prior to extensive drainage operations, Lake Okeechobee had higher water levels and extended further south and west than it does today. (*Id.*, ¶ 39).[5]

[5] The surface waters of the Lake historically encompassed the area that today contains the Herbert Hoover Dike, which presently surrounds the Lake, and the S-2, S-3, and S-4 pump stations, the stations at issue in this litigation. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 35; *Trial Tr. Jan. 9, 2006*, 191:13-18, 211:12-20; *Trial Tr. Jan. 18, 2006*, 104:11-18).

Maps, surveys, and accounts of the natural conditions of the southern rim of the Lake describe a sandy-bottomed lake with water grasses growing in the shallows. (*Plain. Ex. 60*, p. 66; *Plain. Ex. 57*). The Lake bed rose to a muck rim covered with custard apple trees, (*Trial Tr. Jan. 9, 2006*, 163:21-25, 165:10-24), followed by a slow downward gradient to the south through the Everglades. (*Trial Tr. Jan. 9, 2006*, 189:8-18). Short tributary rivers flowed from the Lake's southern forested rim. (*Plain. Ex. 60*, pp. 69-73). Accounts survive of parties navigating the tributary rivers extending from the southern shore of the Lake. (*See Trial Tr. Feb. 14, 2006*, 68:21-69:5; *Plain. Ex. 60*).

Lake Okeechobee appears as a dominant feature on maps of Florida dating back at least 250 years. (*Trial Tr. Feb. 14, 2006*, 58:22-25; *see also Def. Ex. 75*, p. 6). Beginning in the eighteenth century, there were various attempts to map the area of South Florida. Although many features of the maps changed over time as map-making techniques and knowledge of the area improved, the maps consistently showed two separate features – a very large lake bordered on the south by a vast wetland. (*See Trial Tr. Jan. 9, 2006*, 157:10-168:21; *Trial Tr. Feb 14, 2006*, 58:12-66:11; *Plain. Exs. 16A, 16B, 220*). In other words, all recorded maps show some boundary between Lake Okeechobee and the area currently known as the EAA. (*See id.*).

The southern shoreline of the Lake was surveyed by J. M. Kreamer in 1892 (*Plain. Ex. 220*), and by John W. Newman in 1910. (*Def. Ex. 16D*). It was officially surveyed by the State of Florida from 1914-17 (the "F. C. Elliot Survey"). (*Plain. Ex. 55*). The conclusions of the F.C. Elliot Survey are referenced in a case that required the court to determine the historical boundary between the Lake and the marshlands to the south of the Lake. (*See Plain Ex. 57*). On a related note, an account written in the newspaper New Orleans Democrat in 1870 references an exploring party making camp

on the southern shore of Lake Okeechobee, further suggesting that the Lake, at least at times, had a distinguishable southern shoreline. (*Plain. Ex. 60*, p. 70).

Finally, photographs of the Lake Okeechobee shoreline taken from the cupola of the Bolles Hotel in April 1912 were entered into evidence.[6] (*Plain. Exs. 16E1, 16E2, 16E3*). These photographs depict a custard apple forest along a dry southern shoreline. (*See Trial Tr. Jan. 9, 2006*, 170:16-174:14; *Plain. Exs. 16E1, 16E2, 16E3*).

Notwithstanding these early maps, accounts and photographs, the shoreline was not as well-defined as Plaintiffs contend. Lieutenant J.C. Ives, for example, described the Lake as covering nearly 1,200 square miles, nearly double the current size of the Lake. (*See Def. Ex. 206*, p. 38). Moreover, he observed that "[f]rom Cypress Point around toward the south and south-west, the shore is much less clearly defined. The Everglades form the general boundary, but no distinct line marks the division between this region and the surface of the lake; the southern portion of the latter being much grown up with grass [sic]." (*Id.*).[7] Similarly, a report of the Board of Commissioners of the Okeechobee Flood Control District noted that historically "the south shore of the Lake was not clearly defined being low, irregular and swampy." (*Def. Ex. 213*, p. 12).

Moreover, there was evidence adduced at trial that the 1912 Bolles Hotel photograph, the most convincing evidence of a well-defined southern shoreline, was taken during the annual dry season, when the Lake typically contracts. (*See Trial Tr. Feb. 10, 2006*, 90:4-7). Additional

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[6] The Bolles Hotel was located on the southern shore of Lake Okeechobee on the western bank of the Rita River. (*See Trial Tr. Jan. 9, 2006*, 167:24-169:12). Its location is shown on the Newman Survey of 1910. (*See Plain. Ex. 16D*). It was constructed by Richard Bolles, an early Everglades land speculator. (*Trial Tr. Jan. 9, 2006*, 169:8-12).

[7] Ives' memoir acknowledges that the short time in which the map was compiled "precluded anything like a thorough investigation as to what is now known in the region in question." (*Def. Ex. 206*, p. 6).

evidence suggests that the area was experiencing a drought during the period in question. (*See id.*, 90:8-12, 91:7-10). Finally, the photographs were taken after 20 years of drainage operations and thus do not provide a truly accurate depiction of the Lake and the EAA in their natural states. (*See id*., 89:21-25; *Trial Tr. Feb. 13, 2006*, 17:20-23).

That the historical accounts of the southern shoreline are inconsistent is not surprising. The size of Lake Okeechobee varied significantly depending upon meteorological conditions within its watershed. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 38; *Trial Tr. Jan. 13, 2006*, 52:18-23; *Trial Tr. Jan. 18, 2006*, 104:3-5; *Trial Tr. Jan. 19,* 2006, 16:20-23; *Def. Ex. 206*, pp. 6-7). The characteristics of the Lake and the Everglades varied seasonally, decadally and otherwise, through extreme cycles of flooding and drought. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 38; *Def. Ex. 206*, p. 7). Even today, Lake Okeechobee periodically recedes within the boundary established by the Herbert Hoover Dike ("Dike"), which extends around the rim of the Lake. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 40; *Trial Tr. Feb. 14, 2006*, 78:1-24).

The undersigned concludes that, historically, observable distinctions existed between Lake Okeechobee and the vast wetlands to the south of the Lake. A contrary conclusion would fly in the face of the evidence presented. However, the precise point or points dividing the Lake's surface waters from the wetlands to the south varied drastically depending upon numerous conditions, explaining, at least in part, the inconsistent accounts of the area that have survived.

B. Development of the Everglades

1. Early Development

Beginning in the mid 1800s, the State of Florida embarked upon legislative efforts to encourage development of the Everglades ecosystem, focusing its efforts on draining the area to

increase its marketability and habitability. (*See Trial Tr. Jan. 13, 2006*, 57:9-13; *Trial Tr. Feb. 8, 2006*, 204:11-16). Land reclamation was the single-minded purpose behind the efforts. (*See Trial Tr. Feb. 10, 2006*, 94:17-95:4, 95:20-23).

To further the drainage activities, canals were constructed connecting the Lake to the Gulf of Mexico. (*Joint Pretrial Stip.*, Attach. 5B ¶ 10).[8] The overarching goal of the canal construction was to move water from Lake Okeechobee to tidal waters. (*See id.*). The theory was that if Lake Okeechobee could be drained, then the Everglades would eventually dry out. (*See Joint Pretrial Stip.*, Attach. 5B ¶¶ 9, 10; *Def. Ex. 203*, pp. 56, 65).

By 1912, construction had begun on three major canals, the North New River, Hillsboro, and Miami Canals. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 10). The canals were connected to the Atlantic Ocean by April 1917. (*See Trial Tr. Jan. 18, 2006*, 107:3-5). The purposes of constructing the canals were to lower the elevation of the Lake, drain the rich muck soils south and east of the Lake, and to foster navigation. (*See Joint Pretrial Stip.*, Attach. 5A ¶¶ 10, 19). To further the effort, the Everglades Drainage District (established in 1913) constructed hundreds of miles of small drainage canals throughout the Everglades. (*See id.*, Attach. 5B ¶¶ 10, 12).

The early private and public drainage canals were incapable of controlling flooding. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 13). Problems with flooding reached an apex in 1926 and 1928, when hurricanes killed over 2,500 people living in towns just south of Lake Okeechobee. (*See id.*; *Trial Tr. Feb. 10, 2006*, 95:12-15; *Def. Ex. 213*, p. 7; *Def. Ex. 203*, pp. 8-9). Congress responded to the hurricanes of the 1920s by authorizing construction of the Dike. (*See Trial Tr. Feb. 8, 2006*,

[8] Two canals were constructed in the 1880s. One canal, named the 3 Mile Canal, connected Lake Okeechobee to Lake Hickpochee. (*Trial Tr. Feb. 13, 2006*, 16:20-23). The other canal, located in the area of the present Miami Canal, extended approximately nine to ten miles into the Everglades from the Lake. (*Id.*, 16:24-17:1).

204:21-23). The initial authorization contemplated building a substantial dike system on the southern shore of Lake Okeechobee and a smaller dike system on the northern shore of the Lake. (*See id.*, 204:23-205:1). By 1937, construction along the southern shore was substantially completed. (*See id.*, 205:2-5).

The Dike, however, proved incapable of adequately controlling flooding. Hurricanes in the 1940s caused Lake waters to overflow the newly constructed Dike, flooding the surrounding areas and severely damaging the Dike in the process. (*See Trial Tr. Jan. 13, 2006*, 59:12-19; *Trial Tr. Feb. 8, 2006*, 205:6-10). In 1947 and 1948, ninety percent of southeastern Florida, from Orlando to the Keys, was flooded. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 13). Indeed, after the 1947 hurricane, there were reports of many Florida residents being forced to live on the second floors of their homes for up to nine months. (*Trial Tr. Jan. 13, 2006*, 59:15-16).

In addition to the flooding problems, the drainage of Lake Okeechobee and the Everglades produced other unintended consequences. When the areas surrounding Lake Okeechobee were drained, the soils dried out and thousands of acres of land were destroyed by fires. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 14). The fires caused loss of soil material that had taken hundreds or thousands of years to accrete. (*Trial Tr. Jan. 19, 2006*, 169:5-7). Fires dirtied the air to such an extent that health warnings were issued in Dade County.[9] (*Trial Tr. Feb. 10, 2006*, 112:13-15).

Uncontrolled drainage caused additional problems through the lowering of the water table. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 11). The lowered water table allowed the ocean saltwater to intrude in areas where fresh water had previously been. (*See id.*; *Trial Tr. Jan. 20, 2006*, 96:16-

[9] Dade County has since been renamed Miami-Dade County.

97:5). Saltwater intrusion contributed to the destruction of well fields and lands along the east coast of Florida. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 11).

2. C&SF Project

In the 1930s, the State developed a comprehensive plan for flood control and water supply, known as the "re-watering plan." The plan dedicated the northern portion of the Everglades (what has become known as the EAA) for reclamation, and dedicated the southern portion of the Everglades (what have become the Water Conservation Areas) for water supply and storage to protect and provide water supply to the lower east coast of Florida, from West Palm Beach to Homestead. (*See Trial Tr. Jan. 20, 2006*, 114:13-115:18). As concerns arose over the health of the Everglades and the inability of the "re-watering plan" to address the problems, the Central and South Florida Project for Flood Control and Other Purposes ("C&SF Project" or the "Project") was adopted. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 37). Congress authorized the C&SF Project in 1948.[10] (*See id.*, Attach. 5B ¶ 15; *Trial Tr. Jan. 13, 2006*, 60:2-3, 14-16; *Trial Tr. Jan. 18, 2006*, 80:17-19; *Def. Exs. 1*, *205*).

The C&SF Project is a multi-purpose project that provides flood control; water supply for municipal, industrial, and agricultural uses; water supply for the Everglades National Park; protection from saltwater intrusion; and protection of fish and wildlife resources.[11] (*See Joint*

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[10] For a variety of reasons, several components of the C&SF Project that were originally planned have not been constructed. (*See Trial Tr. Jan. 20, 2006*, 101:1-9).

[11] Congress stated the purposes of the C&SF Project, in relevant part, as follows:

> *Construction program*. The comprehensive plan is a long-range plan for the control and use of water resources of most of central and southern Florida.
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> * * *

Pretrial Stip., Attach. 5B ¶ 17; *Trial Tr. Jan. 13, 2006*, 149:23-150:23; *Trial Tr. Jan. 18, 2006*, 80:10-15; *Def. Ex. 232*, p. i; *Def. Ex. 205*, pp. 2-3, 50). Waste disposal is not one of the designated purposes of the C&SF Project. (*See Trial Tr. Jan. 13, 2006*, 150:24-153:3; *Trial Tr. Jan. 20, 2006*, 118:20-25)).[12]

The C&SF Project covers an area of approximately 12,000 square miles. (*See Trial Tr. Jan. 18, 2006*, 80:6-7). Water is managed through the use of water control structures including the Dike, levees, canals, spillways, culverts, pump stations and other water diversion facilities. (*Joint Pretrial Stip.*, Attach. 5B ¶ 20).[13] These water control structures were designed and developed along general watershed basin concepts. (*Trial Tr. Jan. 25, 2006*, 23:10-14). The C&SF Project is responsible for moving billions of gallons of water daily. (*Joint Pretrial Stip.*, Attach. 5B ¶ 24).

The SFWMD pump stations are flow diversion facilities, the purpose of which is to change the movement, flow and circulation of waters. (*Trial Tr. Jan. 20, 2006*, 110:12-22). As the local sponsor for the C&SF Project, the SFWMD is responsible for operating and maintaining most of the Project's structures, including the S-2, S-3, and S-4 pump stations at issue in this case. (*Trial Tr.*

> The flood problems of central and southern Florida are closely interrelated with the development of water and land resources of the entire area; this report therefore considers all related problems of water control and use.
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> A long-range plan of this kind for flood protection and water quality is urgently needed now, so that development of the region can proceed in an orderly manner which will preserve its resources of water and land for future generations.

(*Def. Ex. 205*, pp. 14, 45, 58).

[12] The water moved through C&SF structures, however, contains waste products. (*See Trial Tr. Jan. 13, 2006*, 162:16-163:12).

[13] The system is comprised of over 1,000 miles of canals, over 1,000 miles of levees, approximately 150 structures and 15-30 major pump stations. (*See Trial Tr. Jan. 13, 2006*, 61:16-19).

Jan. 19, 2006, 78:14-19). However, in operating the structures, there is a tremendous amount of coordination between the Corps and the SFWMD. (*See Trial Tr. Jan. 18, 2006*, 85:5-11).[14]

The C&SF Project has successfully reclaimed much of the land in South Florida. (*Joint Pretrial Stip.*, Attach. 5B ¶ 25). Today, millions of people live within the flood plain of the Everglades ecosystem,[15] which would not be possible without the flood protection and stable water supply provided by the C&SF Project. (*Id.*).

C. Current Description of Lake Okeechobee and the Surrounding Areas

1. Lake Okeechobee

The efforts to develop South Florida had a profound effect on the Lake and the Everglades. The present ecosystem scarcely resembles the natural system.

Lake Okeechobee, a large shallow lake, remains the central feature of the Everglades ecosystem and is recognized as its liquid heart. (*Joint Pretrial Stip.*, Attach. 5B ¶ 30). The Lake is a key component of the South Florida Kissimmee-Okeechobee-Everglades surface water hydrologic and ecological system. (*See id.*, Attach. 5A ¶ 63). The system begins in Central Florida near Orlando, extends southward through the Kissimmee Chain of Lakes, the Kissimmee River, and Lake Okeechobee, and continues southward through the Everglades into Florida Bay. (*Id.*, Attach. 5A ¶ 63). The ecosystem is an immense, integrated system of connected surface and ground waters that covers over 15,000 square miles. (*Id.*, Attach. 5B ¶ 5).

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[14] The Corps developed the water control plan for the operation of the C&SF system. The water control plan contains information governing the regulation of the lakes and reservoirs in the system and contains operating criteria for the structures and canals within the system. (*See Trial Tr. Jan. 18, 2006*, 83:1-84:1; *see also Def. Exs. 215-18*).

[15] Indeed, in the early 20th century, vast amounts of what is now downtown Miami remained under several feet of water. (*Trial Tr. Jan. 19, 2006*, 184:5-21).

Lake Okeechobee spans an area of approximately 730 square miles and has an average lake-wide depth of nine feet. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 40; *Trial Tr. Jan. 18, 2006*, 103:23-24; *Plain Ex. 20*, p. 2). It is the largest body of fresh water in the southeastern United States and the second largest freshwater lake within the continental United States. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 30). The parties have stipulated that the Lake is a navigable water (*see id.*, Attach. 5A ¶ 5), as that term is defined in the CWA and its regulations. *See* 33 U.S.C. § 1362(7); 40 C.F.R. § 230.3(s); 33 C.F.R. § 328.3(a).

Lake Okeechobee is divided into six regions. The "pelagic" region is characterized by open water and a muddy or sandy bottom. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 44). Two near-shore regions (north and south), contain a high density of submerged plants when water levels in the Lake are low and periodic algal blooms when water levels are high. (*Id.*). Three littoral regions,[16] located in the northern and southern portions of the Lake and at Fisheating Bay, contain their own unique vegetation structures and water quality. (*Id.*). Significant chemical, physical and biological differences exist between each Lake region and even within each region. (*See id.*, ¶ 46).

The Lake has several hydrological and ecological functions. It functions as a reservoir to collect and supply water to the urban, agricultural and natural systems throughout the southern Florida peninsula. It provides flood protection while serving as a multimillion dollar sport and commercial fishery. It also provides a habitat for wading birds, migratory waterfowl, and the federally endangered Everglades Snail Kite. (*Joint Pretrial Stip.*, Attach. 5B ¶ 33).

As noted, Lake Okeechobee functions, in part, as a reservoir. The goal of any reservoir "is

[16] A littoral region is defined as an area in which the bottom of a lake is covered by macrophytes (plants that are visible). (*See Trial Tr. Jan. 9, 2006*, 83:13-25).

to store excess water from times when you don't need it and to release it during periods when you do." (*Trial Tr. Jan. 20, 2006*, 73:22-24). In order to carry out its storage functions, the water level of the Lake is generally brought to its lowest point at the end of May, creating excess storage capacity that may be utilized for flood control purposes during the rainy season. (*See id.*, 72:14-73:2). The water levels in the Lake are permitted to rise during the rainy season and the excess water is made available to different users for a variety of purposes. (*See id.*, 72:23-73:2). Beyond using the waters for agricultural and/or municipal purposes, the ability to store and later release the water is critical to avoiding saltwater incursions onto the land. (*See id.*, 97:6-24).

Virtually the entire Lake is enclosed by the Dike, a 27 to 42-foot high, and up to 300-foot wide barrier that physically separates the Lake from the lands surrounding the Lake. (*Trial Tr. Jan. 13, 2006*, 75:1-2; *Trial Tr. Feb. 9, 2006*, 21:9-24). A portion of the Dike was built within the shoreline of the historical Lake. (*Trial Tr. Jan. 18, 2006*, 103:21-23; *see also Trial Tr. Jan. 10, 2006*, 142:1-6). The Dike is made of a soil matrix.[17] (*See Joint Pretrial Stip.*, Attach. 5B ¶¶ 33, 34; *Trial Tr. Feb. 8, 2006*, 206:5-7, 207:21-25). It prevents the Lake from expanding and contracting as it would under natural conditions. (*See Trial Tr. Jan. 25, 2006*, 46:14-17). The Dike serves as a dual functioning dam, providing water storage in Lake Okeechobee and protecting the surrounding communities from flooding. (*Joint Pretrial Stip.*, Attach. 5B ¶ 34).

A rim canal surrounds the southern inner edge of Lake Okeechobee. (*Trial Tr. Jan. 9, 2006*, 120:12-16). In most places, the rim canal is directly adjacent to the Dike. (*Trial Tr. Jan. 10, 2006*, 82:14-15). The rim canal was dug out to provide material for construction of the Dike. (*Trial Tr.*

[17] The Dike consists of a number of materials, including sands, shells, limestone, limestone fragments, silts, and peat. (*Trial Tr. Feb. 8, 2006*, 207:21-25). Most of the materials of which the Dike is composed were hydraulically dredged from the area. (*Id.*, 206:6-11).

Jan. 9, 2006, 120:17-19). The S-2 and S-3 pump stations pump water directly from the canals into the rim canal. (*Trial Tr. Jan. 10, 2006*, 82:16-17).

A series of canals[18] have been constructed that intersect the Dike at the southern end of the Lake. The largest canals, the North New River, Hillsboro and Miami Canals, extend through several basins, from the southern side of Lake Okeechobee through the EAA, the Water Conservation Areas, the lower east coast communities or the remnant Everglades, and ultimately to the bays and ocean. (*Joint Pretrial Stip.*, Attach. 5B ¶ 22; *Def. Ex. 1*). Smaller canals manage more local waters. The C-20 Canal, for example, is used to manage the waters of the S-4 basin, a basin that includes the City of Clewiston and the surrounding agricultural lands. (*Id.*, ¶ 23).

In all, there are approximately 43 structures that intersect the Dike, allowing water to flow into and/or out of the Lake. (*See Trial Tr. Jan. 18, 2006*, 92:7-9). There are 19 points that allow outflow from the Lake (five represent primary outflow points and 14 also allow inflow). (*See id.*, 92:20-93:1, 93:2-6). Fisheating Creek is the only uncontrolled inflow source to the Lake. (*See id.*, 93:11-18). The Lake has no uncontrolled outflow points. (*See id.*, 93:25-94:1). It is beyond dispute that the natural storage capacity of the Lake basin has been lost as a result of the man-made modifications to the system. (*See Trial Tr. Jan. 26, 2006*, 20:2-4, 22:3-16).

2. The EAA

Parts of Lake Okeechobee's original lakebed – separated from the Lake by the Dike – and portions of the northern Everglades marshes, were designated by the C&SF Project as the EAA, which was to be reclaimed for public and private land uses. (*Joint Pretrial Stip.*, Attach. 5B ¶ 36).

[18] The parties have stipulated that the EAA canals are navigable waters. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 11).

The EAA comprises 630,000 acres between the southern boundary of the Dike and the northern boundaries of the Water Conservation Areas. (*See id.,* ¶ 37). The EAA is a highly productive agricultural region extending from the south shore of Lake Okeechobee to the northern levees of the conservation areas (of the Everglades). The Lake supplies irrigation water to the EAA. (*Joint Pretrial Stip.*, Attach. 5A ¶ 43). The EAA communities and land uses were, and are, fully dependent upon the Lake for their water supply and flood control. (*See id.*, ¶¶ 43, 53).

Muck soils predominate in the EAA. Prior to drainage operations, materials were deposited in the waters; those materials were, in turn, absorbed by the soil. (*See Trial Tr. Jan. 9, 2006*, 45:11-16).

> The soils of the Everglades were formed under wetland conditions. The water that covered the soil surface much of the year greatly reduced oxygen availability to microorganisms that derive their energy by oxidated decomposition of carbon compounds. Organic matter accumulated faster than it decomposed forming the Everglades Histosols. When the area was drained for settlement and agricultural use, oxygen permeated the soil mass, decomposition accelerated, and the organic matter began to decompose faster than it accumulated. This caused the surface elevation to fall, a phenomenon known as subsidence.

(*Plain. Ex. 128*, pp. 37-38). The muck soils are naturally very high in phosphorous. (*See Trial Tr. Feb. 10, 2006*, 61:3-15).

D. Water Flow in the Everglades

Today, almost all water flow in the Everglades is through man-made conveyance structures. Given that the system has been significantly modified from its natural state, it is important to distinguish between the flow of water today, flow that is primarily regulated by the SFWMD (along with the Corps), and the natural flow of water through the system.

1. Natural Water Flow

Historically, Lake Okeechobee's surface water, sub-surface flow, and localized rainfall supplied water for the Everglades. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 7). In its natural state, the Everglades was a unified hydrologic system. (*See, e.g.*, *Trial Tr. Jan. 9, 2006*, 208:16-209:5; *Trial Tr. Jan. 10, 2006*, 140:15-141:4; *Trial Tr. Jan. 11, 2006*, 75:5-18; *Trial Tr. Feb. 8, 2006*, 203:25-204:7; *Trial Tr. Feb. 10, 2006*, 78:22-79:6, 81:8-22, 94:3-7; *Def. Ex. 207*, p. 21). Water moved freely between surface and ground water. (*See Trial Tr. Feb. 10, 2006*, 82:6-16).

Prior to the man-made modifications to the system, water generally flowed slowly south, over the flat South Florida landscape to the sea.[19] (*See Joint Pretrial Stip.*, Attach. 5A ¶ 7). Land to the south of the Lake slopes very slightly to the south. (*See Trial Tr. Jan. 19, 2006*, 177:4-10). In fact, the slope is far flatter than the slope of a sidewalk. (*See id.*, 177:11-19). Due to the nearly flat slope of the land, water flowed south at an exceedingly slow pace. (*Id.*, 178:5-12). This historic water flow is depicted on a United States Geological Survey map that was introduced into evidence (the map was made using SFWMD data). (*Plain. Ex. 58*; *see also Trial Tr. Jan. 19, 2006*, 34:17-36:25).

Historically, the water of the Lake would rise until it overtopped a natural muck berm along the southern shoreline, and then it would spill into the vast marsh known as the Everglades. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 47a; *see also Trial Tr. Jan. 13, 2006*, 51:13-17). Water in the Lake would overcome the levy when the Lake reached an elevation of 21.5 feet. (*Trial Tr. Jan. 9, 2006*,

[19] When the Miami Canal was first dredged across the Everglades from its entrance at the Rita River to the headwaters of the Miami River, a navigation lock was constructed in the canal just a short distance south of the southern shore of Lake Okeechobee. (*See Trial Tr. Jan. 9, 2006*, 182:8-189:1; *Plain. Exs. 16F, 16G*). A photograph of the lock shows the doors opening to the north. (*See Trial Tr. Jan. 9, 2006*, 186:7-14; *Plain. Exs. 16G, 42, 46*). Lock doors are designed to open against the direction of flow (*see Plain. Exs. 42, 46*), confirming that the direction of flow in the Miami Canal was generally from the north to the south. (*See Trial Tr. Jan. 9, 2006*, 186:11-14; *Plain. Exs. 16G, 42*, *46*).

208:25-209:5). During the rainy season, water from Lake Okeechobee would flow in a gradual sheet through the Everglades to Florida Bay.[20] (*See id.*; *Trial Tr. Feb. 10, 2006*, 81:18-19). Occasionally (during some years) the water would flow across the coastal ridge to the Atlantic Ocean. (*Trial Tr. Jan. 13, 2006*, 51:18-22).

Localized events such as wind or rainfall could affect the general southward flow of water over short periods of time. (*Trial Tr. Jan. 19, 2006*, 178:13-179:6). In other words, the southward flow, at least historically, was intermittent. (*See id.*, 180:7-18). During severe windstorms, hurricanes or other meteorological events, water could flow north from the Everglades to the Lake. (*See, e.g.*, *Trial Tr. Jan. 9, 2006*, 193:4-20; *Trial Tr. Jan. 10, 2006*, 156:22-158:16; *see also Plain. Ex. 16C*, p. 3; *Def. Ex. 302*, ¶ 7). There are historic accounts of people observing wind and water conditions causing water to flow in this direction. (*See Trial Tr. Jan. 9, 2006*, 212:2-18, 216:6-25). Water was also capable of seeping through the porous soil matrix of the Everglades in both directions, *i.e.*, from the Lake to the Everglades and from the Everglades to the Lake. (*See Trial Tr. Jan. 13, 2006*, 53:10-13; *Trial Tr. Feb. 10, 2006*, 81:13-17).

2. Water Flow Today

a. Surface Water Flows Generally

Most water flows today are regulated. As a managed system, the natural flow of water has been replaced by a series of man-made structures, and water is now routed through a very complex series of conveyance systems. (*See Trial Tr. Jan. 26, 2006*, 20:1-6). The waters are managed as a

[20] "Florida Bay is a shallow inner-shelf lagoon located at the southern end of the south Florida watershed. It is an area where fresh water from the Everglades mixes with the salty waters from the Gulf of Mexico to form an estuary that is surrounded by mangrove forests and encompasses over 200 mangrove islands." The Florida Bay Education Project, http://www.floridabay.org/intro.shtml.

whole. (*Joint Pretrial Stip.*, Attach. 5B ¶ 21).

Navigable waters in the C&SF canals and waters in the Lake certainly intermingle, whether by natural or man-made forces. (*Trial Tr. Jan. 12, 2006*, 88:23-89:17). For example, water in the Lake is released into the canals at certain times and may be pumped back into the Lake at other times. (*Id.*). However, whereas historically the water flowed almost exclusively to the Everglades, today much of the water flow is directed to the coast. (*Trial Tr. Jan. 10, 2006*, 25:20-25).

Because water flows on a downgrade, water in the Lake flows by gravity to the south whenever the SFWMD opens the gated spillways and culverts that feed water from the Lake into the canals. (*See Trial Tr. Jan. 12, 2006*, 82:2-83:3; 89:8-13). Water from the canals generally is not capable of flowing into the Lake because it would have to flow on an upgrade. (*Trial Tr. Jan. 10, 2006*, 112:4-12; *Trial Tr. Jan. 17, 2006*, 7:1-8:1). Thus, as in its natural state, water generally flows from Lake Okeechobee south to the EAA. (*See Trial Tr. Jan. 18, 2006*, 96:24-97:4). Indeed, Plaintiffs' witness, Herbert Zebuth, who spent the bulk of his extensive career working on issues concerning Lake Okeechobee, testified that "I have never heard anyone talk about the Everglades flowing into Lake Okeechobee until this lawsuit was filed." (*Trial Tr. Jan. 17, 2006*, 9:22-23).

Nevertheless, the hurricane gates adjacent to the S-2 and S-3 pump structures may allow gravity flow from the canals into the Lake when the water level in the Lake is lower than the water level in the canals. (*See Trial Tr. Jan. 13, 2006*, 118:1-5; *Trial Tr. Jan. 17, 2006*, 8:2-4; *Plain. Ex. 115*, p. 170). Under such circumstances, and without the aid of the pump stations, surface water in the EAA canals can, and does, flow north into Lake Okeechobee. Such instances, however, remain very rare. (*See Trial Tr. Jan. 18, 2006*, 97:4-13; *Trial Tr. Jan. 19,* 2006, 37:18-21; *Plain. Ex. 115*, p. 170; *Def. Ex. 203*, p. 57; *Def. Ex. 202*, pp. 335, 345-47, 385-86, 406, 411, 551; *Def. Ex. 207*, p.

23). Moreover, the frequency of northern flow has been reduced by the Corps' removal of "humps" in the canals that had previously served as impediments to the canal waters' steady southward flow. (*See Trial Tr. Jan. 18, 2006*, 114:2-12; *Trial Tr. Jan. 25, 2006*, 25:13-15).

Every year, a substantial amount of water is discharged from the Lake to tide (*i.e.*, large quantities of Lake water are dumped into estuaries) in order to reduce the amount of water in the Lake, for example, when the water level in the Lake becomes too high. (*See Trial Tr. Jan. 19, 2006*, 51:2-8). Obviously, the discharges, resulting in the loss of, on average, approximately 1.7 billion gallons of water to tide per day from the Everglades system, are undesirable. (*See Trial Tr. Jan. 20, 2006*, 145:14-16). However, at present, it appears that the losses are unavoidable. Because Florida experiences periods of heavy rainfall that produce water that the system is incapable of assimilating, the excess water must be discharged. (*See Trial Tr. Jan. 19, 2006*, 163:3-15). The rainy periods are followed by dry periods during which water becomes scarce. (*See id.*). The problem is exacerbated by the inability to predict weather conditions with any degree of accuracy. (*See id.*, 168:9-11, 169:17-170:14).

b. Surface Water Flow in the EAA

The Hillsboro, North New River, and Miami Canals, as well as the C-20 and C-21 Canals, collect water that is drained from their respective basins. Industrial, municipal, and construction activities are conducted within the basins. Thus canal water contains byproducts of industrial, municipal and construction activities. (*Trial Tr. Jan. 13, 2006*, 113:14-115:19).

Agricultural activities contribute immensely to the amount and direction of water flows in the EAA. When there is excess water on the farmlands, farmers pump the excess water into the

canals. (*See Trial Tr. Feb. 10, 2006*, 39:23-41:10).[21] Conversely, when the farmers require water for irrigation, they withdraw water from the canals through a variety of mechanisms. (*See Trial Tr. Jan. 25, 2006*, 12:21-13:24). Each activity – taking and discharging water – requires a SFWMD permit. (*See Trial Tr. Feb. 9, 2006*, 102:4-104:15).[22]

c. Sub-Surface Water Flows

The Lake and the EAA canals are also hydrologically connected through seepage (*i.e.*, the flow of fluid through soil pores). The groundwater and surface waters of the Everglades are highly interrelated (*Trial Tr. Jan. 20, 2006*, 111:2-8), and are only truly separated in isolated areas. (*See id.*, 111:2-8, 120:7-13). Moreover, water flows through the Dike in both directions, that is, from the Lake to the EAA and vice-versa. (*See Trial Tr. Jan. 13, 2006*, 109:14-110:6; *Trial Tr. Feb 8, 2006*, 208:2-3, 213:3-24; *Trial Tr. Feb. 9, 2006*, 7:17-20, 9:20-10:2, 24:1-3).[23] Seepage is possible because the material of which the Dike is constructed is porous. (*See Trial Tr. Feb. 8, 2006*, 209:2-210:4).

The direction that water will flow, both above and below the ground, depends on the soil matrix (porosity of the soils), and the difference in water level (water always flows from higher to lower elevations). (*See Trial Tr. Jan. 18, 2006*, 97:8-13; *Trial Tr. Feb. 8, 2006*, 208:4-209:16). Although seepage generally occurs from the Lake to the EAA (*see Trial Tr. Feb. 9, 2006*, 21:2-8), it can also flow in the opposite direction. (*See Trial Tr. Feb. 8, 2006*, 213:22-25; *Def. Ex. 244*, pp.

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[21] There are approximately 300 pump stations used by the farmers in the EAA that discharge water into the SFWMD's main canals. (*Trial Tr. Feb. 9, 2006*, 32:2-4).

[22] Generally, farmers drain their lands during the wet season and irrigate their lands during the dry season. (*Joint Pretrial Stip.*, Attach. 5A ¶ 44). Farmers seek to maintain an optimal level of moisture in their fields; a level that depends upon the particular crop being cultivated and the stage within the planting cycle. (*See Trial Tr. Feb. 10, 2006*, 53:2-54:1).

[23] Such seepage is common to all lakes. (*Trial Tr. Jan. 13, 2006*, 109:25-110:1; *Trial Tr. Feb. 9, 2006*, 11:4-6).

29-30, 32, 73).

Comprehensive studies have documented water seepage through the Dike. (*See Def. Exs. 248*, *249*). The amount of seepage through the Dike, however, is small in comparison to the amount of water moved by the pump stations. (*Trial Tr. Feb. 9, 2006*, 13:2-5). Indeed, the amount of seepage is so small that the Corps does not consider seepage losses in computing the Lake's monthly water budget (total water flows into and out of the Lake). (*Def. Ex. 211*, p. 23).[24] The amount of seepage through the Dike is constantly changing, depending upon a variety of factors including, most notably, the elevation of the Lake.[25] (*See Trial Tr. Feb. 9, 2006*, 6:25-7:9).

E. The Pump Stations

Although the water flows in the Everglades are controlled by numerous conveyance structures, this case focuses upon only three of the structures, the S-2, S-3, and S-4 pump stations, which are located at the southern end of the Lake.

1. Description of Pump Stations

The S-2, S-3, and S-4 pump stations are built into the Dike where the Dike intersects the EAA canals. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 12; *Trial Tr. Feb. 8, 2006*, 205:25-206:3). The pump stations, which were constructed by the Corps (*see Trial Tr. Jan. 19, 2006*, 57:7-10), are flow diversion facilities that change the movement, flow and circulation of the waters they control. They convey water from the Miami, North New River, Hillsboro, and C-20 and C-21 canals to Lake Okeechobee. (*Joint Pretrial Stip.*, Attach. 5A ¶ 13). The rim canal, which runs along the south

[24] Specifically, the water budget states that "seepage is not considered as a loss from Lake Okeechobee because it is only a minor amount of the normal range of operations." (*Def. Ex. 211*, p. 23).

[25] The elevation of water in the Lake is almost always higher than the elevation of water in the canals, the exception being during periods of extreme drought. (*Joint Pretrial Stip.*, Attach. 5A ¶ 17).

shore of the Lake, is the immediate receiving body of water from the pumps. (*Trial Tr. Jan. 10, 2006*, 82:16-17; *Trial Tr. Jan. 19, 2006*, 75:16-19; *Plain. Ex. 115*, p. 170).

The pumping of water from the S-2, S-3, and S-4 pump stations into the Lake has long been described as "backpumping." (*See Def. Ex. 110*, cover). Backpumping by the SFWMD has artificially added three basins totaling over 400 square miles to the watershed of Lake Okeechobee, all of which would have drained to either the south or west under natural conditions. (*See Plain. Ex. 110*, p. 1).[26] The S-2, S-3, and S-4 pump stations have the capacity to pump excess drainage into the Lake from the northern one-third of the EAA.[27] (*See Plain. Ex. 115*, p. 166). The southern two-thirds of the EAA are drained by pump stations S-5A, S-6, S-7, and S-8, which pump water into the Water Conservation Areas. (*See id.*).

The distance between the intake of water and outflow of water through the S-2, S-3, and S-4 pump stations is less than 60 feet. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 27). When the pumps are turned on, they immediately lower the water level in the canal at the entrance to the pump station (*Trial Tr. Jan. 25, 2006*, 14:7-15), and the water is thus artificially induced to flow by gravity toward the pump station. (*See Trial Tr. Jan. 20, 2006*, 131:22-132:5). The pump stations are designed with the capacity to remove 3/4 of an inch of water (rain) per day from their respective basins. (*Joint Pretrial Stip.*, Attach. 5A ¶ 16; *Trial Tr. Jan. 13, 2006*, 64:9-11).

The pump stations convey "navigable waters" without subjecting the waters to any intervening industrial, municipal or commercial use. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 2; *see also Trial Tr. Feb. 13, 2006*, 102:10-12). Moreover, the pump stations do not introduce anything

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[26] The calculations are based upon the pumps operating at full capacity.

[27] The stations do not necessarily pump water from the entire area.

to the water as it moves through the stations. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 3). All constituents in the waters transferred by the S-2, S-3, and S-4 pump stations (e.g., phosphorous and nitrogen) are already present in the waters when they enter the pumps, either because they occur naturally or because they were introduced to the waters by some other source or land use upstream of the pump stations. (*See id.*, ¶ 28). Neither the disposal of waste (*Trial Tr. Jan. 13, 2006*, 150:24-151:18), nor the assimilation of waste (*Trial Tr. Jan. 20, 2006*, 118:20-25), may be properly characterized as a goal of the SFWMD's backpumping activities.

Each pump station contains three or four pumps, each of which is powered by a diesel engine approximately the size of three tractor-trailer engines. (*Trial Tr. Jan. 12, 2006*, 65:19-66:8; *Trial Tr. March 2, 2006*, 83:11-16). Each engine, in turn, drives a pump with an impellor that is 12 feet in diameter. (*Trial Tr. Jan. 12, 2006*, 65:17-66:2). The pumped water is discharged through a tube. (*See Trial Tr. Jan. 25, 2006*, 29:16-30:1). Massive quantities of water may be moved through the S-2, S-3, and S-4 pumps (each pump is capable of transporting approximately 900 cubic feet of water per second). (*See Trial Tr. Jan. 12, 2006*, 66:19-24; *Trial Tr. Jan. 13, 2006*, 80:16-17). The flow rate from just one of the pump stations operating at full capacity is comparable to the flow of a medium-sized Florida river. (*See Trial Tr. Jan. 12, 2006*, 67:4-6).

The S-2 pump station, located at the northern end of the Hillsboro and North New River Canals, was designed to pump excess water from the 180 square mile S-2 drainage basin transected by the canals. (*Def. Ex. 218*, p. A-S2-1). The S-2 basin includes agricultural areas and the cities of South Bay and Belle Glade. (*Def. Ex. 200*, p. 29).

The S-3 pump station is located at the northern end of the Miami Canal and was designed to pump water from the surrounding 129 square mile S-3 basin. (*Def. Ex. 218*, p. A-S3-1). The S-3

basin includes agricultural areas and the city of Lake Harbor. (*Def. Ex. 200*, p. 52). The dominant land use in both the S-2 and S-3 basins is agriculture. (*Trial Tr. Feb. 10, 2006*, 109:18-22).

The S-4 pump station conveys water to the Lake from the 116 square mile S-4 drainage basin (sometimes referred to as the Nine Mile Canal Area). (*Def. Ex. 218*, p. A-S4-1, A-Ind-iii). The S-4 basin includes the agricultural area to the west of Clewiston and sometimes includes the City of Clewiston. (*Def. Ex. 200*, pp. 67, 69). The S-4 pump station conveys water from the C-20 and C-21 canals (three miles northwest of Clewiston) to the Lake. (*Trial Tr. Jan. 19, 2006*, 74:15-75:1).

The water backpumped into Lake Okeechobee contains at least the following pollutants: color, nitrogen, phosphorous, total suspended solids, high biological demand, dissolved solids (including dissolved organics), low quantities of dissolved oxygen, and un-ionized ammonia. (*Plain. Ex. 94*, App. F; *Plain. Ex. 9*, pp. 41-46; *Trial Tr. Jan. 9, 2006*, 50:17-51:21, 88:4-15, 93:6-20; *Trial Tr. Jan. 17, 2006*, 5:16-6:24).

2. Reasons for Backpumping

The S-2, S-3, and S-4 pump stations are integral components of the C&SF Project. (*See Trial Tr. Jan. 18, 2006*, 97:14-19; *Trial Tr. Jan. 20, 2006*, 112:20-113:3; *Trial Tr. Feb. 10, 2006*, 102:23-103:22; *Def. Ex. 205*, p. 42). The pump stations provide flood protection for the basins, communities and agricultural areas that they service. (*See Joint Pretrial Stip.*, Attach. 5B ¶ 26). Water management is essential to maintaining the agricultural activity in the EAA. (*See id.*, Attach. 5A ¶ 44). Indeed, the S-4 pump station is the only option for flood protection for the City of Clewiston. (*Trial Tr. Feb. 10, 2006*, 110:11-12).

The "tremendous majority" of backpumping episodes are meant to dispose of flood water. (*Trial Tr. Jan. 13, 2006*, 179:23-180:1). The trigger for backpumping occurs at the S-2 and S-3

pump stations whenever the water at any point in the canal reaches a level of 13 feet National Geodetic Vertical Datum ("NGVD").[28] (*Trial Tr. Jan 20, 2006*, 129:6-130:17). The trigger for backpumping at the S-4 pump station occurs whenever water in the canal reaches a level of 14 feet NGVD. (*Def. Ex. 200*, p. 66).

Flood control backpumping occurs even when the water level in Lake Okeechobee is at 18 feet (*see Trial Tr. Jan. 25, 2006*, 16:23-24), a level at which the integrity of the levee is called into question (*see id.*, 15:25-16:24), and a level at which the Corps is making maximum "regulatory releases" to tide (*i.e.*, dumping large quantities of Lake water into the Caloosahatchee and St. Lucie River estuaries). (*Trial Tr. Jan. 19, 2006*, 40:3-43:4; *Def. Ex. 218*, Figures 7-1, 7-3). Failure to operate the S-2, S-3, or S-4 pump stations during severe rain events would cause flooding in communities and farmlands throughout the S-2, S-3, and S-4 basins. (*See Trial Tr. Jan. 20, 2006*, 136:21-137:8).

On rare occasions, backpumping occurs for water supply purposes.[29] Before the SFWMD may backpump for water supply purposes, it must declare a water supply emergency. (*See Trial Tr. March 2, 2006*, 21:12-17; *Plain. Ex. 228*). Once an emergency is declared, the Florida Department of Environmental Protection (the "DEP") issues an order authorizing the SFWMD to backpump for water supply purposes. (*Plain. Ex. 228*). The SFWMD backpumped for water supply purposes in 1980-81, 1985-86, 1988-89, and 2000-01. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 53; *Trial Tr. Jan. 10, 2006*, 37:9-18; *Plain. Ex. 228*).

In its report to the DEP after the 2001 drought, the SFWMD distinguished backpumping

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[28] NGVD is equivalent to "above mean sea level."

[29] Several municipalities obtain their drinking water from Lake Okeechobee.

conducted for "water supply augmentation" purposes from backpumping for the purpose of flood protection, although both types of backpumping occurred within the same time period. (*Plain. Ex. 29*, p. 2). The SFWMD explained that the flood control backpumping events "were not considered part of the water supply augmentation efforts" and their effects on the Lake were thus not covered in the report. (*Plain. Ex. 29*, p. 2; *see also Trial Tr. Jan. 17, 2006*, 68:23-69:1).

F. Effects of Backpumping on Lake Okeechobee

While the extent of the adverse effects of backpumping on the Lake is not conclusive, that the backpumping has adversely affected the Lake is not in dispute. It is important, however, to distinguish between backpumping today and backpumping in the past as, over the last 25 years, significant efforts have been made to reduce backpumping to the Lake. The following discussion highlights the conclusions of different studies conducted throughout the years.

1. 1970s Studies

Plaintiffs entered into evidence a Florida Department of Environmental Regulation (the "DER")[30] study from August 1975, entitled "Effects of Backpumping from Agricultural Drainage Canals on Water Quality in Lake Okeechobee." (*See Plain. Ex. 110*). The report referenced a 1971 study that found that water backpumped from the Miami, Hillsboro, and North New River Canals was the poorest quality of all water sources to Lake Okeechobee. (*Id.*, pp. 8-10). The study noted that "[a]erial sampling demonstrated measurable influences of the drainage water (backpumped water) throughout the South Bay area of Lake Okeechobee and several miles northward in the open water." (*Id.*, abstract). The DER study ultimately found that "backpumping is [ ] an important cause

[30] The Department of Environmental Regulation (the "DER") was the previous name of the DEP. *See, e.g.*, *Southwest Florida Water Mgmt. Dist. v. Charlotte County*, 774 So. 2d 903, 907 n.7 (Fla. 2d DCA 2001).

of eutrophication[31] for Lake Okeechobee." (*Id.*).

In 1978, the SFWMD authored a study entitled "Water Quality in the Everglades and its Impact on Lake Okeechobee." (*See Plain. Ex. 109*). The study found that, at the rim canal – the immediate receiving body of the backpumped water – "[n]itrogen, phosphorous, and conductivity were all higher during backpumping periods, while dissolved oxygen concentrations were lower." (*Id.*, p. 8; *see also Trial Tr. Jan. 10, 2006*, 33:15-18). The study further found that the effects of backpumping became less noticeable further into the Lake. (*Plain. Ex. 109*, p. 8). The immediate zone of influence of backpumping did not extend more than four miles from the pumps. (*See id.*; *Trial Tr. Jan. 10, 2006*, 33:19-34:4). Moreover, the study concluded that from May 1973 through May 1977, the EAA contributed 15% of the total phosphorous input, and 35% of the total nitrogen input, to the Lake. (*Plain. Ex. 109*, p. 9)

2. 1981 Water Supply Backpumping Event

In 1981, as a result of an extended drought, the SFWMD backpumped water for water supply purposes. The SFWMD subsequently issued a report on the effects of this backpumping event on the water quality of the Lake. (*See Plain. Ex. 115*). Only the S-2 and S-3 stations pumped during the event. (*Id.*, p. 166).

The study found that conductivity increased at the sampling site near the S-2 and S-3 pump stations although it had decreased during the same time period throughout the remainder of the Lake. (*See id.*, p. 173). The report noted that highly mineralized canal water remained largely undiluted as far as eight kilometers into the Lake. (*Id.*). The study concluded as follows:

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[31] Eutrophication refers to the process by which a lake becomes increasingly biologically productive (meaning more photosynthesis takes place) as nutrients are added to the water body. (*See Trial Tr. Jan. 9, 2006*, 39:3-9, 66:7-67:3).

> The data presented here show that S-2 and S-3 discharges influenced water quality in the lake at least as far as station 6, which is 14.0 km from the south shore. This indicates that these inflows affected a far greater area than has been shown in previous studies. . . . The more widespread impact resulted from the diminished dilution capacity of the lake and the highly intense discharge from the EAA.

(*Id.*, p. 178).

3. 1996 Backpumping Study

In 1996, the SFWMD drafted a report entitled "Evaluation of Water Quality Criteria in the Everglades Protection Area." (*See Plain. Ex. 9*).[32] The SFWMD tested thirteen water quality parameters,[33] comparing water quality during periods of backpumping and no-backpumping. (*Plain. Ex. 9*, p. 46; *Trial Tr. Jan. 9, 2006*, 86:21-22). The study found that there was statistically significant worsening in twelve of the thirteen water quality parameters when S-2 was operating, eight of the thirteen parameters when S-3 was operating, and ten of the thirteen parameters when S-4 was operating. (*Plain. Ex. 9*, p. 46; *Trial Tr. Jan. 12, 2006*, 52:1-56:21). However, the study also found that "[a]lthough backpumping events did transfer nutrients and other pollutants at some level into the lake, overall water quality impacts to the lake could not be established due to effects of dilution, pollutant decay, particulate settling, and nutrient uptake which were not considered in [the] study." (*Plain. Ex. 9*, p. 44).

4. 2001 Backpumping Event

In 2001, drought conditions again required the SFWMD to backpump for water supply purposes. On December 14, 2001, the SFWMD submitted its "Lake Okeechobee Water Supply

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[32] It does not appear that a final version of the report, if one exists, was entered into evidence.

[33] The parameters were: alkalinity as $CaCO^3$, field conductivity, dissolved oxygen, pH, total suspended solids, turbidity, total chloride, total phosphorous, ortho-phosphorous, total nitrogen, nitrate and nitrite, ammonia dissolved and total kjeldahl nitrogen. (*See Plain. Ex. 9*, p. 46).

Backpumping and Water Supply Augmentation After Action Report." (*See Plain. Ex. 29*). Herbert Zebuth characterized the 2001 study of backpumping as the most thorough he had ever seen. (*Trial Tr. Jan. 18, 2006*, 10:16-20, 22:6-15).

The report found that "biological monitoring indicated no negative impacts of the backpumping operation on SAV [submerged aquatic vegetation] or water transparency." (*Plain. Ex. 29*, p. 4). Ultimately, the report concluded that an "[a]nalysis of the data collected in the Water Quality and Biological Monitoring programs associated with the emergency final orders did not indicate adverse impacts to Lake Okeechobee attributable to the emergency water supply backpumping and flow augmentation operations." (*Id.*, p. 8). Furthermore, no large algal blooms were reported as a result of the 2001 water supply backpumping event. (*Trial Tr. Jan. 11, 2006*, 23:19-24:2).

The final SFWMD study is in some respects contradictory to a draft of an article entitled "Effects of Pumping Rainfall Runoff from Agriculture Fields into Lake Okeechobee." (*See Plain. Ex. 18*). The draft, which studied the effects of the 2001 backpumping event on Lake Okeechobee, concluded as follows:

> Water quality monitoring documented poorer light penetration and chlorophyll and nutrient levels up to an order of magnitude higher at the impact site. Along with measurable levels of six heavy metals, five pesticides were found in backpumped water. When compared with data from backpumping in the 1970's, the magnitude of difference in nutrients between backpumped and reference water was comparable to 2001. Although not lethal, there were some negative ecological impacts of backpumping on SAV [submerged aquatic vegetation] communities of Lake Okeechobee. There appeared to be some impacts on Vallisneria, with a lower number of blades (and smaller photosynthetic surface area) in the impact water after two weeks. By four weeks, however, these differences disappeared. Results from the short duration of these incubations does [sic] not indicate whether long-term impacts on Vallisneria might be apparent. In contrast, there was significantly lower biomass of Chara in the backpumped assays, attributed to extensive epiphytization

> and the development of a sediment algal mat. It is unknown to what extent this nuisance benthic algal mat might influence emergence of growth of SAV in the field.

(*Plain Ex. 18*, p. 1). The source of the seemingly inconsistent conclusions was not clarified at trial.

5. Karl Havens' Experiment

Over time, scientists theorized that because the algal blooms that adversely impacted the Lake were believed to have been caused by low nitrogen/phosphorous ratios, one solution to the problem might include pumping nitrogen-rich waters, such as the waters from the EAA, into the Lake. (*See Plain. Ex. 52*, p. 1). Karl Havens, a scientist with the SFWMD, conducted an experiment pursuant to which he added canal water to Lake water to determine whether backpumping might have any positive effects. (*See id.*). Specifically, he wanted to determine whether backpumping could decrease the amount of blue/green algae in the Lake. (*See id.*). The idea was that by changing the total nitrogen/phosphorous ratios in the Lake through the introduction of backpumped waters, the nature of the algal communities in the Lake could be beneficially altered. (*See Trial Tr. Jan. 18, 2006*, 39:10-20).

Mr. Havens ultimately concluded that "the results of [the] study indicate a risk for ecological damage if backpumping of EAA canal water was substantially increased." (*See Plain. Ex. 52,* p. 35). The report further warned against increased backpumping without additional experimentation and found that even if there were benefits that could result from backpumping, backpumping only represented a temporary fix to the Lake's problems. (*See id.*).

6. Effects of Backpumping on Drinking Water

Lake Okeechobee serves as the drinking water source for the cities of Belle Glade, Clewiston and South Bay, among others. (*Joint Pretrial Stip.*, Attach. 5A ¶ 6). When backpumping occurs,

the City of South Bay's drinking water plant experiences increases in the water's hardness, turbidity and color. (*Id.*, ¶ 25). The SFWMD has received complaints from South Bay, Belle Glade, Pahokee and Clewiston that backpumping causes an unpleasant odor and taste in the cities' water supplies. (*Plain. Ex. 65C*). Therefore, the SFWMD sends advance notification of impending backpumping events to the City of Belle Glade. (*Id.*). Furthermore, the 2001 emergency order that the DEP issued to the SFWMD authorizing water supply backpumping required that the SFWMD reimburse the cities surrounding the Lake for any increased costs of water treatment caused by the backpumping. (*Trial Tr. Jan. 12, 2006*, 136:19-137:1; *Plain. Ex. 54*; *Plain. Ex. 117*, p. 7).

Dr. William Wise, a hydrologist, environmental engineer, and chemist, testified that he visited three water treatment plants eight days after a two-day S-2 backpumping event that occurred during the trial. (*Def. Ex. 124*; *see also Trial Tr. Feb. 15, 2006*, 16:7-9).[34] The intake water at the South Bay plant (which Plaintiffs claim is closest to the S-2 pump station) was noticeably colored and significantly darker than intake water from the Belle Glade or Pahokee plants. (*Trial Tr. Feb. 15, 2006*, 16:23-17:2, 54:9-55:11). Dr. Wise attributed the poor water quality at the water intakes to the backpumping episode. (*Id.*, 55:12-15).

Defendants, however, presented testimony that the water quality issues were likely caused by dredging activities that became necessary as a result of the 2005 hurricane season, and not the backpumping event. (*See Trial Tr. March 2, 2006*, 46:5-24). Defendants presented further testimony that, in fact, Belle Glade, as opposed to South Bay, is the closest intake structure to the S-2 pump. (*Id.*, 85:22-86:1).

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[34] The backpumping occurred from February 4, 2006 through February 6, 2006. (*Trial Tr. March 2, 2006*, 16:5-6).

G. Similarities and Differences Between the Lake and the Canals

As noted, the Lake is by no means a uniform body of water and there is much variability between and within the different regions of the Lake. Moreover, the rim canal of the Lake, the immediate receiving body of backpumped waters, is more similar chemically to the EAA canals than is the rest of Lake Okeechobee.[35] (*See Trial Tr. Jan. 9, 2006*, 120:14-121:6; *Trial Tr. Jan. 10, 2006*, 149:14-21). Additionally, it is important to note that most of the water in the canals likely originated in Lake Okeechobee. (*Trial Tr. Feb. 10, 2006*, 118:25-119:3). Notwithstanding the commonality of elements, several witnesses testified that there are certain characteristics unique to the canals while other characteristics are unique to the Lake.

1. Structural Characteristics

The canals are cut into the bedrock. (*Trial Tr. Jan. 17, 2006*, 13:7-10). Consistent with their role as water conduits, they were designed and constructed to have vertical sides and a flat bottom. (*Joint Pretrial Stip.*, Attach. 5A ¶ 20; *Trial Tr. Jan. 10, 2006*, 91:7-92:1; *Trial Tr. Jan. 12, 2006*, 70:10-18). In contrast, the Lake was most likely formed as a result of the uneven settling of materials during the period when Florida rose above the ocean. (*Trial Tr. Jan. 17, 2006*, 12:25-13:6). Thus, the Lake has taken the form of a bowl-shaped depression. (*See id.*).

The structural differences between the Lake and the canals mean that the Lake is subject to winds and other physical forces that do not affect the canals in a meaningful way. (*Trial Tr. Jan. 12, 2006*, 70:15-18). On a related note, the waters of the Lake mix far more than do the canal waters. (*Id.*, 85:9-12). As a result of the different mixing regimes, chemicals that enter the canals have a

[35] Although the water in the rim canal is similar to the waters in the canals in many respects, a plume is still visible when water is backpumped into the rim canal. (*Trial Tr. Jan. 9, 2006*, 120:23-25).

longer residence time than do those entering the Lake. (*Id.*, 85:12-15).

2. Water Quality

The canals and the Lake are classified differently under Florida and federal law. Unless otherwise delineated, "[t]he surface waters of the State of Florida are classified as Class III." Fla. Admin. Code r. 62-302.400(1). The canals are designated as Class III waters, to be used for recreation and propagation and maintenance of a healthy, well-balanced population of fish and wildlife. (*Joint Pretrial Stip.*, Attach. 5A ¶ 19; *see also* Fla. Admin. Code r. 62-302.400(4)).

In contrast to the Class III designation of the canals, Florida has designated Lake Okeechobee as a Class I water body, or potable water supply. (*Joint Pretrial Stip.*, Attach. 5A ¶ 6; *see also* Fla. Admin. Code r. 62-302.400). As a Class I water body, the Lake must meet more stringent water quality criteria than the Class III canals. (*Joint Pretrial Stip.*, Attach. 5A ¶ 22). The total maximum daily load ("TMDL") of a particular pollutant permitted to enter a Class I water body will often be less than the load permitted to enter a Class III water body. (*See Trial Tr. Jan. 17, 2006*, 32:22, 33:7-9). Nevertheless, there are many similarities in water quality standards for Class I and Class III waterways (*i.e.*, the criteria for some pollutants are identical). (*See id.*, 32:7-33:13).[36]

As would be anticipated, the water quality in the Lake is generally better than the water quality in the canals. A September 2005 draft report from the Corps addresses water quality in the Lake and the canals. (*See Plain. Ex. 94*; *Def. Ex. 32*). The study utilized data collected from June 4, 1973 through January 18, 2005. (*Id.*, F-86). It concluded that "[i]n both S-2 and S-3, water

[36] A water body may have multiple classifications. For instance, a river may be classified as a Class I water body at one point and be classified as a Class III water body downstream, or vice-versa. (*See Trial Tr. Jan. 17, 2006*, 37:13-25). The different classifications may exist even though there is no physical boundary marking the dividing point between the two classifications. (*See id.*, 42:15-17).

quality exiting [Lake Okeechobee] was of higher quality than water entering [Lake Okeechobee]." (*Id.*, F-89). As compared to the Lake, the canal waters were higher in most nutrients and lower in dissolved oxygen (at least at S-2 and S-3). (*See id.*, F89-91).

The differences in nutrient levels between the canals and the Lake are not surprising. Although canal waters largely originate in the Lake, the canals also receive runoff from the EAA, including waters pumped off of agricultural lands. Additionally, the muck soils in the EAA were formed from partially decomposed plants, causing the soils to have a different chemistry than the sand bottoms of the Lake.[37] (*Trial Tr. Jan. 10, 2006*, 90:1-8; *see also Def. Ex. 243*, pp. 27-28). As the universal solvent, water picks up the characteristics of its location. (*See Trial Tr. Jan. 20, 2006*, 53:10-12; *see also Trial Tr. Feb. 10, 2006*, 119:3-7). Thus, the waters in the canals have incorporated many of the natural characteristics of the EAA.

3. Biology

In a well-taken analysis, Dr. Thomas Crisman, professor of environmental science at the University of Florida and director of the Odum Center for Wetlands, explained that

> within any eco-system type there can be a great deal of variability, but when you are looking at the variability that takes place within Lake Okeechobee, that's variability among biological components that are lake components. When you look at variability within the canals, it's variability within the components that are characteristics of canals.

(*Trial Tr. Jan. 9, 2006*, 46:5-12).

Many species of birds thrive in shallow waters. (*See Trial Tr. Jan. 10, 2006*, 90:24-91-12). The Lake contains many shallow areas in which birds may wade. (*See id.*). However, because the

[37] Wetlands tend to have low dissolved oxygen even in their natural state. (*See Trial Tr., Jan. 9, 2006*, 118:14-19).

canals have steep walls, birds generally are not capable of wading in the canals unless the water level is extremely low. (*See id.*). Furthermore, the big broad flats of the Lake allow certain plants to live in the Lake that are unable to live in the far narrower canals. (*See id.*, 91:13-19).

Additionally, as explained by biologist Dr. Paul Gray, whose expertise is in the area of lake ecology and ducks,

> [c]anals, because of their nature, go up and down very rapidly. If you are a bird, you are depending on the canal to get a steady supply of food. You have to keep your young alive. You can't rely on a canal. . . . Canals are just not the same [type] of habitat ecologically for various marsh organisms. . . . The lack of a normal hydrology, the lack of shallow water, the lack of expanse of habitat really makes canals a lot different from Lake Okeechobee . . . .

(*Id.*, 91:23-92:19; *see also Trial Tr. Jan. 17, 2006*, 14:7 (biological differences between Lake and canals are "severe")). Dr. Gray added that "canals don't have the same water cycle vegetation, the same spatial extent. They are very different." (*Trial Tr. Jan. 10, 2006*, 94:1-3).[38]

H. Programs Addressing Current Environmental Problems

1. Recognition of Problems in the Lake

Over the years, it has become increasingly apparent that although Florida succeeded in reclaiming much of the Everglades for human use, the natural environment has suffered as a result of these efforts. What remains of the natural Everglades is in a continuing state of decline. (*Joint Pretrial Stip.*, Attach. 5B ¶ 49). The adverse situation is primarily attributable to the Everglades' diminished capacity to retain the huge volume of water that once pooled and sheet flowed across the landscape. (*Id.*). These waters are now either discharged in massive volumes through canal

[38] The rim canal, into which the canal waters are pumped, attracts species of birds that would generally be attracted to the canals. (*See id.*, 150:5-10). As noted, the rim canal is similar to the canals in other respects. (*See Trial Tr. Jan. 9, 2006*, 120:14-121:6; *Trial Tr. Jan. 10, 2006*, 149:14-21).

systems to tide, or are stored at unnaturally high levels in the Water Conservation Areas ("WCA[s]"). (*Id.*).

Many of the area's problems are now recognized as unanticipated consequences of the C&SF Project. (*Joint Pretrial Stip.*, Attach. 5B ¶ 49). The problems are exacerbated by the inescapable reality that people continue to move to South Florida at one of the highest rates in the nation. (*Id.*). The result is a currently non-sustainable system of urban, agricultural and natural environments in South Florida that exceeds the capacity of, or is hampered by, the existing system of water management. (*Id.*, ¶ 50).

The problems facing the Everglades have been examined in many studies conducted over the past 35 years, many of which have been funded by the SFWMD. (*See Trial Tr. Jan. 11, 2006*, 6:15-7:3). For example, in 1969, a United States Geological Survey report concluded that: (1) Lake Okeechobee was eutrophic; (2) the EAA was a principal source of nitrogen loadings to the Lake; (3) backpumped waters were very high in nitrogen, had high specific conductance, and had low turbidity; and (4) the most impacted parts of the Lake were the rim canal and the South Bay littoral zone. (*Joint Pretrial Stip.*, Attach. 5A ¶ 35).

A series of scientific studies subsequently conducted confirmed the conclusion that the Lake was undergoing a process of man-induced (anthropogenic) eutrophication and that backpumped EAA flood water contributed significantly to Lake eutrophication. (*See Plain. Ex. 111*, pp. 49-52). In 1976, the Florida Department of Administration, the DER, and the Central and Southern Florida Flood Control District participated in a report that ultimately recommended that: (1) backpumping from S-2, S-3, and S-4 and by private interests should be eliminated or reduced to the maximum degree feasible; (2) the EAA canals should be enlarged to enable the largest feasible amount of

water now backpumped to be routed southward for storage; (3) as much of the backpumped water as feasible should be stored for recyle [sic] within the EAA; and (4) a detailed study of alternatives to backpumping by private interests and the S-4 pump station should be conducted. (*Plain. Ex. 111*, pp. 80-84). The study, however, did not recommend that backpumping be eliminated. (*See id.*; *Trial Tr. Jan. 17, 2006*, 51:21-52:1).

The State of Florida has declared the Lake to be impaired (not meeting its designated uses) "due to phosphorus, dissolved oxygen, iron, un-ionized ammonia, coliforms and chlorides." (*Plain. Ex. 20*, p. 8). Florida has also recognized that the health of the Lake's natural resources is threatened by three primary stressors: (1) excessive phosphorous loads; (2) harmful high and low water levels; and (3) the spread of exotic vegetation. (*Joint Pretrial Stip.*, Attach. 5B ¶ 31).

2. Efforts to Restore Lake Okeechobee and the Everglades

To combat the enormous problems facing Lake Okeechobee, the state and federal governments have gone to great lengths to restore the system. Many of the programs build upon each other. The following summarizes the major programs/actions upon which the Court heard testimony and received evidence.

a. SFWMD Duties

In 1972, the Florida legislature expanded the SFWMD's duties to include management, on a holistic basis, of all water resources throughout Central and South Florida. (*Trial Tr. Jan. 20, 2006*, 113:20-114:1). In keeping with the goal of protecting the environment, the SFWMD and other agencies have conducted extensive research to address the water quality problems of the Lake. (*Joint Pretrial Stip.*, Attach. 5B ¶ 47). Many scientists have been studying the Lake to ascertain the optimal manner of restoration, spending millions of dollars to examine not only the Lake but the

interactions occurring within the entire ecosystem. (*Trial Tr. Jan. 11, 2006*, 6:17-7:25). Notwithstanding its efforts, however, the SFWMD has been the source of considerable criticism and has been forced to defend numerous lawsuits over the years.

b. Interim Action Plan and Temporary Operating Permit

In the late 1970s, environmental groups filed suit against DER, alleging that it had failed to require the SFWMD to obtain a pollution permit for the structures that were discharging water and pollutants into Lake Okeechobee. (*Trial Tr. Jan. 12, 2006*, 97:18-98:3). The parties eventually entered into a consent decree, pursuant to which DER issued a temporary operating permit to the SFWMD that required the development of interim actions to reduce nutrient impacts to the Lake. (*See id.*, 101:11-16; *Plain. Ex. 112*). The permit also required the development of a longer-range analysis of options for reducing pollution levels. (*See id.*).

One important consequence of the consent decree was the development of a modified backpumping schedule called the Interim Action Plan ("IAP"). (*See Trial Tr. Jan. 12, 2006*, 101:17-106:10; *Plain. Ex. 113*). The IAP established a point system to determine when backpumping for purposes other than water supply is appropriate. (*See Trial Tr. Jan. 12, 2006*, 104:10-105:4; *Plain. Ex. 113*). In other words, under the IAP, the SFWMD is permitted to backpump into the Lake from the S-2 and S-3 pump stations only under certain conditions.[39] (*Plain. Ex. 113*, Table 5).

One of the primary goals of the IAP was to move nutrient-rich waters south into the WCAs or out to tide rather than moving them north into the Lake. The IAP has successfully reduced the

[39] The requirements of the IAP do not apply to the S-4 pump station. (*Plain. Ex. 113*; *Trial Tr. Jan. 17, 2006*, 116:15-16; *Trial Tr. Feb 13, 2006*, 42:5-6).

amount of water moving north into the Lake. At most, the S-2 and S-3 pumps now operate only a few days per year. (*Trial Tr. Feb. 10, 2006*, 105:20-21). There are estimates that the IAP has reduced the flows from the EAA to the Lake by 90 to 95 percent. (*Trial Tr. Jan. 10, 2006*, 138:15-19; *Trial Tr. Jan. 20, 2006*, 128:12-18). Today, the S-2, S-3, and S-4 pump stations, together, contribute no more than six percent of the total inflows to Lake Okeechobee (on a multi-year average). (*See Joint Pretrial Stip.*, Attach. 5B ¶ 29; *Trial Tr. Jan. 25, 2006*, 54:17-22, 66:4-8).

Plaintiffs, however, provided testimony that, over the years, backpumping has occurred even when the conditions specified in the IAP were not met (*i.e.*, when the point total was not high enough). (*See Trial Tr. Jan. 13, 2006*, 176:23-179:22, 181:13-21). Moreover, because the IAP does not apply to backpumping for water supply purposes, under certain circumstances, a significant amount of water could be backpumped outside the bounds of the IAP. (*Trial Tr. Jan. 12, 2006*, 105:14-16).

c. 1983 Operating Permit

In 1983, the DEP issued to the SFWMD an operating permit that placed limits on the amount of phosphorous and nitrogen that could be discharged from SFWMD structures into Lake Okeechobee. (*Plain. Ex. 114*). The permit also set deadlines for meeting the reduction requirements. (*See id.*). It specifically regulated discharges from 14 major inflow structures to the Lake. (*Joint Pretrial Stip.*, Attach. 5A ¶ 55). Importantly, the operating permit incorporated the backpumping criteria of the IAP. (*See Trial Tr. Jan. 18, 2006*, 7:8-15). The 1983 operating permit for the SFWMD was meant only to establish temporary goals and was scheduled to expire in 1988. (*See Trial Tr. Jan. 11, 2006*, 76:13-17; *Trial Tr. Jan. 12, 2006*, 125:13-126:8). The 1983 permit is still in effect. (*Trial Tr. Jan. 12, 2006*, 126:9-128:2; *Trial Tr. Jan. 25, 2006*, 110:24-111:1).

Herbert Zebuth summarized the SFWMD's compliance with the 1983 permit in a report that was entered into evidence. (*See Plain. Ex. 93*). His report was based on data provided by the SFWMD. (*Trial Tr. Jan. 12, 2006*, 61:4-6). The analysis, and Mr. Zebuth's testimony, indicate that the permit's nutrient targets have been continually exceeded throughout the years. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 24; *see also Plain. Exs. 45*, *93*; *Trial Tr. Jan. 12, 2006*, 111:22-23, 116:8-20).

d. Surface Water and Improvement Act

In 1985 and 1986, the Lake experienced a massive algal bloom that attracted widespread public attention. (*See Trial Tr. Jan. 12, 2006*, 40:23-25). In response, Florida passed the Surface Water and Improvement ("SWIM") Act, which required development of a plan to improve the water quality of the Lake and other water bodies by 1988, and required compliance with a numeric phosphorous reduction goal by a date certain. (*Id.*, 40:23-41:12). The stated legislative intent of the SWIM Act is as follows:

> The Legislature finds that the water quality of many of the surface waters of the state has been degraded, or is in danger of becoming degraded, and that the natural systems associated with many surface waters have been altered so that these surface waters no longer perform the important functions that they once performed. These functions include:
>
> (a) Providing aesthetic and recreational pleasure for the people of the state;
>
> (b) Providing habitat for native plants, fish, and wildlife, including endangered and threatened species;
>
> (c) Providing safe drinking water to the growing population of the state; and
>
> (d) Attracting visitors and accruing other economic benefits.

Fla. Stat. § 373.451.

The SWIM Act mandates that each water management district "maintain a list that prioritizes water bodies of regional or statewide significance within the water management district." Fla. Stat. § 373.453(1)(a). The lists are to be reviewed and updated every five years. *Id.* The SWIM Act specifically requires that the SFWMD prioritize the restoration of Lake Okeechobee and its tributaries. Fla. Stat. § 373.453(1)(c)(1). Water management districts are authorized to develop surface water improvement and management plans for the water bodies within their district. Fla. Stat. § 373.453(2). Those plans should include, among other things, the identification of point and nonpoint sources of pollution to the water body and strategies for restoring and protecting the water body. *Id.*

The plan developed for Lake Okeechobee set a goal of a 40% reduction in phosphorous loading to the Lake (from the watershed) from the baseline levels that existed from 1973-1979. (*Joint Pretrial Stip.*, Attach. 5A ¶ 64).[40] From 1991-2000, an average of 433 metric tons of phosphorous entered the Lake annually. (*Def. Ex. 28*, p. 11; s*ee Trial Tr. Jan. 12, 2006*, 122:5-22). Accordingly, the1997 SWIM Plan update reported that although the Plan had achieved phosphorus load reductions, the 40% reduction goal had not been achieved. (*Joint Pretrial Stip.*, Attach. 5A ¶ 67). Similarly, the 2002 SWIM Plan update found that phosphorous loading far exceeded the amount considered necessary to achieve a healthy Lake and found that it could take decades before the beneficial results of phosphorous loading reductions were realized. (*Joint Pretrial Stip.*, Attach. 5A ¶ 69).

[40] The SWIM Plan did not address nitrogen loading to the Lake. (*Joint Pretrial Stip.*, Attach. 5A ¶ 61).

e. 1988 Consent Decree and Everglades Forever Act

In 1988, the United States filed suit against the SFWMD and the State of Florida over activities that allowed pollutants to enter the Everglades. *See United States v. So. Florida Water Mgmt. Dist.*, Case No. 88-1886-Civ. Specifically, the suit concerned the SFWMD's movement of polluted waters to Everglades National Park. A consent decree reached in the 1988 suit resulted in the construction of stormwater treatment areas ("STA[s]") in the southernmost portion of the EAA (*Trial Tr. Jan. 13, 2006*, 92:22-93:4), and the construction of new pump stations approximately five miles north of the S-7 and S-8 pump stations for the purpose of pulling canal water into the STAs. (*Def. Exs. 1*, *118*).

In the aftermath of the litigation, Florida passed the Everglades Forever Act.[41] *See* Fla. Stat. § 373.4592. The Everglades Forever Act mandates that a series of actions be taken to restore the Everglades. At trial, Defendants focused on the best management practices ("BMP") program established by the Act. The BMP program is a regulatory program meant to control the release of pollutants before they enter navigable waters. (*Trial Tr. Feb. 9, 2006*, 37:12-22). The BMP program is considered a source control program. (*Id.*, 37:11-23). All landowners within the EAA who utilize the works of the district must apply for a BMP permit. (*Id.*, 34:8-25; Fla. Admin. Code r. 40E-63.110(1)).

Landowners may receive general, individual or master permits. General permits are issued under the program for smaller parcels of land. *See* Fla. Admin. Code r. 40E-63.120. To obtain an individual permit, an applicant must, among other things:

[41] The Everglades Forever Act was initially known as the Everglades Protection Act. (*Trial Tr. Feb. 9, 2006*, 34:11-13).

(1) Submit and implement a BMP Plan which includes:

> (a) A description of Best Management Practice implementation and operation;
>
> (b) A description of Best Management Practice rationale (Best Management Practice research can be used to supplement data where appropriate);
>
> (c) A consideration of the Best Management Practices [from a list]. . . and an explanation of why Best Management Practices not included in the BMP Plan are not suitable for implementation;
>
> (d) A fertilization and water management plan for each crop, combination of crops or farming units;
>
> (e) A water management system design plan, including a water budget, probable volume and timing of discharge, nutrient recovery rationale, field water management strategies, infrastructure descriptions, and inter-and intra-operation water routing;
>
> (f) A monitoring plan to verify Best Management Practice implementation, operation and effectiveness . . .;
>
> (g) An education and training program for management and operation staff responsible for implementing and monitoring the approved BMP Plan;
>
> (h) A schedule for implementing the BMP Plan. . . .

Fla. Admin. Code r. 40E-63.136. Each permit has a five-year life (*see Trial Tr. Feb. 9, 2006*, 35:20-21), and is subject to modification. (*Id.*, 39:4-10).

Master permits are only issued to landowners who agree to oversee implementation of the permit for all of the landowners within an area. (*See id.*, 56:15-16). Master permits must meet all the conditions that are required to obtain an individual permit. Fla. Admin. Code r. 40E-63.156(1)(a). In addition, "[t]he permittee [must] demonstrate sufficient legal and financial capability to carry out all acts necessary to implement the terms and conditions of the Master Permit, including the ability to take necessary enforcement action." Fla. Admin. Code r. 40E-

63.156(1)(b).

The DEP has developed a list of best management practices that farmers may administer. (*See Trial Tr. Feb. 9, 2006*, 43:1-16). Each practice is assigned a point value and farmers must choose a combination of practices for which the associated point values total 25 points. (*See id.*). The theory behind the system is that farmers are able to choose BMPs that best suit their needs and are cost effective. (*See id.*, 43:12-44:6).

The goal of the BMP regulatory program is to reduce the total phosphorous loadings discharged from the EAA by a minimum of 25% annually. Fla. Admin. Code r. 40E-63.101(1). If the basin achieves certain reduction goals, farmers may receive tax relief. (*See id.*). If the basin does not achieve a goal, each farmer's compliance efforts is analyzed individually. (*See id.*). The program has resulted in, on average, an annual 50% reduction in phosphorous loading against the baseline. (*See Trial Tr. Feb. 9, 2006*, 52:11-15).

f. Total Maximum Daily Loads to Lake

Section 303(d) of the CWA mandates that each state submit a list of all impaired water bodies to the EPA and subsequently establish a TMDL for each impaired water body.[42] *See* 33 U.S.C. § 1313(d). In 1998, FWF and other parties sued the EPA in federal court over its failure to require Florida to set TMDLs for the State's water bodies (including Lake Okeechobee), as required under the CWA. (*Trial Tr. Jan. 26, 2006*, 58:24-59:22). In 1999, a consent decree was entered, pursuant to which the Florida legislature enacted the Watershed Restoration Act of 1999, Fla. Stat. § 403.067, and, later, the Lake Okeechobee Protection Act, Fla. Stat. § 373.4595. (*See*

[42] The TMDL is based upon each water's assimilative capacity with respect to a given nutrient/pollutant (*i.e.*, the amount of the nutrient/pollutant that may enter the water without causing an adverse effect sufficiently severe to cause the water to become unfit for its designated use). (*See Trial Tr. Feb. 13, 2006*, 82:12-21).

id., 60:9-61:3).

The Watershed Restoration Act of 1999 ("WRA") requires the DEP to list, and prioritize, all bodies of water in the State for which "total maximum daily load assessments will be conducted." Fla. Stat. § 403.067(2). The statute lists methodologies pursuant to which the DEP "shall conduct a total maximum daily load assessment of the basin in which the water body or water body segment is located." Fla. Stat. § 403.067(3). "If the DEP determines, based on the total maximum daily load assessment . . . that water quality standards are not being achieved and that technology-based effluent limitations and other pollution control programs . . . are not sufficient to result in attainment of applicable surface water quality standards," the water body must be added to a list of water bodies for which total maximum daily loads will be calculated. Fla. Stat. § 403.067(4). The list "must specify the particular pollutants causing the impairment and the concentration of those pollutants causing the impairment relative to the water quality standard." *Id.* The legislation further provides criteria and methodologies to be used in calculating the maximum daily loads. Fla. Stat. § 403.067(6).

The WRA imbues the DEP with a variety of tools with which to achieve the TMDLs. The DEP may "develop a basin management action plan that addresses some or all of the watersheds and basins tributary to the water body." Fla. Stat. § 403.067(7)(a)(1). The basin management action plan must include milestones for implementation of the plan and for water quality improvement, and must include a water quality monitoring component sufficient to evaluate whether reasonable progress in pollutant load reductions is being achieved. Fla. Stat. § 403.067(7)(a)(5). Moreover, the DEP may develop BMPs. Fla. Stat. § 403.067(7)(c). Finally, in implementing the TMDL, the DEP may utilize: (1) permitting and other existing regulatory

programs; (2) nonregulatory and incentive-based programs; (3) other water quality management and restoration activities; (4) pollutant trading or other equitable economics-based agreements; (5) public works including capital facilities; and/or (6) land acquisition. Fla. Stat. § 403.067(7)(b).

In 2001, pursuant to the WRA, the DEP adopted for Lake Okeechobee a TMDL for phosphorous of 140 metric tons. Fla. Admin. Code r. 62-304.700(1). Attainment of the TMDL is "calculated using a 5-year rolling average of the monthly loads calculated from measured flow and concentration values." *Id.* The TMDL is more stringent than the phosphorous goals established in the 1983 operating permit or the SWIM Plan. (*See Joint Pretrial Stip.*, Attach. 5A ¶ 71).

In 2000, the Florida legislature passed the Lake Okeechobee Protection Act (the "LOPA"), Fla. Stat. § 373.4595, in order to achieve the 140 metric ton TMDL for phosphorous established under the WRA. The LOPA establishes a watershed-based approach to the problems facing the Lake, *see* Fla. Stat. § 373.4595(1)(d), and calls for the immediate implementation of the Lake Okeechobee Protection Program. Fla. Stat. § 373.4595(3). The Protection Program has several different components. Specifically, the LOPA requires the adoption of a formal Lake Okeechobee Protection Plan (the "LOPP") and annual reports, and implementation of the Lake Okeechobee Construction Project (the "LOCP"), a watershed phosphorous source control program, a research and water quality monitoring program, in-lake phosphorous management evaluation, and an exotic species control program. (*See Def. Ex. 28*, p. E-1)

The Final LOPP, prepared by the SFWMD, the DEP and the Florida Department of Agriculture and Consumer Services, was issued on January 1, 2004. The LOPP set a target date of 2015 to meet the phosphorous TMDL of 140 metric tons. (*Def. Ex. 28*, p. E-1). The total cost of

implementing the LOPP is estimated to be approximately $322.2 million (in 2003 dollars).[43] (*Id.*, p. E-2).

The LOPP, which is to be re-evaluated every three years, anticipates achieving phosphorous reduction through the implementation of owner-implemented BMPs, funded cost-share BMPs and other phosphorous reduction projects. (*Def. Ex. 28*, p. 12). The LOPP also requires that the SFWMD submit an application to update the operating permit for all structures discharging into the Lake. (*Id.*, 3). As previously noted, the SFWMD is currently operating under the 1983 permit.

g. Comprehensive Everglades Restoration Project

Meanwhile, in 1992, Congress directed a restudy of the C&SF Project to address the problems associated with the Project. (*Trial Tr. Jan. 13, 2006*, 62:9-13). The restudy, which eventually became known as the Comprehensive Everglades Restoration Plan (the "CERP"), sought to establish a revised plan for addressing the problems of the Lake, the Everglades and the remainder of the ecosystem. (*Trial Tr. Feb. 10, 2006*, 122:21-23). Although the CERP has water quality components, its primary focus is on water quantity (*i.e.*, ensuring that there is sufficient water available to provide for the population's needs). (*See id.*, 15:20-16:13). The CERP has no direct role in cleaning up Lake Okeechobee. (*Trial Tr. Feb. 17, 2006*, 16:5-10). Instead, the Project contemplates the construction of reservoirs to store water that might otherwise enter Lake Okeechobee, protecting the Lake from the impact of those waters.[44] (*See id.*, 46:24-47:2).

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[43] The costs are to be borne by multiple stakeholders, including the SFWMD, landowners, and the State and federal governments. (*See Def. Ex. 28*, p. E-3).

[44] One witness testified that the construction of an EAA reservoir is expected to eliminate the need to backpump for water supply purposes. (*See Trial Tr. March 2, 2006*, 24:16-19).

In 2000, Congress approved the CERP and authorized its implementation by Congress.[45] (*Trial Tr. Jan. 13, 2006*, 63:8-9). Congress directed restoration of the entire watershed. P.L. 106-541, § 601(a)(5)(A) (WRDA 2000). The background for, and goals of, the CERP were summarized as follows:

> Adequately and reliably meeting water supply for all sectors is also a problem. Historically, most rainwater soaked into the ground in the region's vast wetlands. As south Florida developed, the canal network worked too effectively and drained too much water off the land too quickly. The result is that not enough water is stored for all uses. Water shortages that occur today are expected to become more frequent without any changes to the water management system. Without the steps outlined in this Comprehensive Plan, conflicts over the allocation of water needed for natural, agricultural, and urban areas will only increase.
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> * * *
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> Overall, the recommended Comprehensive Plan will capture and store much of the water that is now lost to the ocean and gulf. This will provide enough water in the future for both the ecosystem, as well as urban and agricultural users. It will continue to provide the same level of flood protection as it does at present, if not more, for south Florida. The Comprehensive Plan is a system-wide solution for ecosystem restoration, water supply, and flood damage reduction. It is a necessary step towards a sustainable south Florida.

(*Def. Ex. 232*, Summary, iv, x).

The CERP was designed to build on the flexibility of adaptive management. (*Trial Tr. Feb. 10, 2006*, 123:2-9). It attempts to avoid past problems that resulted from changes to specific portions of the system causing unintended consequences to other parts of the system. (*Trial Tr. Jan. 11, 2006*, 75:6-19, 81:9-23; *see also Trial Tr. Jan. 17, 2006*, 90:10-15). To avoid past mistakes, Congress established Restoration Coordination and Verification ("RECOVER"), a committee to review all of the CERP components that were developed. (*See Trial Tr. Jan. 13, 2006*, 120:16-23).

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[45] The restudy was actually completed in April 1999. (*See Trial Tr. Feb. 17, 2006*, 35:4-6).

RECOVER is charged with overseeing total integration of the projects. (*Trial Tr. Jan. 11, 2006*, 81:19-23; *Trial Tr. Feb. 17, 2006*, 51:6-19). There are approximately 66 individual projects contemplated by the CERP. (*Trial Tr. Jan. 20, 2006*, 151:20-22).

The CERP is being implemented through a State and federal partnership and has a projected shared cost of over $8.4 billion (in 1999 dollars). (*Joint Pretrial Stip.*, Attach. 5B ¶ 53). It involves the participation of 16 county governments, 122 municipalities, two tribal governments, numerous special districts, six metropolitan planning organizations, five regional planning councils, the SFWMD, five state environmental planning and regulatory agencies, and 11 federal agency managers. (*Id.*, ¶ 52).

There is no guarantee that the CERP projects will ever be implemented. (*See Trial Tr. Feb. 17, 2006*, 12:25-14:5). Plaintiffs' witness, Colonel Terry Rice, testified that many "authorizations that are provided by Congress for the Corps to implement are just simply never completed [ ] simply because . . . if all those things don't fall in place, it never happens." (*Id.*, 14:6-10).[46] To date, very little progress has been made in constructing any of the CERP projects. (*See id.*, 17:1-14).

In 2005, Florida announced the implementation of Acceler8, a plan to expedite regional projects critical to restoration of the Everglades. Acceler8 contemplates that selected priority projects will move forward on an expedited basis. (*Trial Tr. Feb. 10, 2006*, 69:7-21; *Trial Tr. Feb. 17, 2006*, 17:17-22). There are eight projects being developed under the Acceler8 plan. (*See* https://my.sfwmd.gov/portal/page?_pageid=54,926206&_dad=portal&_schema=PORTAL&navpage=overview; *Def. Ex. 91* (marked but not admitted in evidence)). The goal of Acceler8 is

[46] There is currently a backlog of $50 billion worth of projects that the Corps has been authorized to construct but upon which construction has not yet begun. (*See Trial Tr. Feb. 17, 2006*, 25:9-13, 26:18-23).

to begin realizing some of the expected ecosystem benefits sooner rather than later. (*Trial Tr. Jan. 20, 2006*, 150:3-7). The State has authorized the SFWMD to issue $1.8 billion in bonds to support the Acceler8 plan.

It appears that part of the impetus for the implementation of the Acceler8 plan was the slow progress of the CERP projects. (*See Trial Tr. Feb. 17, 2006*, 17:17-22). There is no statute, however, that mandates completion of the Acceler8 projects. (*See id.*, 17:23-18:5).

3. Purposes of the Lawsuit

Throughout the course of the trial, it became apparent that Plaintiffs are not entirely certain of, and may not be in agreement on, the precise goals that they hope to accomplish by requiring the SFWMD and/or its Director to obtain a permit for backpumping. Indeed, because the EPA does not currently issue permits for water transfers, there is no consensus on what type of permit the SFWMD and/or its Director should be required to seek, if one is required under the CWA. Accordingly, it is unclear what a NPDES permit would ultimately look like (*i.e.*, whether it would require treatment of the water, require backpumping to cease, contain a backpumping schedule, etc.). (*See, e.g.*, *Trial Tr. Feb. 8, 2006*, 149:15-155:23; *Trial Tr. Feb. 15, 2006*, 82:2-92:13).

Notably, Plaintiffs' witness, Herbert Zebuth, indicated that he was unsure whether a permit would substantively change the responsibilities of the SFWMD with respect to backpumping. (*See, e.g.*, *Trial Tr. Jan. 17, 2006*, 20:18-21, 28:4-18). In response to a question regarding the benefits of a NPDES permit, Mr. Zebuth stated:

> Well, I have my ideas why [NPDES permitting would be beneficial], and the reason I made that statement and the reasons are, number one, another layer of review, a Federal review that would be possibly above and beyond the political pressures that the State and Water Management District may find themselves in and, certainly, a State permit does not appear to carry much weight with the Corps of Engineers and

> maybe a Federal permit would, and I'm talking specifically about problems with the implementation of the Interim Action Plan where I have been told by the Water Management District when they applied to me in writing to have the Interim Action Plan changed that the Corps said that they had to backpump when the canal stages reached 13 feet in spite of the fact that the Interim Action Plan specifically only allowed 6 points toward a total of 21 for a situation in which the canals reached 13 feet. So, a situation where one agency operating the system, I guess, believes their sovereign immunity does not require them to abide by State permits. So, an NPDES being a Federal permit, I think, might be more useful in getting that cooperation.
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> There are times when [the SFWMD] backpumped without the canals reaching 13 feet, but some of the other factors within that point system had generated sufficient points to reach 21. But on many, many occasions when the canal system reached 13 feet and they began backpumping, they did not have 21 points. With the Corps, let's see, not being subject to regulation by State regulatory agencies, it seems that a Federal permit, in my mind, might be more influential in allowing these operations that we're trying to achieve to be observed.

(*Id.*, 104:4-24, 109:1-8). It appears, according to Mr. Zebuth, that resolution of the suit in Plaintiffs' favor may do nothing more than provide a more effective mechanism for ensuring SFWMD compliance with its current obligations when it operates the S-2, S-3, and S-4 pumps in the future.

I. Western Projects

Defendants presented evidence regarding the existence of other water transfer projects throughout the country. Over the years, the Bureau of Reclamation[47] has designed many reclamation projects. (*See Trial Tr. Jan. 20, 2006*, 26:22-27:13). There are a multitude of such projects throughout the western United States, many, if not all, of which presumably involve water diversion. (*See Def. Ex. 280*). Defendants elicited testimony concerning some of the larger western projects.

The Central Utah Project was established by an act of Congress in 1956. (*Trial Tr. Jan. 20, 2006*, 30:9-12). The Central Utah Project includes several components that divert water from one

[47] The Bureau of Reclamation was chartered by an act of Congress in 1902. (*Trial Tr. Jan. 20, 2006*, 26:15-17).

basin to another. (*See id.*, 31:19-32:21). "[T]here are about 10 reservoirs involved with the Bonneville Unit [a component of the Central Utah Project], as well as many, many miles of canals and pipelines and tunnels to transport water from the Colorado riverside." (*Id.*, 33:4-7; *see also Def. Ex. 308*). A small pumping plant is one component of the project. (*Trial Tr. Jan. 20, 2006*, 33:11-13).

Another project is the Colorado Big Thompson Project, which transfers water from the west side to the east side of the Continental Divide. (*See Trial Tr. Jan. 20, 2006*, 40:8-41:4). That project was also authorized by Congress. (*Id.*, 43:18-24). At times, pumps are the primary means of diverting water from the western slope of the Continental Divide to the eastern slope. (*Id.*, 41:5-15). The primary purposes of the Colorado Big Thompson Project are to provide irrigation water, to supply municipal water and to generate hydropower. (*See id.*, 42:22-43:2). The project also provides incidental flood control, although flood control is not one of the stated purposes of the project. (*See id.*, 43:3-6).

The Fryingpan-Arkansas Project provides irrigation, municipal and industrial water, seeks to promote recreation activities, serves to sustain fish and wildlife, generates hydropower and provides flood control. (*Trial Tr. Jan. 20, 2006*, 49:2-7). The project transports water through a series of conveyances and utilizes pumps in doing so. (*See id.*, 48:7-22).

Other projects throughout the western United States also involve water conveyances, typically through tunnels and ditches. (*See Def. Ex. 276*; *see also Trial Tr. Jan. 20, 2006*, 49:22-24). Generally, the waters that are diverted have fewer constituents than do the canal waters being pumped into Lake Okeechobee. (*See Trial Tr. Jan. 20, 2006*, 53:5-54:4). No matter how pristine they are, however, all waters contain at least a *de minimis* level of pollutants. (*See id.*, 67:15-68:2).

One witness testified that there are "thousands and thousands" of water transfer projects throughout the country. (*Id.*, 62:2-6).

In short, the evidence demonstrates that the movement of water among bodies of water is not unique to South Florida. Water managers in other parts of the country are apparently concerned about the implications of a decision here from which it could be extrapolated or argued that similar transfers may require NPDES permits. (*Trial Tr. Jan. 20, 2006*, 68:9-20).

J. Description of the SFWMD

An issue that survived summary judgment is whether the SFWMD is entitled to sovereign immunity.[48] The undersigned therefore heard testimony pertaining to the SFWMD's operations, particularly with respect to the relationship of the SFWMD with the State of Florida.

The SFWMD is one of five water management districts in Florida. The districts were established to comprehensively manage the waters of the State as well as to implement the water resource policies of the State. Fla. Stat. §§ 373.016, 373.069. The SFWMD's jurisdiction is drawn along hydrologic, as opposed to political, boundaries. (*Joint Pretrial Stip.*, Attach. 5B ¶ 4).

The DEP delegates specific duties and responsibilities to the SFWMD. (*Trial Tr. Jan. 19, 2006*, 96:14-19). Additionally, and as noted, the SFWMD acts as the State sponsor of the C&SF Project. Fla. Stat. § 373.1501.

The SFWMD is governed by a nine member board, appointed by the governor of Florida, subject to confirmation by the Florida Senate. Fla. Stat. § 373.073(1)(a). The governor has the

[48] An order dated November 23, 2005 [D.E. 527] determined that the director of the SFWMD could be sued in his individual capacity under the doctrine first enunciated by the Supreme Court in *Ex Parte Young*, 209 U.S. 123 (1908). However, the Order did not resolve the issue of the SFWMD's immunity, as the issue was addressed by way of summary judgment and the papers presented material facts in dispute.

authority to remove any SFWMD officer from office. Fla. Stat. § 373.076(2). The executive director, who is appointed by the SFWMD governing board, is responsible for the day-to-day operations of the SFWMD and implements policy. (*Trial Tr. Jan. 19, 2006*, 112:5-9; *see also* Fla. Stat. § 373.079(4)(a)).

Because the SFWMD is listed as a "major component unit" of the State of Florida in comprehensive annual financial reports (*Trial Tr. Jan. 19, 2006*, 110:15-20; *Def. Ex. 104*), it must follow very specific budget and financial reporting requirements. (*Trial Tr. Jan. 19, 2006*, 94:5-13). As such, the SFWMD must comply with rules set out by the Government Accounting Standards Board ("GASB"). (*Id.*, 104:13-25). Some agencies that are not "arms of the state," however, must also comply with GASB guidelines. (*Id.*).

The SFWMD budgeting process spans nine months. (*Trial Tr. Jan. 19, 2006*, 123:13-124:5). All interested parties (*i.e.*, the DEP, the SFWMD, governor and legislature) participate in the process. (*Id.*). The governor has line-item veto authority over the budget. (*Id.*, 107:5-6). The governor's office also reviews the SFWMD's revenue sources. (*See id.*, 132:17-20). The budget must also be submitted to the DEP and the legislature for review and comment. (*Id.*, 107:6-9). The DEP or the legislature may provide written objections or comments to the proposed budget, to which the SFWMD must respond. (*Id.*, 107:6-9, 116:2-7). In 2006, the SFWMD had a $1.1 billion budget. (*Id.*, 129:24-25).

The SFWMD receives general appropriations from the State, accounting for 25 to 30 percent of its budget. (*Trial Tr. Jan. 19, 2006*, 107:3-4). In addition to general appropriations, the State provides the SFWMD with special appropriations for specific projects, bond proceeds, gas tax revenues, license plate revenues, trust fund revenues, and other revenue streams. (*Id.*, 131:8-18).

State funding may be withheld from the SFWMD if it fails to comply with certain state requirements. (*Id.*, 123:7-9).

Sources of non-state funding account for 70 to75 percent of the SFWMD budget. (*See Trial Tr. Jan. 19, 2006*, 130:16-21). These sources include ad valorem taxing, federal grants, millage rates, and agricultural privilege taxes. (*See id.*). Ad valorem sources account for approximately 40 percent of the budget. (*Id.*). The SFWMD currently collects $440 million in ad valorem taxes annually, representing a sharp increase over the past seven years. (*Id.*, 146:6-13). Ad valorem tax rates are set by the governing board of the SFWMD (*id.*, 142:11-15), although there is a limit placed on the ad valorem taxes that the SFWMD may collect. (*Id.*, 135:5-10).

The SFWMD also imposes millage rate taxes (*see Trial Tr. Jan. 19, 2006*, 143:2-18) and agricultural privilege taxes. (*See id.*, 130:25-131:5). Similar to SFWMD ad valorem taxes, the counties in which the SFWMD operates collect taxes on behalf of the SFWMD and transfer the money directly to the SFWMD. (*Id.*). The SFWMD may also issue general obligation bonds and revenue bonds, although it has never issued general obligation bonds in the past. (*Id.*, 135:21-136:10).

The SFWMD can sue and be sued. (*Trial Tr. Jan. 19, 2006*, 151:11-13). It carries insurance for losses to its buildings, facilities and aircraft. (*Id.*, 136:13-17). Any funds collected from the policies are paid directly to the SFWMD. (*Id.*, 149:5-9). The SFWMD also has a self-insurance fund which is reserved to pay future claims in the areas of automobile liability, workers' compensation, and general liability. (*Id.*, 136:16:137:3).

Where large judgments have been rendered against the SFWMD in the past, as in inverse condemnation suits, the SFWMD has satisfied the judgments using State trust funds to which it has

access (*see Trial Tr. Jan. 19, 2006*, 131:19-132:1) and/or land act acquisition funds provided for in the SFWMD budget. (*Id.*, 139:3-140:6). If a judgment was sufficiently substantial, the SFWMD would be forced to declare a financial emergency and would have to request additional funds from the State. (*Id.*, 141:9-19).

III. CONCLUSIONS OF LAW

For Plaintiffs to prevail on their claims, the Court must answer the following two questions in the affirmative: (1) Does the CWA require that a water transfer between water bodies, where the transfer results in the addition of a pollutant to the receiving water body, comply with the NPDES permitting program; and (2) if so, are the canals meaningfully distinct from the Lake? The Court's analysis begins with the first question, a legal question of statutory interpretation that is case-dispositive.

A. Applicability of the NPDES Permitting Scheme

1. Introduction

Notwithstanding the enormous resources expended, and potential implications of the result, resolution of the initial legal question[49] before the Court rests primarily upon the proper interpretation of a few words of the CWA. Resolution of the matter, however, has been far from a simple exercise.

The CWA prohibits "the discharge of any pollutant by any person" unless the discharge is in compliance with the CWA.[50] 33 U.S.C. § 1311. The CWA defines "discharge of a pollutant" as "any

[49] The issue of an appropriate remedy, if any, has been only briefly addressed for the most part, although U.S. Sugar has provided more extensive commentary in its proposed findings, filed on March 29, 2006. (*See* [D.E. 596]).

[50] A "person" is defined as "an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body." 33 U.S.C. § 1362(5). The SFWMD and its Director therefore qualify as persons under the CWA.

addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12). A "pollutant" is defined as "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." 33 U.S.C. § 1362(6). A point source is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

The SFWMD concedes that it does not currently have, nor has it ever had, a permit for the water transfers at issue, transfers that move water from the canals to the Lake (both being "navigable waters"), through point sources, the S-2, S-3, and S-4 pumps. This is because, according to the SFWMD, the transfers do not require NPDES permits.

Under the quoted statutory language, a permit is required where the following five elements are present: (1) a pollutant must be (2) added (3) to navigable waters (4) from (5) a point source. *Nat'l. Wildlife Fed'n. v. Gorsuch*, 693 F.2d 156, 165 (D.C. Cir. 1982); *Nat'l. Wildlife Fed'n. v. Consumers Power Co.*, 862 F.2d 580, 583 (6th Cir. 1988). The undersigned must thus determine whether the SFWMD's activities *via* the S-2, S-3, and S-4 pumps *add* a pollutant *to navigable waters* (elements one, two and three).

2. Defendants' Arguments

Defendants offer two arguments in support of their position that transfers of water between navigable waters do not, as a matter of law, require NPDES permits where the waters are not subjected to any intervening uses. The first position, championed primarily by the SFWMD, is that

the relevant statutory language unambiguously places such transfers outside the scope of the NPDES scheme. Defendants alternatively argue that the relevant provisions are ambiguous, and a holistic approach to the statute compels the conclusion that such water transfers are regulated by means other than the NPDES permitting program.

a. First Argument: The Statutory Language is Unambiguous.

As stated, the CWA defines "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12). The SFWMD concludes that permits are only required where an activity *adds* a pollutant *to navigable waters*. According to the argument, activities that move water from one navigable water to another do not result in any "*addition to navigable waters*" as they merely move water *between navigable waters*. The SFWMD contends that Plaintiffs, and some courts, have erred by focusing upon the word "addition" in a vacuum. It argues that the Court may not ignore *what the addition is "to."*

As an analogy, Defendants proffer a hypothetical law that bans the addition of wine to the United States. The ban would undoubtedly apply to the importation of wine from, for example, France or Italy. However, it would have no effect upon the movement of wine from California to Florida, as movement between states would not result in the addition of any wine to the United States as a whole.

Similarly, the SFWMD argues that while the CWA prohibits the addition of pollutants from the outside world to navigable waters, it does not prohibit transfers of pollutants between waters as the transfers do not result in a pollutant being added to the unit of *navigable waters of the United States* (although they may result in the addition of a pollutant to "*a* navigable water of the United States"). The SFWMD maintains that if Congress had intended the statute to cover transfers between

navigable waters, Congress would have required NPDES permits for the addition of a pollutant to "*any* navigable water" of the United States, or would have utilized similar language.

b. Second Argument: Because the Statute is Ambiguous, the Court Should Adopt a Holistic Approach to its Interpretation and/or Defer to the EPA Interpretation.

In the alternative, Defendants argue that the statutory provisions prohibiting discharges of pollutants without a permit are ambiguous. They urge the Court to adopt a "holistic" approach to the statute. Similarly, Defendants ask that the Court defer to the holistic interpretation of the statute undertaken by the EPA. Because the positions of Defendants and the EPA are essentially identical, the undersigned undertakes a detailed description of the rationales offered in support of the EPA's recently-issued "National Pollution Discharge Elimination System (NPDES) Water Transfers Proposed Rule" ("Proposed Rule").[51] *See* 71 Fed. Reg. 32887. If adopted, the Proposed Rule would amend the CWA regulations. *See id.* at 32889.

The Proposed Rule explicitly excludes water transfers from regulation under the NPDES permitting program. 71 Fed. Reg. 32887. It defines "water transfer" as "an activity that conveys waters of the United States to another water of the United States without subjecting the water to intervening industrial, municipal, or commercial use." 71 Fed. Reg. 32889. The EPA cites the statutory language and structure, as well as the legislative history of the CWA, in support of the Proposed Rule.

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[51] The EPA had previously drafted a document entitled "Agency Interpretation on Applicability of Section 402 of the Clean Water Act to Water Transfers" ("Agency Interpretation") on August 5, 2005. (*See United States' Motion for Summary Judgment* [D.E. 369], Ex. 1). The Proposed Rule adopts the position taken by the EPA in its Agency Interpretation. In a recent Notice filed with the Court, the EPA advises that it expects to take final action on the Proposed Rule by the spring of 2007. (*See* [D.E. 635]). This Order focuses on the Proposed Rule, as opposed to the Agency Interpretation.

The Proposed Rule espouses a "holistic" approach to interpreting the statute. *See id.* ("Looking at the statute as a whole is necessary to ensure that the analysis here is consonant with Congress' overall policies and objectives in the management and regulation of the nation's water resources."). The EPA observes that, in enacting the CWA, Congress explicitly stated it did not intend to encroach upon the states' prerogatives with respect to the development and use of land and water resources. *See id.* at 32890 (citing 33 U.S.C. § 1251(b)). Likewise, the Proposed Rule emphasizes that Congress specifically provided that the CWA should not interfere with each state's ability to allocate quantities of water within its jurisdiction. *See id.* (citing 33 U.S.C. § 1251(g)). The EPA states that

> [w]ater transfers are an essential component of the nation's infrastructure for delivering water that users are entitled to receive under State law. Because subjecting water transfers to a federal permitting scheme could unnecessarily interfere with State decisions on allocations of water rights, this section provides additional support for the Agency's interpretation that, absent a clear Congressional intent to the contrary, it is reasonable to read the statute as not requiring NPDES permits for water transfers.

Id.

The EPA also finds it relevant that, although the statute does not specifically speak to whether water transfers are subject to the NPDES permitting scheme, the only reference in the statute to flow diversion activities is in a section that addresses nonpoint sources of pollution. Pursuant to 33 U.S.C. § 1314(f), Congress instructed the EPA to develop information relating to the control of pollution resulting from "changes in the movement, flow, or circulation of any navigable waters or ground waters, including changes caused by the construction of dams, levees, channels, causeways, or flow diversion facilities." Although, as recognized in the Proposed Rule, the provision does not *exclusively* address nonpoint sources, it is *primarily concerned* with nonpoint sources of pollution. *See* 71 Fed.

Reg. 32890. The EPA concludes that when the statute is read in conjunction with the other provisions pertaining to the states' authority over water management, it is apparent that "Congress was aware that there might be pollution associated with water management activities, but chose to defer to comprehensive solutions developed by State and local agencies for controlling such pollution." *Id.*

The EPA justifies its Proposed Rule by resort to "the overall structure of the statute." *Id.* at 32891.

> In several important ways, water transfers are unlike the types of discharges that were the primary focus of Congressional attention in 1972. Discharges of pollutants covered by section 402 are subject to "effluent" limitations. Water transfers, however, are not like effluent from an industrial, commercial or municipal operation. Rather than discharge effluent, water transfers release one water of the U.S. into another.
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> The operators of water control facilities are generally not responsible for the presence of pollutants in the waters they transport. Rather, those pollutants often enter "the waters of the United States" through point and nonpoint sources located far from those facilities and beyond control of the project operators. Congress generally intended that pollutants be controlled at the source whenever possible. *See* S. Rep. No. 92-414, p. 77 (1972) (justifying the broad definition of navigable waters because it is "essential that discharge of pollutants be controlled at the source"). The pollutants in transferred waters are more sensibly addressed through water resource planning and land use regulations, which attack the problem at its source. . . . Congress acknowledged this when it directed Federal agencies to co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water sources.

Id.

The EPA also cites to the legislative history of the CWA in support of its position. It notes that the legislature sought to "to insure that State [water] allocation systems are not subverted." *Id.* (citing 3 Congressional Research Serv., U.S. Library of Congress, Serial No. 95-14, A Legislative History of the Clean Water Act of 1977, at 532 (1978)) (citation omitted). Moreover, in addressing 33 U.S.C. § 1314(f), the provision pertaining to flow diversion, the House Committee Report stated

that it expected the EPA to be "diligent in [the] gathering and distribution of the guidelines for the identification of nonpoint sources and the information on processes, procedures, and methods for control of pollution from such nonpoint sources as . . . *natural and manmade changes in the normal flow of surface and ground waters*." *Id.* (citing H.R. Rep. No. 92-911, at 109 (1972)) (emphasis added).

Finally, the Proposed Rule cites a House Committee Report statement that:

> [I]n some States water resource development agencies are responsible for allocation of stream flow and are required to give full consideration to the effects on water quality. To avoid duplication, the Committee believes that a State which has an approved program for the handling of permits under section 402, and which has a program for water resource allocation should continue to exercise the primary responsibility in both of these areas and thus provide a balanced management control system.

Id. (citing H.R. Rep. No. 92-911, at 96 (1972)).

The parties do not dispute that, if accepted, the Proposed Rule, and the EPA's rationale in support thereof, should result in the denial of the relief Plaintiffs seek.

3. Plaintiffs' Arguments

Plaintiffs maintain that the CWA unambiguously prohibits any addition of a pollutant to navigable waters without a permit. Theirs is a straightforward proposition. They argue that an "addition" of a pollutant takes place whenever a pollutant is added to a navigable water from anywhere outside of the receiving body of water, *including from another water body*. According to Plaintiffs, Defendants essentially ask the Court to draft an exception into the statute where Congress has not done so.

As Plaintiffs do not find any ambiguity in the statutory prohibition of *any addition* of *any pollutant* without a NPDES permit, Plaintiffs find Defendants' "holistic" arguments to be largely

irrelevant. In other words, Plaintiffs argue that Congress has specifically and unambiguously mandated that certain activities be subject to the NPDES permitting scheme. While Congress certainly espoused other programs and policies in enacting the CWA, none of these other considerations can overcome the clear language of the statute. Moreover, Plaintiffs identify other provisions in the statute suggesting that Congress intended to control pollution and restore the nation's waters to the maximum extent possible. *See, e.g.*, 33 U.S.C. § 1251(a)(1) ("[I]t is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.").

4. Relevant Case Law

Before embarking upon a statutory analysis, it is both necessary and helpful to examine the manner in which other courts have addressed similar issues in the past. Unfortunately, no consensus has been reached among courts that have addressed these issues.

a. The S-9 Decision

Any survey of the law must necessarily begin with the Supreme Court's pronouncement in the *S-9 Case*. *See So. Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95 (2004). In the *S-9 Case*, the Supreme Court considered the question, nearly identical to the one considered here,[52] of whether the SFWMD was required to obtain a NPDES permit for its water transfer activities. As noted, the S-2, S-3, and S-4 are not the only pumps operated by the SFWMD. The Supreme Court case concerned the SFWMD operation of the S-9 pump station.

The *S-9 Case* more particularly involved the pumping of canal water from the C-11 Canal[53] into a water conservation area known as "WCA-3." *Id.* at 100. The pumping activities served to

[52] Indeed, the case was brought by FOE and Miccosukee, two of the Plaintiffs here.

[53] The area lies to the south of Lake Okeechobee.

maintain the water table in WCA-3 at a level significantly higher than the water level in the lands drained by the C-11 canal to the east. *Id.* Accordingly, "[a]bsent human intervention, that water would simply flow back east, where it would rejoin the waters of the canal and flood the populated areas of the C-11 basin." *Id.* at 100-01. Water was prevented from flooding the populated areas within the C-11 basin by levees that separated WCA-3 from the remainder of the basin. *Id.* at 101.

The *S-9 Case* came before the Court after the district court granted the plaintiffs' motion for summary judgment against the SFWMD, holding that the discharges required a NPDES permit. *See Miccosukee Tribe of Indians of Florida v. So. Florida Water Mgmt. Dist.*, Case No. 98-6056-Civ, 1999 WL 33494862 (S.D. Fla. Sept. 30, 1999). The district court's decision was affirmed by the Eleventh Circuit. *See Miccosukee Tribe of Indians of Florida v. So. Florida Water Mgmt. Dist.*, 280 F.3d 1365 (11th Cir. 2002).

In vacating the decision, the Court held that the water transfer activities only required a NPDES permit if they transferred water (and pollutants) from one body of water to another *meaningfully distinct* body of water. Alternatively stated, "[i]f one takes a ladle of soup from a pot, lifts it above the pot, and pours it back into the pot, one has not 'added' soup or anything else to the pot." *Id.* at 110 (quoting *Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York*, 273 F.3d 481, 492 (2d Cir. 2001)). The Court found that the district court had prematurely concluded that the C-11 Canal was "meaningfully distinct" from the WCA-3.

The Court specifically held that the record contained evidence that: (1) because of the porosity of the soil, especially in the absence of the levees, water would flow easily between ground and surface waters; (2) the levees would continually leak, allowing for "significant mingling" of the waters in question; and (3) if the pump station was shut down, flooding would occur and the waters

could, over time, essentially become one body of water. *See id.* at 110-11. Having found that the record was not sufficiently developed to make a determination as to whether the bodies of water were "meaningfully distinct," the Court declined to adopt a standard by which courts should make the determination. *See id.* at 111. Accordingly, it expressed no opinion on the accuracy of the district court's statement that a permit is required whenever a pollutant would not enter the receiving body of water but for the actions of the point source. *See id.*

In considering the case, the Court addressed two legal arguments that are relevant to the present dispute. First, the Court rejected the argument that NPDES permits are not required where the entity that controls the point source does not add any pollutant to the water. It held that the CWA definition of point source "makes plain that a point source need not be the original source of the pollutant; it need only convey the pollutant to navigable waters, which are, in turn, defined as the waters of the United States." *Id.* at 105 (internal quotations and citation omitted).

Next, and notwithstanding the fact that it had not granted certiorari on the issue, the Court briefly addressed the "unitary waters" argument that Defendants also assert here. The Court ultimately declined to resolve the question as it had not been previously raised by the parties. However, the Court did not, at first glance, view the "unitary waters" theory favorably. It noted that "several NPDES provisions might be read to suggest a view contrary to the unitary waters approach." *Id.* at 107.

One problem identified by the Court was that

> under the Act, a State may set individualized ambient water quality standards by taking into consideration "the designated uses of the navigable waters involved." 33 U.S.C. § 1313(c)(2)(A). Those water quality standards, in turn, directly affect local NPDES permits; if standard permit conditions fail to achieve the water quality goals for a given water body, the State must determine the total pollutant load that the

> water body can sustain and then allocate that load among the permit holders who discharge to the water body. § 1313(d). This approach suggests that the Act protects individual water bodies as well as the "waters of the United States" as a whole.

Id. The Court further opined that:

> 40 CFR § 122.45(g)(4) (2003) allows an industrial water user to obtain "intake credit" for pollutants present in water that it withdraws from navigable waters. When the permit holder discharges the water after use, it does not have to remove pollutants that were in the water before it was withdrawn. There is a caveat, however: EPA extends such credit "only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made." The NPDES program thus appears to address the movement of pollutants among water bodies, at least at times.

Id. at 107-08.

It is thus clear that the Court cast aspersions on the "unitary waters" theory. It is not clear, however, whether the theory was presented to the Court in the same light as it has been presented here.[54]

b. Other Relevant Case Law

Because the Supreme Court did not reach the issue of whether the transfer of one navigable water to another navigable water (where the water that is being transferred contains a pollutant) constitutes the "addition" of a pollutant, the parties have directed the Court to decisions of the courts of appeals in support of their arguments. Defendants ask the Court to follow the reasoning set forth in *Nat'l. Wildlife Federation v. Gorsuch*, 693 F.2d 156 (D.C. Cir. 1982), and *Nat'l. Wildlife Federation v. Consumers Power Company*, 862 F.2d 580 (4th Cir. 1988), in which the courts found that the activities in question did not require NPDES permits. Conversely, Plaintiffs rely upon the

[54] In any event, "before relying on a formulation of law in a prior opinion, we [the courts] must determine whether it was holding or dictum. We must make that inquiry even when the prior court was the Supreme Court. If a rule was declared only in dictum, the question remains undecided, and we have a constitutional duty to make our own determination of the answer." Pierre N. Leval, *Judging Under the Constitution: Dicta About Dicta*, 81 N.Y.U. L. REV. 1249, 1282 (2006).

more recent holdings in *Dubois v. United States Dept. of Agriculture*, 102 F.3d 1273 (1st Cir. 1996), *Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York*, 273 F.3d 481 (2d Cir. 2001) ("*Catskill I*"), *Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York*, 451 F.3d 77 (2d Cir. 2006) ("*Catskill II*"), and *Miccosukee Tribe of Indians v. S. Florida Water Mgmt. Dist.*, 280 F.3d 1364 (11th Cir. 2002),[55] in which courts found that the transfers between navigable waters required permits.

The circuit court opinions have largely been presented as being inconsistent with one another. And yet while the courts may have used inconsistent language in reaching their conclusions, the cases are also distinguishable from one another on their facts. *Gorsuch* involved a dam that released water from a reservoir to a downstream water. Similarly, *Consumers Power* involved a hydroelectric facility that withdrew water and later released it into the same body of water from which the water was initially withdrawn. The cases Plaintiffs rely upon, *Dubois* and *Catskill I* and *II,* involved water transfers from one body of water to other, clearly distinct and wholly separate bodies of water. Thus, the circuit court holdings are not in direct conflict with each other and are certainly reconcilable.

The *Gorsuch* holding was based largely upon the court's deference to the EPA position that dams were not subject to the NPDES permitting program. *See Gorsuch*, 693 F.2d at 166-70. The court further deferred to the EPA position that low dissolved oxygen and supersaturation, which characterized the released water, were not "pollutants" within the meaning of the CWA. *See id.* at 174. The analysis is not pertinent to the question before the Court.

Of importance to this case is the following position of the EPA, which *was* adopted by the

[55] As already mentioned, the decision was vacated by the Supreme Court in the *S-9 Case*.

Gorsuch court:

> [A]ddition from a point source occurs only if the point source itself physically introduces a pollutant into water from the outside world. In its view, the point or nonpoint character of pollution is established when the pollutant first enters navigable water, and does not change when the polluted water later passes through the dam from one body of navigable water (the reservoir) to another (the downstream river).

Id. at 175. To the extent that the court held that a source must introduce a pollutant into the waters of the United States to be considered a "point source," that position was rejected by the Supreme Court in the *S-9 Case*. However, the holding remains relevant to the extent that it found that the movement of a pollutant between navigable waters does not constitute an "addition" to the receiving water.

In *Consumers Power*, pumps moved water from Lake Michigan into a manmade reservoir. *Consumers Power*, 862 F.2d at 581. The water was subsequently discharged into the lake. *Id*. The discharged waters contained, among other things, fish that had died as a result of the pumping process. *Id.* at 583. There was no dispute that the dead fish were considered pollutants under the CWA. *Id.* In rejecting the plaintiff's position that the activity required a permit, the court held that

> [f]or the Ludington facility, the fish, both dead and alive, always remain within the waters of the United States, and hence cannot be added. EPA's § 402 treatment of the Ludington facility's wastewater, far from evincing irrational or arbitrary agency behavior, represents a reasonable distinction between those pollutants already in the water moved and transformed by the essential operation of a hydroelectric power dam and those waste products "added" to the water by tangential processes in generating electricity.

Id. at 586.

In *Dubois*, the First Circuit was required to determine whether snowmaking activities that withdrew water from both the Pemigewasset River and Loon Pond, and ultimately deposited all of

the waters into Loon Pond, required a NPDES permit. *Dubois*, 102 F.3d at 1275. Although there was some factual dispute as to whether the process introduced new pollutants into the water, *see id.* at 1296 n. 29, it was clear that, at a minimum, the discharged water included pollutants that were initially present in the Pemigewasset River. *See id.*

The court began its analysis by noting that "[t]he most important component of the [CWA] is the requirement that an NPDES permit be obtained." *Id.* at 1294 (citing *United States v. Commonwealth of Puerto Rico*, 721 F.2d 832, 834 (1st Cir. 1983); 33 U.S.C. § 1342 (1994)). *Dubois* explicitly rejected the district court's reasoning that "the intake water from the East Branch of the Pemigewasset River and the water in Loon Pond are all part of a singular entity, the waters of the United States, [meaning that] that the bodies of water are not to be considered individually in this context." *Id.* at 1296 (internal quotations and citation omitted).

Bearing directly upon the question presented here, the First Circuit found that there was nothing in the CWA evidencing a congressional intent to distinguish between unrelated, but hydrologically connected, bodies of water. *Id.* at 1298. The court distinguished the case from *Gorsuch* (where a dam accumulated "the same" water) and *Consumers Power* (where a facility stored water from one source in a different place). *Id.* at 1299. The court concluded:

> We hold that the Pemigewasset River and Loon Pond are two distinct "waters of the United States," and that the proposed transfer of water from one to the other constitutes an "addition." Where, as is undisputed here, the discharge is through a point source and the intake water contains pollutants, an NPDES permit is required. The Forest Service's determination to the contrary was arbitrary and capricious and not in accordance with law. *See* 5 U.S.C. § 706(2)(A).

Id.

Finally, the Second Circuit issued two decisions in the *Catskill* case. The first decision was

issued prior to the Supreme Court ruling in the *S-9 Case*. After the Supreme Court rendered its decision, the Second Circuit reconsidered its holding in *Catskill II*. *Catskill II* upheld the court's original decision that the NPDES permitting program was applicable to transfers between two bodies of water.

In reaffirming its prior decision, the Second Circuit addressed, and rejected, many of the same arguments presented here by Defendants. Indeed, the Second Circuit received *amicus curiae* briefs, as the Court did here, from western states that were concerned about the implications of the court's decision on their ability to allocate water. Unimpressed by New York City's "holistic" arguments, the court found as follows:

> In the end, while the City contends that nothing in the text of the CWA supports a permit requirement for interbasin transfers of pollutants, these "holistic" arguments about the allocation of state and federal rights, said to be rooted in the structure of the statute, simply overlook its plain language. NPDES permits are required for "the discharge of any pollutant," 33 U.S.C. § 1311(a), which is defined as "any addition of any pollutant to navigable waters from any point source," *id.* § 1362(12). It is the meaning of the word "addition" upon which the outcome of *Catskills I* turned and which has not changed, despite the City's attempts to shift attention away from the text of the CWA to its context. In *Catskills I*, we pointed out that complex statutes often have seemingly inconsistent goals that must be balanced. 273 F.3d at 494. The CWA seeks to achieve water allocation goals as well as to restore and maintain the quality of the nation's waters. The City and the EPA would have us tip the balance toward the allocation goals. But in honoring the text, we adhere to the balance that Congress has struck and remains free to change.

Catskill II, 451 F.3d at 84-85.

5. Analysis

Having reviewed the parties' arguments and surveyed the most relevant case law, the Court now turns to its own analysis. The legal question before the Court is primarily one of statutory construction. "Statutory construction . . . is a holistic endeavor." *Smith v. United States*, 508 U.S.

223, 233 (1993) (quoting *United Sav. Assn. of Texas v. Timbers of Inwood Forest Assoc., Ltd.*, 484 U.S. 365, 371 (1988)). Accordingly, the Supreme Court has long held that "in expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and its object and policy." *United States v. Boisdore's Heirs*, 49 U.S. 113, 122 (1850); *Regions Hosp. v. Shalala*, 522 U.S. 448, 460 n. 5 (1998); *see also United States Nat'l. Bank of Oregon v. Indep. Ins. Agents of Am., Inc.*, 508 U.S. 439, 455 (1993) (noting that the maxim has been quoted "in more than a dozen cases"). Thus,

> [w]hen interpreting a statute, the court will not look merely to a particular clause in which general words may be used, but will take in connection with it the whole statute (or statutes on the same subject) and the objects and policy of the law, as indicated by its various provisions, and give to it such a construction as will carry into execution the will of the Legislature.

Kokoszka v. Belford, 417 U.S. 642, 650 (1974) (internal quotations and citations omitted).

Therefore, and notwithstanding the arguments presented by the parties, the Court is not faced with the choice of whether to take a narrow versus a holistic view of the statute. Indeed, it would be error to employ anything but a holistic approach, as individual statutory provisions are not meant to be read in a vacuum. But even when taking a "holistic approach," a court must begin its analysis with the language of the statute. *Leocal v. Ashcroft*, 543 U.S. 1, 9 (2004) (citing *Bailey v. United States*, 516 U.S. 137, 144 (1995)). More specifically, because Plaintiffs assert that the SFWMD's activities require a NPDES permit, the Court begins with the statutory provisions pertaining to NPDES permits.

The CWA prohibits "the discharge of any pollutant by any person" unless the discharge is in compliance with the CWA. 33 U.S.C. § 1311. The CWA defines "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12). Finally, "navigable waters" are "the waters of the United States, including the territorial seas." 33 U.S.C. §

1362(7). The word "addition" is not defined in the CWA.

When a term is not defined by statute, courts must construe the term "in accordance with its ordinary or natural meaning." *S.D. Warren Co. v. Maine Bd. of Envtl. Prot.*, 126 S. Ct. 1843 (2006) (quoting *FDIC v. Meyer*, 510 U.S. 471, 476 (1994)). "Addition" is defined as the "joining of one thing to another." Webster's Third International Dictionary Unabridged, p. 24 (1993). Although the EPA states "that it is reasonable to interpret 'addition' as not generally including the mere transfer of waters from one water of the U.S. to another," it offers no sound explanation in support of its strained definition of the term. 71 Fed. Reg. 32891. Notwithstanding Defendants' protestations to the contrary, it is evident that "addition . . . to the waters of the United States" contemplates an addition from anywhere outside of the receiving water, including from another body of water. *See S-9 Case*, 280 F.3d at 1368 ("[I]n determining whether pollutants are added to navigable waters for purposes of the CWA, the receiving body of water is the relevant body of navigable water."); *Catskill II*, 451 F.3d at 84 (finding that defendants' arguments "simply overlook [the CWA's] plain language").

Far from being inconsistent with the "structure" of the CWA, requiring permits for backpumping is consistent with the CWA goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. 33 U.S.C. § 1251(a). Indeed, Congress set the ambitious and as yet unachieved goal "that the discharge of pollutants into the navigable waters be eliminated by 1985." *Id.* § 1251(a)(1). Courts have recognized that the NPDES permitting scheme represents the most important tool in achieving the goal of cleaning up the nation's waters. *Am. Iron and Steel Inst. v. EPA*, 115 F.3d 979, 990 (D.C. Cir. 1997) ("The centerpiece of the CWA is the NPDES permitting program."); *Dubois*, 102 F.3d at 1294 ("The most important component of the

[CWA] is the requirement that an NPDES permit be obtained."); *United States v. Com. of Puerto Rico*, 721 F.2d at 834 ("The linchpin of the [CWA] is the NPDES permit process.").

The discussion in *Gorsuch* of the primacy of the NPDES program is instructive:

> There is indeed some basis in the legislative history for the position that Congress viewed the NPDES program as its most effective weapon against pollution. Prior to 1972, federal water pollution law had required the states, under EPA oversight, to develop water quality standards and then limit industrial and municipal discharges so as to meet those standards. This system proved inadequate. It was costly, slow, and complicated to determine the effluent limits needed to maintain water quality. Many states did not set effluent limits and enforcement was all but nonexistent. The 1972 Act made technology-based effluent limits, rather than water quality standards, "the basis of pollution prevention and elimination" because they were "the best available mechanism to control water pollution."

Gorsuch, 693 F.2d at 175-76 (footnotes and internal citations omitted).

Moreover, as both the Supreme Court and First Circuit noted, a holding that the NPDES program does not apply to water transfers would result in a scheme where a person could pump the most polluted waters into the most pristine waters without a NPDES permit. *See S-9 Case*, 541 U.S. at 106; *Dubois*, 102 F.3d at 1297. Defendants presented evidence that other programs established by the states and/or the CWA would prevent such an absurd result. However, evidence introduced at trial called into question the effectiveness of many alternative regulatory regimes, and, as noted, Congress apparently intended that the NPDES program serve as its primary tool whenever possible.

The undersigned does not suggest that the scope of the NPDES permitting scheme may be settled by reference to general policies and the importance of the NPDES program within the CWA scheme. However, Defendants have suggested that Plaintiffs' and other courts' natural reading of the "addition to navigable waters" provision is at odds with the structure of the statute. Hopefully, the preceding analysis demonstrates that far from being inconsistent with the structure of the CWA, there

are many aspects of the CWA that wholeheartedly support Plaintiffs' interpretation. *See United States v. Earth Sciences, Inc.*, 599 F.2d 368, 373 (10th Cir. 1979) ("It is clear from the legislative history Congress would have regulated so-called nonpoint sources if a workable method could have been derived."); *Shanty Town Assoc. Ltd. P'ship. v. EPA*, 843 F.2d 782, 791 (4th Cir. 1988) ("[T]he [FWCPA's] legislative history makes clear that this omission [of direct federal regulation of nonpoint source pollution] was due not to Congress' concern for state autonomy, but . . . to its recognition that the control of nonpoint source pollution was so dependent on . . . site-specific factors. . . that its uniform federal regulation was virtually impossible.").

Having found that the relevant statutory language contemplates the permitting of transfers between navigable waters, and that the statute and its legislative history provide a considerable amount of support for that conclusion, the undersigned turns to whether the conclusion is clearly inconsistent with the structure of the CWA (*i.e.*, whether a "holistic" approach compels a different conclusion).

a. Federalism Concerns

Defendants' primary argument is that Congress clearly intended that the CWA not encroach upon the states' ability to allocate water within their jurisdictions. It is beyond dispute that the CWA has, to the maximum extent possible, left water allocation decisions to the states. For example, the CWA states that

> It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

33 U.S.C. § 1251(g). Congress also emphasized that the CWA should not "be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States." 33 U.S.C. § 1370(2).

Senator Malcolm Wallop, who sponsored the section 101(g) amendment (often referred to as the "Wallop Amendment"), described the purpose of the amendment as follows:

> The requirements of section 402 and 404 permits may incidentally affect individual water rights . . . . It is not the purpose of this amendment to prohibit those incidental effects. It is the purpose of this amendment to insure that State allocation systems are not subverted, and that effects on individual rights, if any, are prompted by legitimate and necessary water quality considerations. This amendment is an attempt to recognize the historic allocation rights contained in State constitutions. It is designed to protect historic rights from mischievous abrogation by those who would use an act, designed solely to protect water quality and wetlands, for other purposes. It does not interfere with the legitimate purposes for which the act was designed.

3 Leg. Hist. 532 (Senate Debate, Dec. 15, 1977).

Defendants concede that the Wallop Amendment does not specifically speak to whether backpumping and similar practices are covered under the NPDES permitting scheme. However, they argue that because backpumping and like activities are part and parcel of a state's ability to allocate quantities of water within its jurisdiction, it is unlikely that Congress intended to subject such activities to the NPDES permitting program. Alternatively stated, Defendants contend that requiring permits will not merely have an incidental effect upon states' allocation prerogatives, but will effectively eliminate states' control over their own waters.

The Supreme Court has emphasized that "[s]ections 101(g) and 510(2) preserve the authority of each State to allocate water quantity as between users; *they do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water*

allocation." *PUD No. 1 of Jefferson County v. Washington Dep't. of Ecology*, 511 U.S. 700, 720 (2004) (emphasis added). *See also United States v. Akers*, 785 F.2d 814, 821 (9th Cir. 1986) ("A fair reading of the statute as a whole makes clear that, where both the state's interest in allocating water and the federal government's interest in protecting the environment are implicated, Congress intended an accommodation. Such accommodations are best reached in the individual permit process."); *Riverside Irrigation Dist. v. Andrews*, 568 F. Supp. 583, 589 (D. Colo. 1983) ("[C]ongress did not intend to limit § 404's scope where it might affect state water-rights law when it enacted § 101(g).").

In the *S-9 Case*, the parties argued that "to require an NPDES permit for every engineered diversion of one navigable water into another, thousands of new permits might have to be issued, particularly by western States, whose water supply networks often rely on engineered transfers among various natural water bodies." *S-9 Case*, 541 U.S. at 108. The Supreme Court did not dismiss the argument out of hand, instead stating that

> [i]t may be that construing the NPDES program to cover such transfers would therefore raise the costs of water distribution prohibitively, and violate Congress' specific instruction that "the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired" by the Act. § 1251(g). On the other hand, it may be that such permitting authority is necessary to protect water quality, and that the States or EPA could control regulatory costs by issuing general permits to point sources associated with water distribution programs.

Id. (citations omitted).

The Supreme Court thus suggested that in order to prevail on their federalism argument, Defendants must (1) demonstrate that the water transfers are allocative in nature; and (2) show that permitting the transfers would prohibitively raise states' costs of water distribution. Here, Defendants have failed to demonstrate either element.

At least since the implementation of the IAP, the vast majority of backpumping has been for flood control purposes. Backpumping typically occurs, as a matter of course, whenever the water levels in the canals reach a pre-determined elevation. Indeed, the SFWMD only backpumps for water supply purposes under very limited circumstances. Pumping massive quantities of water into the Lake after heavy rains is not the type of activity contemplated by the Wallop Amendment.

This is not to suggest that backpumping has *no impact* on the State's allocation decisions. Water that reaches Lake Okeechobee may later be used to supply water for drinking or irrigation. Nevertheless, the Supreme Court and Congress have made clear that such incidental effects are both anticipated and acceptable aspects of the NPDES permitting program. *See PUD No. 1 of Jefferson County*, 511 U.S. at 520; 3 Leg. Hist. 532 (Senate Debate, Dec. 15, 1977).

The undersigned is mindful that Defendants, particularly the United States, ask that the broader implications of any decision here be carefully considered. Thus, although backpumping through the S-2, S-3, and S-4 pump stations may not have a significant impact on Florida's water allocation activities, permitting analogous activities could potentially cripple water management activities throughout the country, particularly in the West. While it may not be appropriate to turn a blind eye to any broader implications this decision may have, this case must be decided based upon the particular controversy at issue.[56] The evidence concerning water transfers in western states demonstrates that there are thousands of water transfers throughout the United States. It does not demonstrate, however, that those activities are essentially identical to the SFWMD's backpumping

[56] As Second Circuit Judge Pierre N. Leval noted in his recent article, *Judging Under the Constitution: Dicta About Dicta*, "[t]he constitutional function of the courts is to adjudicate – to decide cases. The Constitution does not explicitly grant to the courts the power to make law." 81 N.Y.U. L. REV. at 1259. That right is clearly reserved to the legislative branch, and the decision reached here by no means applies to or binds other parties other than those present.

activities. It would be inappropriate to determine whether backpumping requires a permit by resorting to the potential impact of such a decision on other water transfers — water transfers about which the Court neither has a complete record nor has any authority to opine.[57]

Even if the Court were to find that the SFWMD's backpumping implicated water allocation considerations that are the focus of sections 101(g) and 510(2) and/or looked beyond the transfers at issue here, the record does not support Defendants' implicit argument that subjecting water transfers to NPDES permitting would prohibitively raise a state's costs of water distribution. The NPDES permitting program does not require the total elimination of all pollutant discharges to navigable waters. The Court wholeheartedly agrees with the Second Circuit's finding that "the flexibility built into the CWA and the NPDES permit scheme . . . will allow federal authority over quality regulation and state authority over quantity allocation to coexist without materially impairing either." *Catskill II*, 451 F.3d at 85 (footnote omitted); *see also id.* at 87 ("While we recognize the incremental administrative burden our interpretation entails, we have little doubt that it nevertheless permits the City to deliver drinking water to its citizens while furthering the CWA's goal to 'restore and maintain the chemical, physical, and biological integrity of the Nation's waters.'") (citation omitted). In support of its conclusion, the Second Circuit engaged in a detailed and well-reasoned discussion of the flexibility that is part and parcel of the NPDES permitting scheme. *See id.* at 85-86.

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[57] Many of the considerations that counsel against the issuance of advisory opinions also counsel against the Court emphasizing the potential effects of its statutory interpretation upon water transfers in other parts of the country, transfers involving variables that are not present here. *See United States v. Fruehauf*, 365 U.S. 146, 157 (1961) ("Such opinions [advisory opinions], such advance expressions of legal judgment upon issues which remain unfocused because they are not pressed before the Court with that clear concreteness provided when a question emerges precisely framed and necessary for decision from a clash of adversary argument exploring every aspect of a multifaceted situation embracing conflicting and demanding interests, we have consistently refused to give.") (citations omitted). Nothing in the Court's decision will preclude parties who represent other states' water interests from pursuing their day in court.

Any argument concerning the prohibitive costs of permitting water transfers is further undermined by the fact that other states, such as Pennsylvania, subject analogous water transfers to NPDES permitting. *See S-9 Case*, 541 U.S. at 109. Defendants have not presented any evidence as to why the water transfers in Pennsylvania are more amenable to permitting than are the water transfers in Florida or other states.

The states' primacy in allocating water represents one of many goals espoused by the CWA. Another policy of the CWA is the reduction of pollution in the nation's waters through the NPDES permitting process. The two goals are neither inconsistent nor in conflict here.

b. The Statute Does Not Contemplate that Pumps are Nonpoint Sources.

Defendants argue that flow diversion facilities such as the pump stations are generally considered to be nonpoint sources under the CWA. Again, the CWA requires the EPA to issue information pertaining "to processes, procedures, and methods to control pollution resulting from changes in the movement, flow, or circulation of any navigable waters or ground waters, including changes caused by the construction of dams, levees, channels, causeways, or *flow diversion facilities*." 33 U.S.C. § 1314(f)(2)(F) (emphasis added). The provision is found in a section of the CWA that concerns nonpoint sources of pollution. *See* 33 U.S.C. § 1314(f); *S-9 Case*, 541 U.S. at 106.

In enacting section 1314(f)(2)(F), Congress implicitly recognized that many flow diversion facilities would not constitute "point sources" under the CWA. Therefore, these facilities are not subject to the NPDES permitting program. *See Gorsuch*, 862 F.2d at 587 ("Congress apparently intended that pollution problems caused by dams and other flow diversion facilities are generally to be regulated by means other than the NPDES permit program."). Indeed, it would defy logic to conclude that Congress included flow diversion facilities in a section of the CWA addressing

nonpoint sources if all flow diversion facilities are also to be considered point sources of pollution under the CWA.

Plaintiffs, however, do not contend that all flow diversion facilities must receive a NPDES permit, but merely that where a flow diversion facility transfers water from one body of water to another, it is a point source that requires a NPDES permit. The Supreme Court has observed that "§ 1314(f)(2)(F) does not explicitly exempt nonpoint pollution sources from the NPDES program if they *also* fall within the 'point source' definition." *S-9 Case*, 541 U.S. at 106. The undersigned fully concurs with the position taken by the EPA in *Gorsuch*, that section 1314(f)(2)(F)

> reflects congressional understanding that some dam-induced water quality problems are nonpoint source pollution (thus it would be improper to treat all dam-induced water problems as point source pollution), but does not indicate which dam-caused problems are nonpoint pollution (thus, the section does not preclude a finding that any particular pollution problem involves a point source of pollutants).

Gorsuch, 693 F.2d at 169.

Some, if not most, flow diversion facilities will result in pollution problems that will only be addressed by nonpoint source programs. The conclusion, however, does not suggest that other flow diversion facilities, such as the SFWMD pump stations, are not to be regulated as point sources under the NPDES program.

c. Deference to EPA

The EPA's recently-issued Proposed Rule seeks to clarify that transfers between navigable waters, such as backpumping, are not subject to NPDES permitting. Congress has charged the EPA with administering the permit program (although states may also administer NPDES programs so long as they comply with certain conditions). *See* 33 U.S.C. § 1342. Thus, Defendants ask that the Court defer to the EPA position.

The parties dispute the precise level of deference that the Court should give to the EPA interpretation. Defendants contend that, even if it is not entitled to full *Chevron* deference, the Proposed Rule is entitled to more deference than is the earlier Agency Interpretation. *See Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984); *United States v. Mead Corp.*, 533 U.S. 218 (2001). Whether the Court affords the level of deference enunciated in *Chevron* or in *Skidmore*,[58] or any level of deference in between, a court must "first ask whether congressional intent is clear." *Wilderness Watch & Pub. Employees for Envtl. Responsibility v. Mainella*, 375 F.3d 1085, 1091 (11th Cir. 2004) (citation omitted). If Congress' intent is clear and unambiguous, "that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* (citing *Chevron*, 467 U.S. at 842-43). Congressional intent is examined by resort to the plain language of the statute, language that is to be read in the context of the entire statutory scheme. *Id.* (citing *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000)).

The Eleventh Circuit was faced with an analogous situation in *Alabama Power Co. v. United States Dep't. of Energy*, 307 F.3d 1300 (11th Cir. 2002). In *Alabama Power*, the Eleventh Circuit noted that the level of deference it should properly afford the Department of Energy's statutory interpretation was unclear. *Id.* at 1312. Nonetheless, because it found the statute to be clear on the issue, it held that "even if *Chevron* deference does apply, the Department's interpretation is not saved." *Id.* at 1312-13. Here, for the reasons outlined in Section II.B.5, the undersigned finds that the statute is unambiguous. No agency interpretation, or court order for that matter, can alter the

[58] *See Skidmore v. Swift & Co.*, 323 U.S. 134 (1944).

unambiguous congressional intent expressed in a statute and the Court thus rejects the interpretation proposed by the EPA.

6. Conclusion

Ultimately, "[t]he CWA seeks to achieve water allocation goals as well as to restore and maintain the quality of the nation's waters." *Catskill II*, 451 F.3d at 84-85. Notwithstanding Defendants' proposed construction, the Court must adhere "to the balance that Congress has struck and remains free to change." *Id.* at 85. Accordingly, water transfers between distinct water bodies that result in the addition of a pollutant to the receiving navigable water body are subject to the NPDES permitting program.

B. The Canals and the Lake are Meaningfully Distinct.

Of course, the determination that water transfers between navigable waters are subject to the NPDES permitting program does not end the Court's inquiry. As the Supreme Court observed in the *S-9 Case*, although a water transfer may transport pollutants, a NPDES permit is only required if the transfer moves pollutants from one body of water to another, *meaningfully distinct* body of water. In keeping with the bowl of soup analogy (*see S-9 Case*, 541 U.S. at 109-110 (quoting *Catskill I*, 273 F.3d at 492)), the bulk of the evidence presented by the parties concerned whether the canals and the Lake should be viewed as one large bowl of soup or as two separate bowls of soup.

In the *S-9 Case*, the Supreme Court vacated the district court's judgment after finding that, even if the district court had applied the proper test to determine whether two bodies of water are meaningfully distinct, it did so prematurely. *See id.* at 110-11. The Supreme Court so held notwithstanding the undisputed fact that waters were being artificially pumped against gravity and stored in the WCA-3 at unnaturally high levels. Thus, in the absence of the pumps, and in the short-

term, the water from the C-11 Canal would not reach the WCA-3. That the Supreme Court nevertheless found that summary judgment was inappropriate teaches that in determining whether two waters are meaningfully distinct, a court should look beyond whether two water bodies are physically distinct at present.

Similarly, in analyzing whether a pollutant would not have entered a body of water but for a water diversion, the Supreme Court called for, at a minimum, a robust "but for" analysis. In the *S-9 Case*, the Supreme Court stated:

> Although C-11 and WCA-3 are divided from one another by the L-33 and L-37 levees, that line appears to be an uncertain one. Because Everglades soil is extremely porous, water flows easily between ground and surface waters, so much so that "[g]round and surface waters are essentially the same thing." . . . C-11 and WCA-3, of course, share a common underlying aquifer. . . . Moreover, the L-33 and L-37 levees continually leak, allowing water to escape from WCA-3. This means not only that any boundary between C-11 and WCA-3 is indistinct, but also that there is some significant mingling of the two waters; the record reveals that even without use of the S-9 pump station, water travels as both seepage and ground water flow between the water conservation area and the C-11 basin.

Id. at 110. The Supreme Court found the hydrologic connections between the waters to be relevant.

It appears, however, that in documenting the hydrologic connections between the waters, the Court was primarily concerned with whether shutting the stations would ultimately result in the waters becoming one. As such, the hydrologic connections were evidence supporting the SFWMD's position that the waters were only distinct *as a result of* the actions of the pump station and other artificial changes to the natural environment. *See id.* at 113 (Scalia, J. concurring) (questioning "the Court's holding . . . that summary judgment was precluded by the possibility that, if the pump station were shut down, flooding in the C-11basin might ultimately cause pollutants to flow from C-11 to WCA-3"). Alternatively stated, the Court did not suggest that the fact that waters are hydrologically

connected, without more, compels the conclusion that the waters are not meaningfully distinct.

The Court did not define the precise test by which courts should determine whether two waters are meaningfully distinct. *See id.* at 111. The district court, in the *S-9 Case*, had found that "[t]he canal and the Everglades are two separate bodies of water because the transfer of water or its contents from C-11 into the Everglades would not occur naturally." *S-9 Case*, 1999 WL 33494862 at *6. In *Catskill*, the Second Circuit recognized that a water transfer did not require a NPDES permit unless the transfer moved water from one body of water into a separate body of water. However, the Second Circuit did not outline the precise contours of the test for "distinctness," as it found that the bodies of water in question were "utterly unrelated in any relevant sense." *Catskill I*, 273 F.3d at 492.

Here, the undersigned will not attempt to articulate a precise test for the determination of whether two bodies of water are "meaningfully distinct." But, at a minimum, the evidence must demonstrate that pollutants would not have reached the Lake were it not for backpumping, and that the Lake and canals are distinct from one another and would remain distinct if backpumping ceased. Suffice it to say that, based upon the evidence presented, the Lake is "meaningfully distinct" from the canals.

The following factors support this conclusion:[59] (1) the waters are separated by a physical barrier (the Dike); (2) historically, water generally flowed south from the Lake (in the system's natural state); (3) today, water also generally continues to flow south; (4) there are chemical differences between the Lake and the canals; (5) there are biological differences between the Lake and the canals; (6) the canals are man-made and were cut into bedrock, while the Lake is a natural bowl-shaped water

[59] The Court does not determine the appropriate weight to be given to each factor, nor whether any one factor or combination of factors is dispositive, but rather considers the totality of the factors.

body; (7) when water enters the Lake *via* backpumping, a visible plume may be observed; (8) backpumping canal water into the Lake has a negative impact upon the Lake; (9) the waters are classified differently under the CWA (the Lake is a Class I water body and the canals are Class III water bodies); and (10) the waters that are backpumped into the Lake would not otherwise reach the Lake (in any significant amount, much less in the same quantities) but for the backpumping activities. These factors demonstrate that, in the absence of an extraordinary event, backpumping is the primary means by which pollutants from one body of water (the canals) enter another, distinct body of water (the Lake).

That the canals and Lake are hydrologically connected, while relevant, does not compel a different conclusion. Prior to artificial changes to the Everglades system, water generally sheet flowed from the Lake through the Everglades. Moreover, today a large portion of the canal waters originate in the Lake. Finally, the undersigned is mindful that, both historically and today, waters to the south of the Lake could reach the Lake through seepage, wind-blown activities and, on rare occasions, by gravity flow. Thus, if the relevant question were whether the waters are "completely distinct," the Court would necessarily have to answer the question in the negative. However, the Supreme Court has instructed that the proper question is whether the bodies of water are "*meaningfully* distinct," not "completely distinct."

All bodies of water are, to some extent, hydrologically connected. If a hydrologic connection was sufficient to preclude a finding that two bodies of water are meaningfully distinct, then no two bodies of water in the United States, or the world, would be meaningfully distinct and the test would

be completely meaningless.[60] The foregoing "connections" between the canal and Lake waters are not so meaningful as to result in a finding that these bodies of water are not meaningfully distinct.

Although *Dubois* was decided before the *S-9 Case*, a similar hydrologic connection argument was advanced there. In soundly rejecting the argument, the First Circuit noted that "there is nothing in the statute evincing a Congressional intent to distinguish between 'unrelated' water bodies and related or 'hydrologically connected' water bodies." *Dubois*, 102 F.3d at 1298. Moreover, the First Circuit held:

> It is true that Loon Pond and the East Branch of the Pemigewasset River are "hydrologically connected" in the sense that water from the Pond flows down and eventually empties into the River. But water from the East Branch certainly does not flow uphill into Loon Pond, carrying with it the pollutants that have undisputedly accumulated in the East Branch water from some of the other sources of water entering the East Branch from upstream. Under such circumstances, defendants cannot credibly argue that these water bodies are so related that the transfer of water from the East Branch to Loon Pond is not an "addition" of water from one of the "waters of the United States" to another. We therefore reject the Forest Service's "hydrological connectedness" proposal.

Id. at 1298.

This case presents facts similar to those in *Dubois*, and a similar result is warranted. Admittedly, and as noted, some of the canal waters may reach the Lake in the absence of backpumping. However, the vast majority of water that reaches the Lake through backpumping would otherwise remain in the canals or flow (or be pumped) south.

The historically unknown and undefined boundary between the Lake and the marshlands to the south of the Lake does not compel a different result. Certainly, the Supreme Court held that a

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[60] Obviously, certain water bodies share more hydrologic connections than do others. However, although such connections may certainly be relevant, the "meaningfully distinct" analysis should not turn only upon the degree of hydrologic connections between two water bodies.

court must determine whether the two waters are, in fact, one water body that has been artificially divided. Plaintiffs presented sufficient evidence to demonstrate that, historically, the Lake and the waters to the south of the Lake were distinct. That the boundary has been artificially altered and that waters that had previously sheet-flowed across the land are now collected in man-made canals is of no consequence.

Thus, and in light of all of the factors mentioned above and the evidence presented, the canals and Lake are meaningfully distinct.[61]

C. The SFWMD Is Entitled to Sovereign Immunity.

The Order of November 23, 2005 addressed the parties' cross-motions for summary judgment on the issue of the SFWMD's sovereign immunity. [D.E. 527]. The November 23, 2005 Order denied the motions[62] because material factual issues were in dispute and, at the time, the parties had not had an adequate opportunity to complete discovery. (*November 23, 2005 Order*, p. 11). Now, with the benefit of a fully-developed record, the Court again considers the SFWMD's entitlement to sovereign immunity.

The Eleventh Amendment to the United States Constitution provides: "The Judicial Power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by Citizens of another State, or by Citizens or Subjects

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[61] In this opinion, the undersigned, following the lead of the parties, has reviewed the developmental history of the area, as well as the present situation, in a fair amount of detail. By doing so, the undersigned does not mean to suggest that all of the factors upon which the Court heard testimony are relevant to the "meaningfully distinct" inquiry. Indeed, a good argument may be made that relevant CWA policies (those cited by Plaintiffs and Defendants) are frustrated by a finding that an overly exacting and time-consuming inquiry for each water transfer throughout the country is necessary before determining whether a NPDES permit is required.

[62] The order found that the official capacity claims against Henry Dean, Director of the SFWMD, could proceed under the doctrine of *Ex Parte Young*, 209 U.S. 123 (1908). (*See* [D.E. 527] at 12-16).

of any Foreign State." U.S. Const. amend. XI. It is well-settled that the Eleventh Amendment also bars suits against a state initiated by the state's own citizens. *See, e.g.*, *Hans v. Louisiana,* 134 U.S. 1 (1890); *Employees v. Dep't. of Pub. Health and Welfare*, 411 U.S. 279 (1973); *Edelman v. Jordan*, 415 U.S. 651, 663 (1974). Moreover, the Eleventh Amendment bars "certain actions against state agents and state instrumentalities." *Shands Teaching Hosp. and Clinics, Inc. v. Beech Street Corp.*, 208 F.3d 1308, 1311 (11th Cir. 2000) (citing *Regents of the Univ. of Cal. v. Doe*, 519 U.S. 425, 429 (1997)). The Eleventh Amendment does not bar suits against counties, municipal corporations or other political subdivisions of the state. *Mt. Healthy City Sch. Dist. Bd. of Educ. v. Doyle*, 429 U.S. 274, 280 (1977).

The Eleventh Circuit has embraced a four-part inquiry to determine whether an entity is an instrumentality of the state, entitled to sovereign immunity, or a political subdivision, not entitled to sovereign immunity. *Abusaid v. Hillsborough County Bd. of County Comm'rs*, 405 F.3d 1298, 1303 (11th Cir. 2005). The analysis takes into account: (1) how state law defines the entity; (2) the degree of control the state maintains over the entity; (3) the source of the entity's funds; and (4) who bears financial responsibility for judgments entered against the entity. *Id.* (citing *Manders v. Lee*, 338 F.3d 1304, 1309 (11th Cir. 2003) (*en banc*)). Thus, while an entity's entitlement to sovereign immunity is governed by federal law, the inquiry largely turns on matters of state law. *See id.*

Although the SFWMD's entitlement to sovereign immunity has been considered by courts within the Southern District of Florida on several occasions, no consensus has been reached. Some courts have found the SFWMD to be an instrumentality of the state, immune from suit. *See Grimshaw v. So. Florida Water Mgmt. Dist.*, 195 F. Supp. 2d 1358 (S.D. Fla. 2002); *Nicholas G. Aumen, Ph.D. v. So. Florida Water Mgmt. Dist.*, Case No. 99-8928-Civ (S.D. Fla. Mar. 28, 2000);

Miccosukee Tribe of Indians of Florida v. United States, 980 F. Supp. 448 (S.D. Fla. 1997); *Bensch v. Metro. Dade County*, 952 F. Supp. 790, 797 (S.D. Fla. 1996); *Indian Trails Water Control Dist. v. So. Florida Water Mgmt. Dist.*, No. 96 Civ. 8528 (S.D. Fla. Dec. 12, 1996). Others have reached the opposite conclusion. *See Miccosukee Tribe of Indians of Florida v. So. Florida Water Mgmt. Dist.*, Case No. 98- 6056-Civ, 1999 WL 33494862 (S.D. Fla. Sept. 30, 1999); *IT Corp. v. So. Florida Water Mgmt. Dist.*, Case No. 97- 8872-Civ (S.D. Fla. July 20, 1998). Indeed, in an unpublished opinion, the Eleventh Circuit observed that the question of whether the SFWMD is an arm of the state or a political subdivision is a close one. *Miccosukee Tribe of Indians v. United States*, 163 F.3d 1359 (11th Cir. 1998) (unpublished), *cert. denied*, 528 U.S. 810 (1999).

An analysis of the relevant four factors, factors that do not all point to the same conclusion, underscores the difficulty that past courts have had in answering this question.

1. Definition Under Florida Law

The Eleventh Circuit has emphasized that the "state law definition" prong of the analysis "must be assessed in light of the particular function in which the defendant was engaged when taking the actions out of which liability is asserted to arise." *Abusaid*, 405 F.3d at 1030. The undersigned is mindful that "states have extremely wide latitude in determining their forms of government and how state functions are performed." *Manders*, 338 F.3d at 1309 n.10.

The Florida Legislature has recognized that the management and protection of water resources is of critical importance to the *State*. As such, the Legislature has declared that "[t]he waters *in the state* are among its basic resources. Such waters have not heretofore been conserved or fully controlled so as to realize their full beneficial use." Fla. Stat. § 373.016 (emphasis added). The Florida Legislature has further found as follows:

> Because water constitutes a public resource [benefitting] *the entire state, it is the policy of the Legislature that the waters in the state be managed on a state and regional basis*. Consistent with this directive, the Legislature recognizes the need to allocate water throughout the state so as to meet all reasonable-beneficial uses. However, the Legislature acknowledges that such allocations have in the past adversely affected the water resources of certain areas in this state.
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> The Legislature recognizes that the water resource problems of the state vary from region to region, both in magnitude and complexity. It is therefore the intent of the Legislature to vest in the Department of Environmental Protection or its successor agency the power and responsibility to accomplish the conservation, protection, management, and control of the waters of the state and with sufficient flexibility and discretion to accomplish these ends through delegation of appropriate powers to the various water management districts. The department may exercise any power herein authorized to be exercised by a water management district; however, to the greatest extent practicable, such power should be delegated to the governing board of a water management district.
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> It is further declared the policy of the Legislature that each water management district, to the extent consistent with effective management practices, shall approximate its fiscal and budget policies and procedures to those of the state.

Fla. Stat. § 373.016 (4)-(6) (emphasis added). Moreover the Legislature found that "the general regulatory and administrative functions of the [water management] districts herein authorized are of *general benefit to the people of the state*." Fla. Stat. § 373.503(1) (emphasis added).

The water management districts were created by state law and each district's boundaries are defined by state law. *See* Fla. Stat. § 373.069. State law establishes the governance structure of each district. *See, e.g.*, Fla. Stat. §§ 373.073, 373.076, 373.083, 373.103. Furthermore, the DEP, a state agency, delegates responsibilities to the SFWMD and the other water management districts. (*Trial Tr. Jan. 19, 2006*, 115:22-116:1). The SFWMD has been designated, *by state law*, as the local sponsor for many CERP components. Fla. Stat. § 373.1501. Moreover, the water management

districts are listed as "major component units" of the State of Florida in the State comprehensive annual financial report. (*See Trial Tr. Jan. 19, 2006*, 110:15-20; *Def. Ex. 104*).

Notwithstanding that the water management districts manage a State resource, were established by the State, and are governed by laws established by the State, the water management districts have been treated somewhat inconsistently by the state courts and other state laws. For instance, the Florida constitution provides that "[n]o state ad valorem taxes shall be levied upon real estate or tangible personal property." Fla. Const. art. 7 s. 1(a). Special districts, however, are authorized to levy ad valorem taxes. Fla. Const. art. 7 s. 9(a). Because water management districts are special taxing districts, they, unlike the State, may levy ad valorem taxes. *See* Fla. Stat. § 373.503(2)(a); Fla. Stat. 373.0697; *Barley v. So. Florida Water Mgmt. Dist.*, 823 So. 2d 73, 74 (Fla. 2002).

Likewise, in *Canaveral Port Auth. v. Dep't. of Revenue*, 690 So. 2d 1226 (Fla. 1996) the Florida supreme court was faced with the question of whether Brevard County could impose ad valorem taxes upon the Canaveral Port Authority. In rejecting the port authority's claim of immunity, the court held that

> only the State and those entities which are expressly recognized in the Florida Constitution as performing a function of the state comprise "the state" for purposes of immunity from ad valorem taxation. What comprises "the state" is thus limited to counties, entities providing the public system of education, and agencies, departments, or branches of state government that perform the administration of the state government.

Id. at 1228.

While *Canaveral* did not directly speak to the appropriate classification of "special districts," the dissent interpreted the opinion as holding that special districts such as the SFWMD would not

be treated as the "state" for purposes of determining whether they are immune from ad valorem taxation. *Id.* at 1231. As noted by *Grimshaw*, however, the *Canaveral* court's definition of state "includes political subdivisions such as counties, cities, and school boards which are not entitled to Eleventh Amendment immunity." *Grimshaw*, 195 F. Supp. 2d at 1365.

Conversely, in other contexts, state courts have treated water management districts as arms of the State. *See Dade County v. Nat'l Bulk Carriers, Inc.,* 450 So. 2d 213, 216 (Fla. 1984) (the "legislature intended to apply the provisions of chapter 373 to *agencies* dealing with water resources"); *So. Florida Water Mgmt. Dist. v. Taylor*, 676 So.2d 11 (Fla. 3d DCA 1996) (SFWMD entitled to traditional sovereign immunity under state law). Thus, and notwithstanding Plaintiffs' arguments to the contrary, in analyzing the manner in which state law treats water management districts, it is necessary to look beyond mere labels placed upon the SFWMD in other contexts in order to ascertain the essence of the SFWMD under state law.

"[T]he Legislature defines the water management districts as operating under state control to perform a state function with a regional component." *Grimshaw*, 195 F. Supp. 2d at 1364. Indeed, the State has specifically delegated certain responsibilities to the SFWMD so that it may effectively manage the waters within its boundaries, which are set by the State. The Eleventh Circuit has held that the sovereign immunity question "must be assessed in light of the particular function in which the defendant was engaged when taking the actions out of which liability is asserted to arise." *Abusaid*, 405 F.3d at 1030. Here, Plaintiffs seek to impose liability upon the SFWMD for the manner in which it carries out the responsibilities delegated to it by the State and implements state policy. Therefore the first factor weighs heavily in favor of a finding that the SFWMD is immune from suit.

2. Florida's Degree of Control over the SFWMD

Florida exerts extensive control over the SFWMD. Statutory controls over the SFWMD include: (1) the nine member governing board of the SFWMD is appointed by the governor of Florida, subject to confirmation by the Florida Senate, Fla. Stat. § 373.073(1)(a); (2) the governor must approve of, and the Florida Senate must confirm, the executive director of the SFWMD (he or she is appointed by the governing board), Fla. Stat. § 373.079(4)(a); (3) the governor has the authority to remove any officer of the SFWMD from office, Fla. Stat. § 373.076(2); and (4) the State auditor general may, at the direction of the governor, audit each water management district's accounts. Fla. Stat. § 373.589.

Moreover, the SFWMD budgeting process, which spans nine months, involves the DEP, the governor, and the legislature. (*Trial Tr. Jan. 19, 2006*, 123:13-124:5). The SFWMD must submit its proposed budget to the DEP, the legislature, and the governor, and the governor has line-item veto authority over the budget. (*Id.*, 107:5-6). The governor's office also reviews the SFWMD's revenue sources. (*See id.*, 132:17-19). Furthermore, the DEP or the legislature may provide written objections or comments to the proposed budget, and the SFWMD must respond to them. (*Id.*, 107:6-9, 116:2-7).

"[W]here the budget of an entity is submitted to the state for approval, it is presumed for the purposes of evaluating the degree of state control and the entity's fiscal autonomy, that the entity is an agency of the state." *Grimshaw*, 195 F. Supp. 2d at 1366 (citing *Stewart v. Baldwin County Bd. of Educ.*, 908 F.2d 1499, 1509 (11th Cir. 1990); *Harden v. Adams*, 760 F.2d 1158, 1163 (11th Cir.), *cert. denied*, 474 U.S. 1007 (1985); *Fouche v. Jekyll Island-State Park Auth.*, 713 F.2d 1518, 1520 (11th Cir. 1983)). The State has multiple mechanisms by which it exerts control over the SFWMD.

Thus, the second factor, too, strongly favors granting sovereign immunity to the SFWMD.

3. Source of the SFWMD's Funds and Financial Responsibility for Judgments Entered Against the SFWMD

Courts have often analyzed the third and fourth prongs of the sovereign immunity inquiry in tandem, as the primary concern of the third prong is whether the state will be required to fund any judgment against the entity in question. *See Shands Teaching Hosp.*, 208 F.3d at 1311; *Stewart v. Baldwin County Bd. of Educ.*, 908 F.2d 1499, 1509 (11th Cir. 1990). The undersigned does so here as well.

The SFWMD budget for 2006 was $1.1 billion. (*Trial Tr. Jan. 19, 2006*, 129:24-25). General appropriations from the State accounted for 25 to30 percent of the budget. (*Id.*, 107:4-5). In addition to general appropriations, the State provides the SFWMD with special appropriations for specific projects. Moreover, the SFWMD receives revenue streams from bond proceeds, gas tax revenues, license plate revenues, and trust fund revenues, among others. (*Id.*, 131:6-12). The funds generated from these revenue streams are deposited in trust funds that the SFWMD may access. (*Id.*, 131:13-18).

The SFWMD also generates a significant portion of its revenues through its own fund-raising activities. (*See Trial Tr. Jan. 19, 2006*, 130:16-21). These sources include funds generated through ad valorem taxation, federal grants, millage rates, and agricultural privilege taxation. (*See id.*). Ad valorem tax rates are set by the governing board of the SFWMD (*id.*, 142:11-15), although the State imposes a limit upon the SFWMD's ability to impose ad valorem taxes. (*Id.*, 135:5-10). The SFWMD may also issue general obligation bonds and revenue bonds, although it has not issued general obligation bonds in the past. (*Id.*, 135:21-136:10).

Regarding the payment of judgments, the SFWMD carries insurance for losses to its buildings, facilities and aircraft. (*Trial Tr. Jan. 19, 2006*, 136:11-18). The SFWMD also maintains a self-insurance fund which is reserved to pay future claims in the areas of automobile liability, workers' compensation, and general liability. (*Id.*, 136:17:137:3).

Where large judgments have been rendered against the SFWMD in the past, the SFWMD has satisfied the judgments using state trust funds to which it has access (*Trial Tr. Jan. 19, 2006*, 131:19-132:1) and/or out of land act acquisition funds provided for in the SFWMD budget. (*Id.*, 139:3-140:6). If a judgment were sufficiently substantial, the SFWMD would be forced to declare a financial emergency and would have to request additional funds from the State. (*Id.*, 141:9-19). The State of Florida has no legal obligation to satisfy any judgments against the SFWMD.

The State's lack of a legal obligation to satisfy judgments against the SFWMD weighs against finding that the SFWMD is entitled to sovereign immunity. Nevertheless, the State's contribution of a substantial portion of the SFWMD budget, and the fact that it might, as a practical matter, be forced to satisfy any judgments against the SFWMD, counsel against weighing the third and fourth factors too strongly, if at all, against the SFWMD's sovereign immunity.

5. Conclusion

The first and second factors of the analysis weigh heavily in favor of the SFWMD's immunity from suit. In *Hess v. Port Authority Trans-Hudson Corp.*, 513 U.S. 30 (1994), the Supreme Court noted that the impetus for adoption of the Eleventh Amendment was "the prevention of federal-court judgments that must be paid out of a State's treasury." *Id.* at 48 (citation omitted). It approvingly cited circuit court cases finding "the vulnerability of the State's purse as the most salient factor in Eleventh Amendment determinations." *Id.* Notwithstanding some language in the

Hess opinion to the contrary, the Eleventh Circuit has clarified that although *Hess* weighed the "source-of-payment factor heavily, *Hess* never suggests that for Eleventh Amendment immunity a state treasury drain is required *per se* and *Hess* notes that 'current Eleventh Amendment jurisprudence emphasizes the integrity retained by each State in our federal system.'" *Manders*, 338 F.3d at 1325. Indeed, in *Manders*, the Eleventh Circuit found that a Georgia sheriff was entitled to sovereign immunity notwithstanding the undisputed fact that the state *would not pay any judgment against him*.

The question of the SFWMD's entitlement to sovereign immunity is a difficult one. Nevertheless, the Court finds that the critical role that the SFWMD plays for the State, the level of control that the State exercises over the SFWMD, the State's substantial contributions to the SFWMD, and the likelihood that the State would likely be forced to satisfy any substantial judgments against the SFWMD, tip the scales in favor of a finding that the SFWMD is immune from suit.

6. Did the SFWMD Waive its Sovereign Immunity?

Plaintiffs argue that even if the SFWMD would otherwise be entitled to sovereign immunity, it waived its sovereign immunity by filing a Counterclaim against Plaintiffs.[63] After commencement of this suit, the SFWMD filed an Answer on August 5, 2002 [D.E. 11]. In its Answer, the SFWMD asserted, as affirmative defenses, that (1) the suit was barred by the Eleventh Amendment; and (2)

[63] On January 6, 2006, the Court issued an Order Granting South Florida Water Management District's Motion for Voluntary Dismissal [D.E. 249], dismissing the then-pending Counterclaim. The Order stated, however, that "[t]o the extent that, as Plaintiffs argue, bringing a counterclaim affects an entity's sovereign immunity status, the record is clear that the SFWMD has already asserted counterclaims and the Court ascertains no means by which their dismissal would alter the Court's legal analysis, or Plaintiffs' rights." Thus, the dismissal does not impact the Court's analysis.

the claims were barred by the doctrine of sovereign immunity. (*Answer*, p. 5).[64] The SFWMD also asserted a Counterclaim in which it sought (1) a declaration that it did not need a permit for its flow diversion activities at S-2 and S-3; (2) a declaration that the SFWMD is not responsible under the CWA for all pre-existing pollutants introduced to the waters managed by S-2 and S-3 from other sources; (3) a declaration that it is not responsible under the CWA for those pollutants that have already been permitted or are exempt from permitting under the CWA; (4) an award of attorney's fees and costs; and (5) any further relief the Court deems just and proper. On May 22, 2003, the SFWMD filed a substantially identical Answer (including the Counterclaim) to FWF's and Miccosukee's Complaints. (*See* [D.E. 85, 107]).

After Plaintiffs amended their pleadings following the Supreme Court's decision in the *S-9 Case* and the re-opening of this litigation, the SFWMD again answered the Complaints by asserting the defenses of Eleventh Amendment and sovereign immunity. (*See* [D.E. 204, 206, 269]).[65] The SFWMD filed a Motion for Summary Judgment on Eleventh Amendment immunity on August 5, 2005 [D.E. 374] and, on the same day, FWF filed a Motion for Summary Judgment on Defendant SFWMD's Affirmative Defenses of Constitutional Bars and Immunities [D.E. 382]. As already stated, the cross-motions were denied as to the SFWMD. Plaintiffs argue that through its litigation tactics, particularly its filing of a Counterclaim, the SFWMD waived its Eleventh Amendment immunity.

Although the Eleventh Amendment generally bars suits against states and their agencies in

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[64] The SFWMD did not file a motion to dismiss on either ground.

[65] The language of SFWMD's Counterclaim differs slightly among its various Answers. The substance of the relief sought, however, remained the same.

federal court, there are several exceptions to the rule. Plaintiffs argue that the long-established "waiver" exception applies here. As far back as 1883, the Supreme Court held that "immunity from suit belonging to a state . . . is a personal privilege which it may waive at pleasure; so that in a suit, otherwise well brought, in which a state had sufficient interest to entitle it to become a party defendant, its appearance in a court of the United States would be a voluntary submission to its jurisdiction." *Clark v. Barnard*, 108 U.S. 436, 447-48 (1883); *see also Cate v. Oldham*, 707 F.2d 1176, 1182 n. 4 (11th Cir. 1983) ("[T]he state by its own action may waive Eleventh Amendment immunity."). A state's waiver of sovereign immunity, however, must be "unequivocally expressed." *Doe v. Moore*, 410 F.3d 1337, 1349 (11th Cir. 2005) (citing *Pennhurst State Sch. & Hosp. v. Halderman*, 465 U.S. 89, 99 (1984)).

Although a state may waive its Eleventh Amendment immunity through several means, the relevant question is whether the SFWMD waived its immunity through its affirmative litigation conduct. *In re Burke*, 146 F.3d 1313, 1318 (11th Cir. 1998). It is appropriate to "find a waiver either if the State voluntarily invokes [a federal court's] jurisdiction, or else if the State makes a 'clear declaration' that it intends to submit itself to [a federal court's] jurisdiction." *College Sav. Bank v. Florida Prepaid Postsecondary Educ. Expense Bd.*, 527 U.S. 666, 675-76 (1999) (internal citations omitted).

Here, the SFWMD found itself in federal court after a suit was filed against it. The SFWMD clearly did not invoke the Court's jurisdiction, at least at the outset of the case. Moreover, in all of its Answers, and in its Motion for Summary Judgment, the SFWMD steadfastly maintained that it was entitled to Eleventh Amendment immunity. Accordingly, the SFWMD has not unequivocally expressed an intent to waive its immunity. Nevertheless, Plaintiffs contend that by filing the

Counterclaim, and by otherwise defending the case on the merits, the SFWMD has implicitly waived its immunity. The undersigned disagrees.

Courts have been inconsistent in determining the effect that a state's filing of a counterclaim has upon its immunity. *Paul N. Howard Co. v. Puerto Rico Aqueduct Sewer Auth.*, 744 F.2d 880 (1st Cir. 1984), is the case most often relied upon for the proposition that a state waives its sovereign immunity when it files a counterclaim. In *Paul N. Howard Co.*, the First Circuit held that "where PRASA not only appeared but filed a counterclaim and a third-party complaint, we have little trouble concluding that PRASA voluntarily submitted to the jurisdiction of the federal court, thereby waiving any Eleventh Amendment immunity it might or might not have enjoyed." *Id.* at 886 (citing *Newfield House, Inc. v. Massachusetts Dep't. of Pub. Welfare*, 651 F.2d 32, 36 n. 3 (1st Cir. 1981)); *see also Mohegan Tribe v. State of Connecticut*, 528 F. Supp. 1359 (D.C. Conn. 1982) (finding that state waived its sovereign immunity by filing counterclaim); *Aldens v. Ryan*, 454 F. Supp. 465, 470 (W.D. Okla. 1976) (finding that state waived immunity by answering complaint without objection, asserting counterclaim, and entering stipulation of fact).

Other courts have reached the opposite conclusion. In *State Contracting and Engineering Corp. v. Florida, Dept. of Transp.*, No. 97-7014-Civ, 2000 WL 34220818 (S.D. Fla. 2000), the court found that a state did not waive its immunity by filing a counterclaim. It distinguished the case from *Howard*, and emphasized that the counterclaim did not assert new issues into the case, it only sought a declaratory judgment, and that, at the time the state filed its counterclaim, the state of the law was such that it appeared that the state could not have successfully asserted an immunity defense. *See id.*, at *4. In affirming the court's ruling on the issue of waiver, the Federal Circuit held "that the filing of a counterclaim during a period when the State was reasonably unsure about the availability

of an immunity defense was not a waiver." *State Contracting & Eng'g. Corp. v. State of Florida*, 258 F.3d 1329, 1337 (2001), *cert. denied*, 534 U.S. 1131 (2002).

Other courts have reached similar conclusions. *See Kelley v. Edison Twp.*, No. 03-4817-Civ, 2006 WL 1084217 (April 25, 2006) (state did not waive immunity by filing of third-party complaint, as the action should be viewed as a defensive posture); *Santee Sioux Tribe of Nebraska v. State of Nebraska*, 121 F.3d 427 (8th Cir. 1997) (answering complaint and filing counterclaim did not waive state's immunity because assistant attorney general was not authorized to waive immunity); *Mescalero Apache Tribe v. State of New Mexico*, 131 F.3d 1379, 1385 n. 4 (10th Cir. 1997) (affirming district court ruling that state did not waive sovereign immunity by filing counterclaim); *Nat'l. R.R. Passenger Corp. v. Rountree Transp. and Rigging, Inc.*, 896 F. Supp. 1204, 1206-07 (M.D. Fla. 1995) (in order to find a waiver through the state's filing of a counterclaim "state defendants still must announce their waiver of Eleventh Amendment immunity unequivocally").

In evaluating whether a state has waived its immunity, "[c]ourts indulge every reasonable presumption against waiver." *College Sav. Bank*, 527 U.S. at 682 (quoting *Aetna Ins. Co. v. Kennedy ex rel. Bogash*, 301 U.S. 389, 393 (1937)). Likewise, "[a] finding of waiver is appropriate only where the state's consent is 'stated by the most express language or by such overwhelming implications from the text as [will] leave no room for any other reasonable construction.'"[66] *M.A. ex rel. E.S. v. State-Operated Sch. Dist. of City of Newark*, 344 F.3d 335, 345 (3d Cir. 2003) (quoting *Edelman v. Jordan*, 415 U.S. 651, 673 (1974)). In other words, the test for finding voluntary waiver

[66] Although *Newark* concerned the question of whether the state had waived its immunity by accepting federal funds (as opposed to waiver through litigation conduct), the court's emphasis on the question of whether the state clearly intended to waive its immunity is relevant.

is a stringent one. *See id.*

In light of the stringent standard governing the "waiver" inquiry, the Court does not find that the SFWMD waived its immunity in this case. From the outset of this litigation, the SFWMD has asserted the affirmative defenses of sovereign immunity and Eleventh Amendment immunity. Moreover, it filed a motion for summary judgment on the issue. That the SFWMD also defended the case on the merits is not dispositive as the Eleventh Circuit has held that "Eleventh Amendment jurisdictional questions can be raised for the first time on appeal." *Doe*, 410 F.3d at 1349.

The SFWMD's filing of a Counterclaim is not dispositive. It is certainly true that when a state files a suit in federal court, it is generally considered to have waived its Eleventh Amendment immunity. *See, e.g.*, *Burke*, 146 F.3d at 1319-20; *Gardner v. New Jersey*, 329 U.S. 565 (1947). However, cases holding that the filing of a claim in federal court (or removal of a claim to federal court) waived immunity are primarily concerned with fairness. To state it differently, where a state invokes the power and jurisdiction of a federal court, it may not then use the Eleventh Amendment as a shield when a non-state party seeks to defend itself. As the Supreme Court explained in *Gardner*,

> [i]t is traditional bankruptcy law that he who invokes the aid of the bankruptcy court by offering a proof of claim and demanding its allowance must abide the consequences of that procedure. . . . If the claimant is a State, the procedure of proof and allowance is not transmitted into a suit against the State because the court entertains objections to the claim. The State is seeking something from the debtor. No judgment is sought against the State. The whole process of proof, allowance, and distribution is, shortly speaking, an adjudication of interests claimed in a res. It is none the less such because the claim is rejected in toto, reduced in part, given a priority inferior to that claimed, or satisfied in some way other than payment in cash. When the State becomes the actor and files a claim against the fund it waives any immunity which it otherwise might have had respecting the adjudication of the claim.

Gardner, 329 U.S. at 573-74 (internal citations omitted).

More than 50 years later, the Court emphasized the fairness considerations implicit in its waiver jurisprudence in holding that where a party removes a case to federal court, it may not subsequently claim Eleventh Amendment immunity. *See Lapides v. Bd. of Regents of Univ. Sys. of Georgia*, 535 U.S. 613 (2002).

> It would seem anomalous or inconsistent for a State both (1) to invoke federal jurisdiction, thereby contending that the "Judicial power of the United States" extends to the case at hand, and (2) to claim Eleventh Amendment immunity, thereby denying that the "Judicial power of the United States" extends to the case at hand. And a Constitution that permitted States to follow their litigation interests by freely asserting both claims in the same case could generate seriously unfair results. Thus, it is not surprising that more than a century ago this Court indicated that a State's voluntary appearance in federal court amounted to a waiver of its Eleventh Amendment immunity.

Id. at 619. No such equitable considerations are present here.

The SFWMD was involuntarily brought into federal court by Plaintiffs. In filing a Counterclaim seeking a declaratory judgment, the SFWMD essentially asked the Court to find that Plaintiffs were not entitled to the relief they seek. The SFWMD did not seek to have the Court compel any action on the part of Plaintiffs.[67] Moreover, it is relevant that, as mentioned, the SFWMD's entitlement to sovereign immunity was in doubt at the time this suit was filed (and remains unclear today). Thus, the case is similar to the situation in *State Contracting & Eng'g. Corp.* in that the SFWMD could have been "reasonably unsure about the availability of an immunity defense."[68] *See State Contracting & Eng'g. Corp.*, 258 F.3d at 1337.

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[67] The Court leaves undecided, and takes under advisement, whether the SFWMD has waived its immunity to the extent that Plaintiffs are entitled to attorney's fees arising from their defense of the SFWMD's Counterclaim. *See In re Burke*, 146 F.3d at 1319-20 (holding that the state's waiver of sovereign immunity was narrow).

[68] Plaintiffs argue that the SFWMD could not have been reasonably unsure about the defense in light of the decision in *Grimshaw*. *See* 195 F. Supp. 2d 1358. The undersigned disagrees, as *Grimshaw* conflicted with the holdings of other courts within this District. A different question would have been presented had the Eleventh Circuit previously held that the SFWMD was entitled to sovereign immunity.

Given that (1) the SFWMD has asserted its immunity from the outset, (2) the SFWMD filed a motion for summary judgment on the issue of its immunity from suit; (3) the state of the law on the SFWMD's entitlement to immunity is uncertain; and (4) the SFWMD's assertion of immunity has not resulted in any unfairness to Plaintiffs, the Court finds that the SFWMD has not waived its immunity.

IV. CONCLUSION

The problems facing Lake Okeechobee and the Everglades are far from simple. No one suggests that requiring the SFWMD and/or its Director to obtain a NPDES permit prior to backpumping will solve these problems or even substantially contribute to a solution. However, in enacting the CWA, Congress imposed certain requirements upon all entities that discharge pollutants into navigable waters. As in any statutory analysis, it is not the function of the Court to second-guess Congress' wishes, but rather, to seek to discern them where the meaning of a statute is at issue.

Plaintiffs have requested that the Court require the SFWMD and/or its Director to obtain a NPDES permit. It was after the close of trial that the EPA issued its Proposed Rule, proposing an amendment to the NPDES regulations that would specifically exempt all water transfers from the NPDES permitting scheme. Moreover, there is no dispute that, at present, the SFWMD may not cease its backpumping operations because massive flooding would result. At the close of the trial, it remained unclear exactly what the nature of any prospective relief, if granted to Plaintiffs, and the scope of any obligations imposed upon Defendants, should be.

The parties did address these matters generally in their post-trial submissions. In apparent recognition that the issue of the extent of any remedies to be awarded Plaintiffs had not been adequately addressed at trial, or in the pre- or post-trial briefs, the FWF and Miccosukee suggest that

the Court order SFWMD to promptly apply for a NPDES permit, and "then proceed to a remedy phase at which the Court may determine the appropriate penalty, *see* 33 U.S.C. § 1319(d), and any injunctive relief the Court deems appropriate." (*Prop. Findings of Fact and Conclusions of Law* [D.E. 592] at 114-115). U.S. Sugar devotes considerable discussion in its post-trial submission to the question of remedy and injunctive relief, and argues that Plaintiffs have not carried their burden of demonstrating irreparable injury, the inadequacy of legal remedies, and that the need for protection from flooding does not outweigh Plaintiffs' need for injunctive relief. (*See Corrected Copy of Proposed Findings* [D.E. 596]).

In accordance with the foregoing and Federal Rule of Civil Procedure 58, the Court will, by separate document, enter judgment for Plaintiffs, declaring that, in the absence of a NPDES permit, the operation of the S-2, S-3, and S-4 pump stations to backpump pollutant-containing waters from the canals in a northerly direction into Lake Okeechobee is in violation of the CWA. Entry of a final judgment is deferred, however, pending further proceedings to consider Plaintiffs' requests for injunctive relief. The Court will retain jurisdiction over the parties to ensure compliance with the judgment and any subsequent remedial measures.

For all of the foregoing reasons, it is

ORDERED AND ADJUDGED as follows:

1. The parties are to submit a proposed joint scheduling report, suggesting the nature and timing of additional proceedings and written briefing concerning the entry of a permanent injunction.[69] The report shall be filed by no later than December 22, 2006. If the parties are in disagreement as to any proposal, they are to so indicate in the

[69] In light of the Court's finding that the SFWMD is entitled to sovereign immunity, any injunction would be directed to the SFWMD's executive director.

joint report.

2. Any of the foregoing conclusions of law which may represent findings of fact are adopted as findings of fact.

DONE AND ORDERED in Chambers at Miami, Florida this 11th day of December, 2006.

CECILIA M. ALTONAGA
UNITED STATES DISTRICT JUDGE

cc: Magistrate Judge William C. Turnoff
counsel of record