

The Clean Water Act, The Sad State of Miami-Dade's Sewage Infrastructure and the Legislation, Planning and Litigation that Will Help Form the Rebuild of Miami's Sewer System



Miami-Dade's Sewer System Problems: History Repeats Itself

- In 1993 a federal enforcement case was initiated by the US against Miami-Dade after numerous Sanitary Sewer Overflows (SSOs).
- In 1987 a force main rupture spewed ten million gallons of raw sewage into the Miami River.
- Years of underfunding the sewage system resulting in over 2,200 raw waste spills into streets and waterways in the County between 1985 and 1994.
- First Partial Consent Decree dated Jan. 13, 1994
- Second and Final Partial Consent Decree dated April 17, 1995.

November 14, 2012, Miami-Dade Chamber of Commerce Breakfast: "Miami-Dade's \$12 Billion Plus Water & Sewer Fix What's in the plan ?"

The Miami Herald

- Posted on Mon, May. 14, 2012
- **Miami-Dade's leaky pipes: More than 47 million gallons of waste spilled in past two years**
- By CHARLES RABIN AND CURTIS MORGAN
crabin@MiamiHerald.com
- **MARICE COHN BAND / MIAMI HERALD STAFF**
- The central district Wastewater Treatment Plant, on Key Biscayne, Monday.
- Miami-Dade County's antiquated sewer system has ruptured at least 65 times over the past two years, spewing more than 47 million gallons of untreated human waste into waterways and streets from rural South Miami-Dade to the ritzy condos of Brickell Avenue to the Broward County border. The breaks and blowouts — topping out at nine in a single stinky month last October — were documented in nine warning letters that state environmental regulators sent to the county's Water and Sewer Department between June 2010 and April.
- The letters, warning that the county could be on the hook for "damages and restoration" and civil penalties of up to \$10,000 a day, were the catalyst for ongoing negotiations with the U.S. Environmental Protection Agency, U.S. Department of Justice and Florida Department of Environmental Protection. The talks are expected to end with a legal settlement committing the county to a multibillion-dollar plumbing repair plan — and probable customer rate hikes.
- The letters lay out more dirty details of "unauthorized discharges" not included in a 78-page draft consent decree released last week that declares the county in violation of federal water quality laws, in large part because some of the foul spills drained into canals and Biscayne Bay.
- Read more here: file:///C:/Users/julie/Documents/Sewage%20Miami/press/Miami-Dade's%20leaky%20pipes%20More%20than%2047%20million%20gallons%20of%20waste%20spilled%20in%20past%20two%20years%20-%202005-14-2012%20%20MiamiHerald_com.mht#storylink=cpy

Clean Water Act, 1972

Lake Erie was dead and we killed it

Cuyahoga River (downtown Cleveland) 1960's – burned for 3 days



- Photos source: www.lakeerieimprovement.org

Goals of the Act

- Eliminate Discharges Into Waterways Without a Permit
- Eliminate Degredation of Waterways
- Restore All Waterways in the US to Fishable Swimmable Standard
- “it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;” 33 U.S.C.A. § 1251.



The Clean Water Act jurisdiction over navigable waters of the US

- Most of Clean Water Act jurisdiction falls under the Environmental Protection Agency (EPA) (and they often delegate that to the States). Section 404 fill permits (usually relating to wetlands) are under the jurisdiction of the Army Corps of Engineers, although EPA has veto power over those decisions.
- Navigable Waters of the US (a) all interstate waters, including wetlands, (2) all other waters, the use, degradation or destruction of which could affect commerce, (3) tributaries of such waters, (4) wetlands adjacent to such waters and tributaries. 33 CFR 328.3(c):

Solid Waste Agency of Northern Cook County v. US Army Corp of Engineers, S. Ct., 2001: **A SIGNIFICANT NEXUS between a wetland and a navigable water of the US for Clean Water Act jurisdiction to exist.** Migratory bird rule: can't go bird first.

Rapanos v. US, S. Ct., 2006: Plurality opinion. Kennedy's concurrence was on the narrowest grounds: Rule: Wetlands come within the jurisdiction of the CWA when there is a 'significant nexus' between the wetland and waterways that are navigable-in-fact. A significant nexus exists if the wetlands, either alone or in combination with similarly situated lands in the region, **significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable**

Point Sources and Permits

- A point source is “any discernible, confined and discrete conveyance ... from which pollutants are discharged” 33 U.S.C.A. 1362

- The Act regulates facilities discharging regulated pollutants.

Categories:

- Conventional pollutants: solids, fecal coliform, pH, oil and grease, acid, and biological oxygen demand pollutants (BOD) (things that deplete oxygen from waterways like nitrogen and phosphorus)
- Toxic pollutants: metals, mercury, cadmium, lead, benzene and others specified in 40 CFR § 401.15
- Unconventional pollutants: tend to have to be emitted in enormous quantities to be a problem: Iron, ammonia, chlorine
- Thermal Pollution: heat can be destructive to nearby waterbodies.

NPDES Permits

- Sanitary Sewer Overflows (SSOs) are discharges without a permit
- A point source discharging a regulated substance is required to get an National Pollutant Discharge Elimination System (NPDES) Permit in order to discharge into navigable waters of the US.
- Those permits specify technology and effluent limits for controlling discharging regulated parameters.

Effluent based technology standards limits – permits must at a minimum meet these standards

- Best Practicable Control Technology (BPT)
 - Average of the best technology in use at the time an effluent limitation is set.
 - Not aspirational, not technology forcing.
- Best Conventional Control Technology (BCT): Conventional pollutants
 - Best Practicable Control technology (BOD, TSS, pH) 1. determine the industry cost-effectiveness rating, and (2) compare that ratio to the cost effectiveness ration for equivalent POTWS's limitations.
- Best Available Control Technology Economically Achievable (BEA)
 - Designed to force point sources to adopt the best technology demonstrated even if such technology isn't widely used.
 - Applies to Toxic pollutants
- Best Available Demonstrated Technology (BADT)
 - Best of the best
 - Applies to new sources

What is allowed in an NPDES permit varies depending on the designated use of the water body

“new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. “ 33 U.S.C.A 1313, § 303

Designated Use

- “Point source or sources shall be established which can reasonably be expected to contribute to attainment or maintenance of [] water quality.” 33 U.S.C.A 1312 (a)
- Goes to the goals of
 - Eliminate Degredation of Waterways
 - Restore All Waterways in the US to Fishable Swimmable Standard
- Total Maximum Daily Load is the maximum amount of a specific pollutant that a waterbody can receive without violating water quality standards and designated uses.
 - Takes into account point and non-point sources
 - NPDES permits issued to discharge into a waterbody based on the TMDL. A NPDES permit cannot be issued that will cause a TMDL violation.

Ocean Outfalls and State Law

- State law requires phase-out of ocean outfalls by 2025.
- Requires Advanced Treatment by 2018.
- Phase out is to go along with reuse measures for utilities to meet a 60% reuse requirements

Changes to the Ocean Outfall Law in 2013:

- Allows continued use of the outfalls after 2025 for up to 5% peak flows.
- Allow the reuse requirements to be met virtually. (Contracting with another utility for reuse credit).



Plans for the outfall phase-out are required to be submitted summer 2013

CHOICES NEED TO BE MADE

Alternatives for treatment and disposal need to be selected, some options:

- Deep injection into the boulder zone
- Injection into the Upper Floridan Aquifer
- Continued use of the Ocean Outfalls
- Reuse Options
- Decisions to go with higher or lower amounts of reuse
 - If Miami-Dade buys reuse credits from other facilities: does that hurt our local water supply?
- Type of treatment will vary depending on where effluent is disposed
- Chlorination, UV, Reverse Osmosis, Membrane Treatment

2012 Integrated Water Quality Assessment for Florida, May 2012

Table 10.1. Summary of Percent Ground Water Samples Achieving Primary Ground Water Standards for Selected Analytes by Basin

This is a six-column table. Column 1 lists the basins, and Columns 2 through 6 list the results for arsenic, lead, total coliform, nitrate + nitrite (as N), and total sodium, respectively, in 2000–09 and 2009–11.

Notes: Data are from FDEP's Status and Trends Network. For some basins, datasets are limited. Values for basins with five or fewer samples are indicated by shading and boldface type.

[†] Metals assessments were conducted for arsenic (As) and lead (Pb), the two primary metals most commonly exceeding their MCL.

N/A = Not available

Basin	Metals, Arsenic [†] 2000–09 / 2009–11	Metals, Lead [†] 2000–09 / 2009–11	Coliform, Total 2000–09 / 2009–11	Nitrate + Nitrite (as N) 2000–09 / 2009–11	Sodium, Total 2000–09 / 2009–11
Apalachicola–Chipola	100% - 97%	100% - 100%	93% - 85%	100% - 96%	100% - 100%
Caloosahatchee	93% - 95%	98% - 100%	69% - 58%	100% - 100%	71% - 88%
Charlotte Harbor	95% - 100%	97% - 100%	86% - 100%	100% - 100%	56% - 50%
Choctawhatchee–St. Andrew	100% - 100%	99% - 96%	91% - 93%	100% - 100%	99% - 100%
Everglades	100% - 100%	100% - 100%	72% - 80%	96% - 100%	96% - 100%
Everglades West Coast	93% - 97%	87% - 87%	76% - 67%	100% - 100%	72% - 74%
Fisheating Creek	100% - 100%	100% - 100%	96% - 75%	100% - 100%	89% - 75%
Florida Keys	87% - N/A	100% - N/A	75% - N/A	100% - N/A	0% - N/A
Indian River Lagoon	96% - 75%	98% - 75%	86% - 100%	98% - 100%	70% - 100%
Kissimmee River	100% - 100%	97% - 96%	88% - 81%	91% - 96%	98% - 100%
Lake Okeechobee	100% - 100%	97% - 100%	98% - 100%	100% - 100%	78% - 67%
Lake Worth Lagoon– Palm Beach Coast	91% - 100%	87% - 100%	69% - 80%	100% - 100%	100% - 100%
Lower St. Johns	100% - 95%	100% - 100%	81% - 74%	100% - 100%	97% - 85%
Middle St. Johns	100% - 100%	97% - 100%	76% - 46%	95% - 100%	90% - 92%
Nassau–St. Marys	98% - 100%	96% - 100%	89% - 70%	100% - 100%	98% - 100%
Ochlockonee–St. Marks	97% - 94%	100% - 100%	73% - 87%	100% - 100%	99% - 100%
Ocklawaha	97% - 100%	97% - 95%	70% - 84%	100% - 96%	98% - 100%
Pensacola	100% - 100%	98% - 100%	92% - 100%	100% - 100%	98% - 100%
Perdido	100% - 100%	97% - 100%	97% - 100%	100% - 100%	97% - 100%
Sarasota Bay–Peace–Myakka	97% - 100%	100% - 89%	64% - 65%	100% - 100%	93% - 93%
Southeast Coast–Biscayne Bay	100% - 100%	98% - 92%	59% - 50%	100% - 100%	91% - 100%
Springs Coast	89% - 100%	97% - 87%	86% - 87%	100% - 100%	74% - 75%
St. Lucie–Loxahatchee	100% - 100%	95% - 100%	87% - 91%	100% - 91%	84% - 54%
Suwannee	97% - 97%	99% - 100%	85% - 82%	99% - 97%	96% - 98%
Tampa Bay	95% - 100%	97% - 100%	79% - 67%	100% - 100%	86% - 87%
Tampa Bay Tributaries	94% - 100%	98% - 100%	76% - 57%	100% - 100%	94% - 100%
Upper East Coast	98% - 100%	98% - 100%	84% - 75%	100% - 100%	77% - 100%
Upper St. Johns	98% - 89%	97% - 100%	92% - 89%	98% - 100%	87% - 56%
Withlacoochee	98% - 100%	97% - 100%	84% - 67%	96% - 100%	100% - 100%
STATEWIDE SUMMARY	97% - 98%	97% - 97%	82% - 79%	99% - 99%	86% - 89%



“The Central District Wastewater Treatment Plant was built in the early 1950’s. It is a 143 million gallons per day facility.... The plant is the largest and oldest treatment plant in the County’s system and provides secondary treatment plus disinfection. The treated effluent is discharged via an ocean outfall located three miles off the coast. Sludge is produced at this plant in addition to the sludge conveyed from the North District Wastewater Treatment Plant. “ Miami-Dade County Water a& Sewer Infrastructure Report, June 2012 at p. 30.



NPDES and the Central District Waste Water Treatment Plant

In 2004, the County applied to renew its permit to the EPA to continue discharges from the Central Plant via ocean outfalls. **The EPA has not made final action on that application.**

Under the Administrative Procedures Act (APA) when an agency failed to take agency action that it is legally required to take, the agency's failure to act is reviewable under the APA and a **reviewing court may compel agency action that has been unlawfully withheld or unreasonably delayed.** See *Norton v. South Utah Wilderness Alliance*, 542 U.S. 55, 62 (2004). Biscayne Bay Waterkeeper is asking the Court to compel agency action on the ocean outfall permit for the Central Plant.

Central Plant is functioning under a permit EPA has failed to renew.



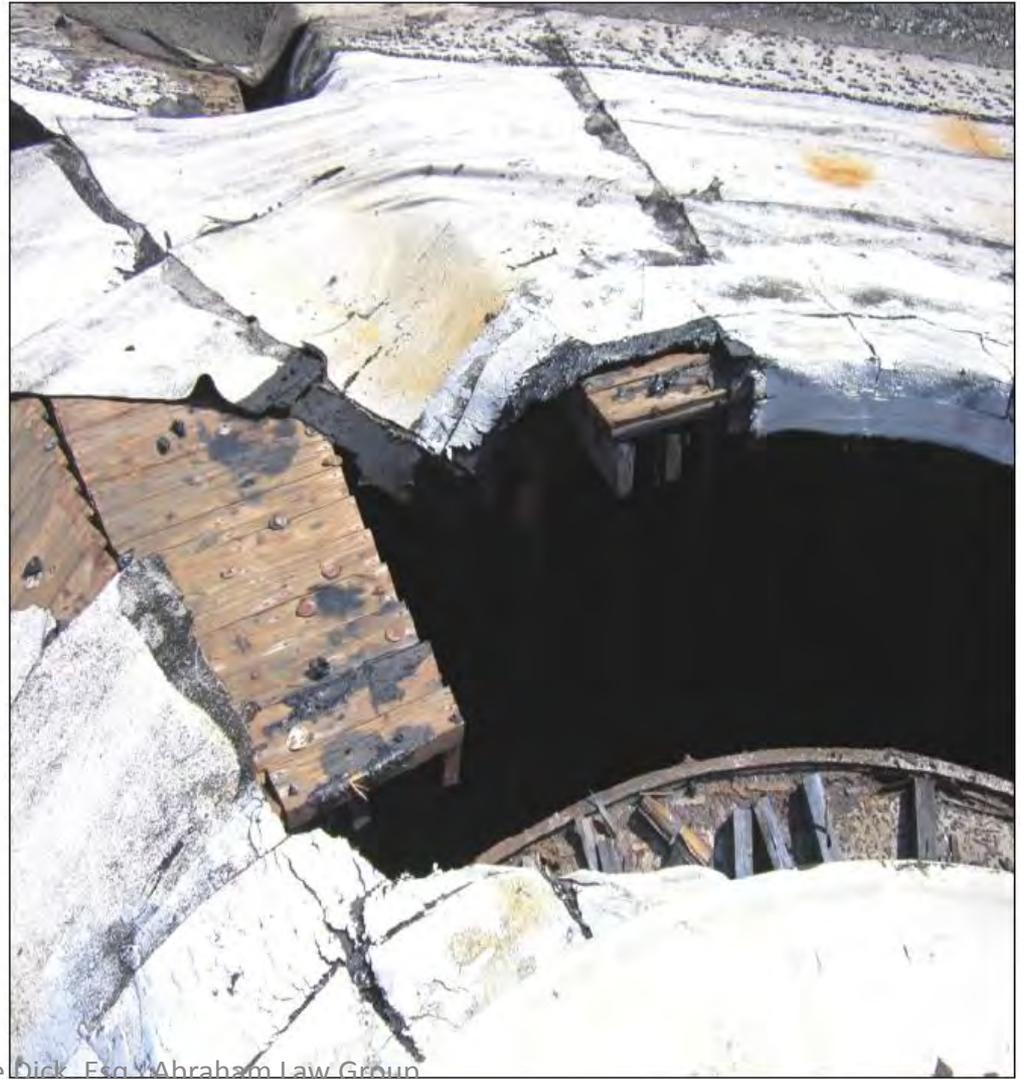
A Broken Sewage Treatment Plant

The photo below is representative of the conditions of one of the anaerobic digesters after its roof structurally collapsed.

“Four times between October and December 2011, the sewage treatment plant on Virginia Key alone ruptured, spilling more than 19 million gallons.”

Miami Herald, “Miami-Dade proposes spending \$1.5 billion over 15 years to cure sewer system woes,” 12.2.12

<http://www.miamiherald.com/2012/12/02/3124200/miami-dade-proposes-spending-15.html#storylink=misearch#storylink=cpy>



Julie Dick, Esq. / Abraham Law Group

Collapsed Roof of Digester Tank 1 at the Central District Wastewater Plant

A broken sewer system

- Over 47 million gallons of raw sewage spilled from Miami-Dade's sewer system in a two year period.
- Miami-Dade County's County's Water and Sewage Department has work under the supervision of a Federal Consent Decree since 1994 and 1995 because of widespread violations decade.
- History repeats
- Photo: Pipe break causes spill of 20 Million gallons of raw sewage into the Biscayne Canal

Due to the flat nature of the County's topography, and the high groundwater table common to South Florida, a large percentage of the sewer collection system lies below water. As such, defects in the lines and manholes allow groundwater to enter the system

Ductile iron pipe is susceptible to both internal and external corrosion, the latter particularly so in lines installed in close proximity to saltwater environments. Asbestos cement pipe becomes soft with age and loses its structural integrity. Concrete pipe, in particular, pre-stressed concrete cylinder pipe manufactured by the Interpace Corporation is also a priority item, as these types of pipe failures have taken place the same way they have in the water system. The 72-inch sewer concrete pipe that failed in North Dade in June 2010 causing a sewage spill of more than 20 million gallons into the Biscayne Canal was made of pre-stressed concrete cylinder pipe manufactured by the Interpace Corporation. A photograph of this event is below.



72-inch Pre-Stressed Concrete Cylinder Pipe Break at Biscayne Canal & NW 17 Avenue

The 72-inch pre-stressed concrete cylinder pipe as well other similar large diameter sewer mains in WASD's system have experienced similar catastrophic failures. Results obtained from the condition assessments have revealed conditions that warrant the rehabilitation and/or replacement of these pipelines. However, results from the assessment of roughly 30 miles of large diameter pre-stressed concrete

Updated February 20, 2013

List of WASD Unpermitted Sewage Spill Reports

WASD #194699 on 6/4/2012 at 8:21 am

estimated volume: 17,040 gallons

- The Restoration & Enhancement Section (R&E) was notified of an unpermitted sewage spill, WASD# 194699 on 6/4/2012 at 8:21 am. The spill, which occurred at SW 113 Ave & Quail Roost Dr, Miami, was caused by a ruptured 6" force main. The spill impacted storm drains that discharge into C-1N (Black Creek). The estimated volume released was 17,040 gallons.

R&E initiated sampling the morning of 6/5/2012. Sampling has occurred at four sites (H12-1 through H12-4) on 6/5 and 6/6/2012. Please note that there is a water control structure between sites 3 and 4, which was closed during sampling. Therefore exchange is restricted between stations 3 and 4. Attached, please find a map showing the sampling locations



2. October 2010 – 12-inch asbestos cement pipe sewer force main at SW 112 Avenue and SW 107 Street ruptured discharging 1,432,770 gallons of sewage. WASD is in the process of identifying all asbestos cement force mains in its system to schedule their replacement.



3. November 2010 – 12-inch sewer force main at SW 87 Avenue and SW 92 Street, discharging 3,243,471 gallons of sewage. An engineering evaluation of rehabilitation alternatives is being conducted.



- With a sewer infrastructure that is literally falling apart and in violation of federal law, **Miami-Dade County Commissioners** took over \$200,000,000 from **Water and Sewer funds** and transferred this money to the general budget.

The County and Feds may agree to a plan that won't stop the spills

- Project List for New Consent Decree includes approximately \$1.6 billion in capital projects to stop ongoing sanitary sewage overflows (SSOs).

<http://www.miamidade.gov/water/library/reports/consent-decree/capital-projects-list.pdf>

- **The problem is: the current capital project plan for the Consent Decree being negotiated won't stop the ongoing violations**

November 14, 2012, Miami-Dade Chamber of Commerce Breakfast:

“Miami-Dade's \$12Billion Plus Water & Sewer Fix What's in the plan ?”

“Miami-Dade proposes spending \$1.5 billion over 15 years to cure sewer system woes

Federal regulators began talks with Miami-Dade in May after a series of massive raw sewage spills released more than 47 million gallons of untreated human waste throughout the county.”

<http://www.miamiherald.com/2012/12/02/3124200/miami-dade-proposes-spending-15.html#storylink=misearch#storylink=cpy>

Consent Decree: \$1.6 Billion Capital Improvements Plan: 37% marked for Rebuild Significant Parts of CDWWTP

- Do it right the first time
- The Capital Project list in the Consent Decree would not make CDWWTP resilient or meet current standards for mitigation of risks from extreme weather, sea level rise or storm surge
- Current plan presents issues as to whether projects would qualify for federal funds
- Higher cost for repairs when storm surge hits and the plant is not build to withstand the impacts

Consent Decree

- Actual cost of compliance may be higher than Consent Decree itself.
- Consent Decree doesn't assure long term compliance.
- Approved by BCC 5.21.13
- Must be approved by multiple levels of government
- Judge Moreno is the decider in chief and will make the final determination of whether the Consent Decree is “fair, reasonable and in the public interest”
- Cost of not setting up plan right now could be much higher
 - Future spills
 - Failure to comply with federal guidance on coastal resilience
 - Doesn't qualify for current federal funding guidelines

Resiliency Planning Not Built into the Consent Decree

Miami-Dade Water and Sewer Department, Bertha Goldenberg, PE webinar: Adaptation, Emergency Management, and hazard Mitigation in Southeast Florida Webinar, March 28, 2013.

- “What happened is we got salt water all over the plant. All the motors were wet with saltwater. Some of them had to be taken to Alabama to be dried and rehabbed and then came back.”

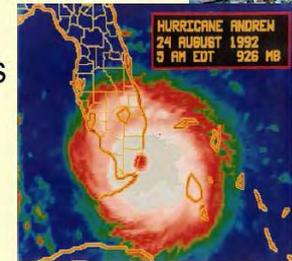
“Planning Backup power isn’t recent. Enclosing them is new. They were outside, exposed to climate. We already did south district. Next we’ll do north. Then we will look at Central. Central is one facility that we are now waiting because of the outfall legislation so we don’t know how much we are going to do there.” B. Goldenberg, 4.13.13

<http://ccap.org/event/adaptation-emergency-management-and-hazard-mitigation-in-southeast-florida/>

Previous Experience with Natural Disaster

Hurricane Andrew, August 1992:

- Category 4
- 16 ft. storm surge
- 140 mph winds
- Back in service in approximately 30 days
- New design approaches, like enclosing emergency generators





Daylight savings time began at 2 a.m. Sunday. You should have turned your clocks ahead one hour.

TIGER IS IN PRIME POSITION
HOLDS FOUR-SHOT LEAD ENTERING THE FINAL ROUND AT DORAL 10

SAVING COUPONS \$318

The Miami Herald
MiamiHerald.com

SUNDAY, MARCH 10, 2013
FINAL EDITION

\$2.00
107TH YEAR, NO. 177-2013

ENVIRONMENT

DEEP TROUBLE

A LOT OF HIGHLY DEVELOPED COASTAL PROPERTY COULD BE UNDER WATER SOONER THAN YOU THINK

BY CURTIS MORGAN
Environment

The maps were intended to show how rising sea levels threaten some of Miami-Dade County's most vital facilities. If they prove anywhere close to accurate, the fate of three major sewage plants would represent only the tip of a hulking, hugely expensive iceberg of concerns for South Florida.

Drawn up by climate scientists as part of an environmental lawsuit, the maps indicate the plants in coastal South Miami-Dade, North Miami and Virginia Key would remain dry for rising decades. But they also predicted to shrinking islands as high tides flood beach streets and neighbor-

hoods nearby. It could happen faster than experts predicted only a few years ago — with a stunning two-foot rise potentially coming in less than 50 years, not the next century.

The sobering scenarios were filed last month in federal court by RiseWayne Bay Waterkeeper, a clean-water advocacy group challenging Miami-Dade's \$1.5 billion plan to repair the county's aging, spill-plagued sewage system. The Water and Sewer Department has drawn up the proposal, called a "consent decree," under the pressure of a

•TURN TO WATER, 19A
•MiamiHerald.com: Check out interactive sea-rise maps.

Interactive sea-rise map
Use your smartphone or tablet to scan the QR code and explore an interactive

FEDERAL COURTS

The party girl and the drug lords

How a bit player in Miami's bad-old-days drug wars got a life sentence while leaders received lesser punishment. And how she finally got a break.

BY JAY WEAVER
Law

A couple of days after a federal witness was executed by a Colombian hit team, Yuby Ramirez was making a meal in her Kendall townhouse for the crew's boss, who went by the name Toxayo.

As the witness watched the 1993 killing of Bernardo Gozalez Jr. — gang boss, outside Miami-Dade home — Ramirez did not sit pictured in the prison the infamous Miami School dropouts c smuggling 75 tons of the country — or the to the murder victim

•TURN TO FREE, 17A

VENEZUELAN

Chávez stamp S. Fla

Venezuela to South Fla but the con

RISING SEAS
Here is what Miami-Dade would look like at mean high tide with a five-foot rise in sea level — predicted to occur between 2084 and 2112.

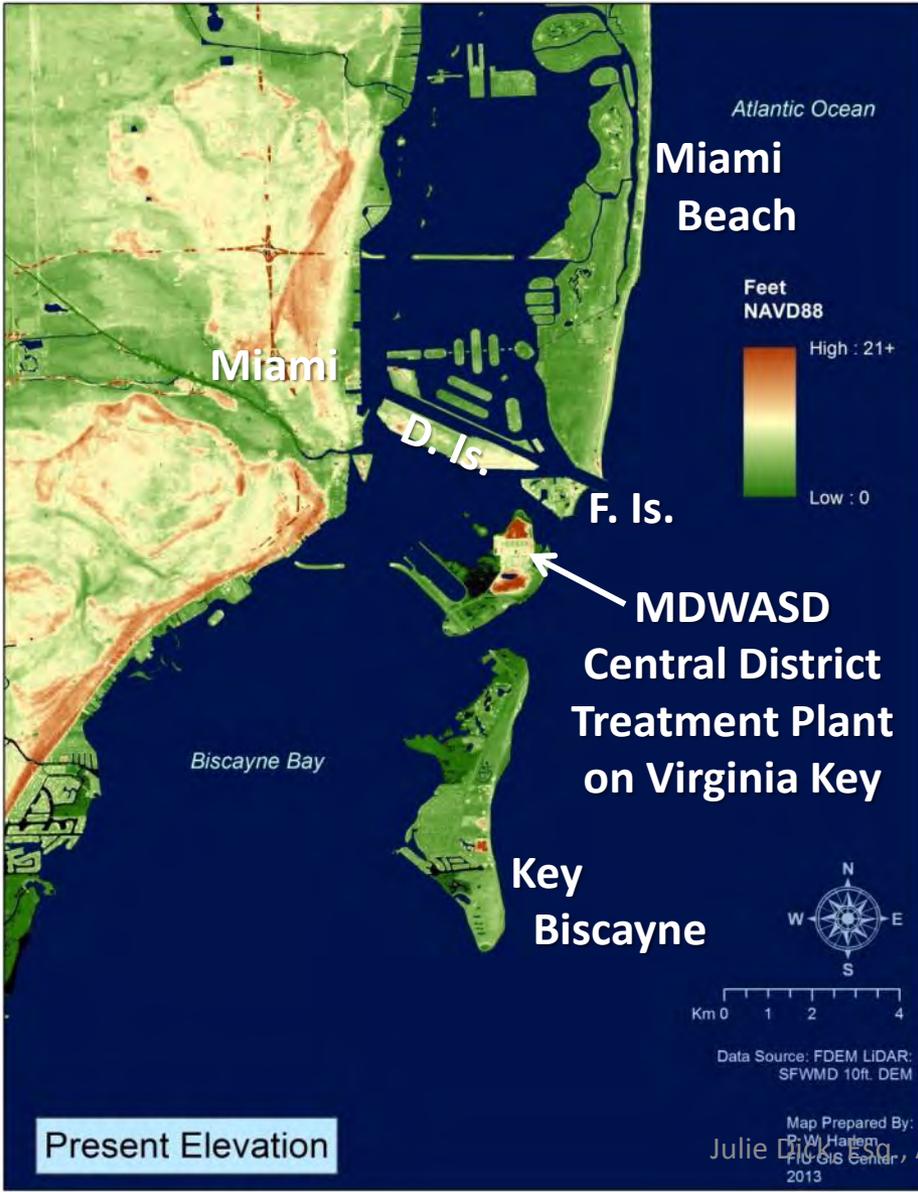
Flooded areas

Julie Dick, Esq., Abraham Law Group

Inundation projections using LiDAR elevation data

Present topography

0.5 Feet Sea Level Rise (2018-2024)



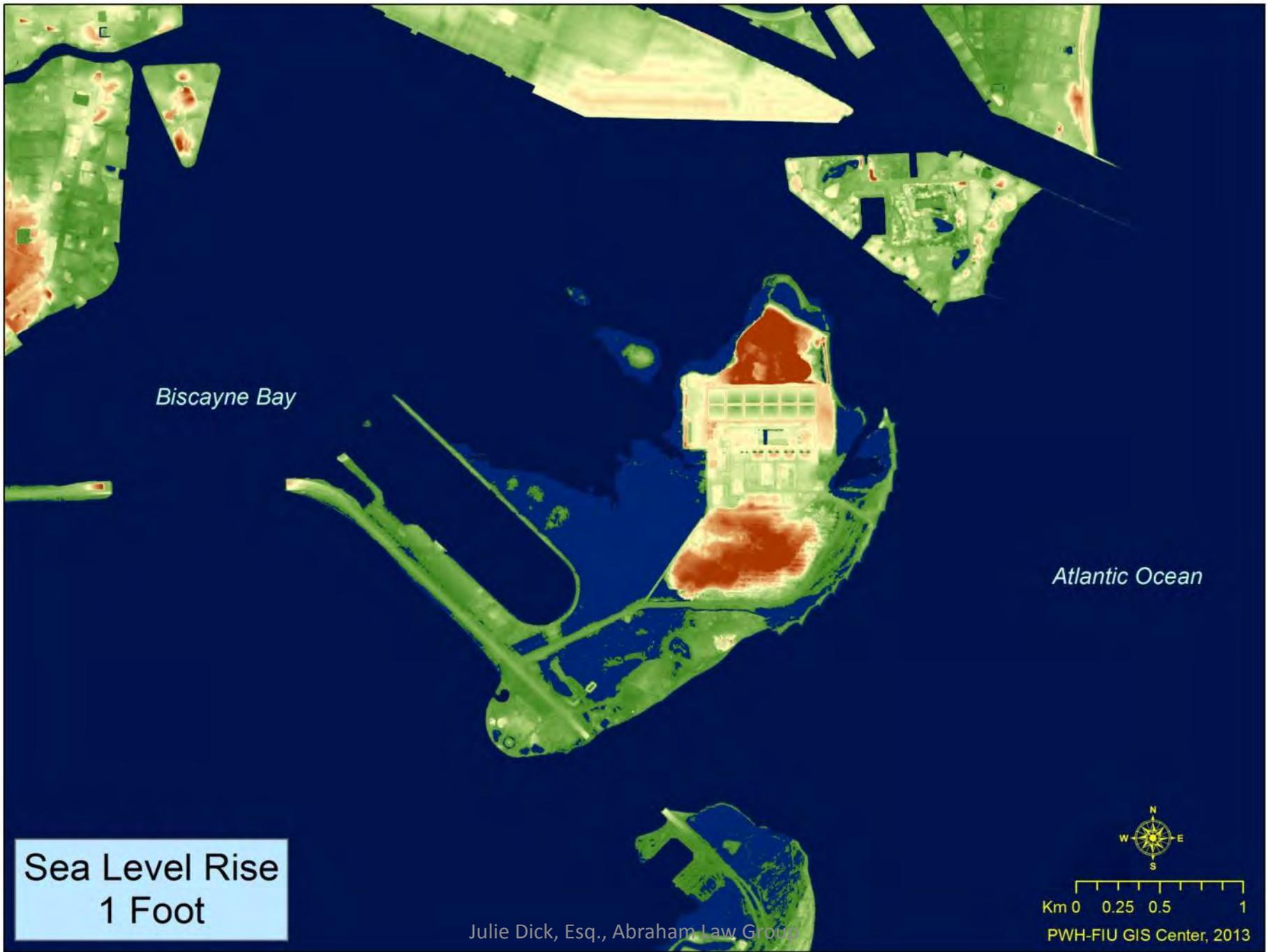
Julie Dickson, Abraham Lowy

Inundation projections using LiDAR elevation data

1 Foot Sea Level Rise (2031-2042)

2 Feet Sea Level Rise (2048-2066)





Biscayne Bay

Atlantic Ocean

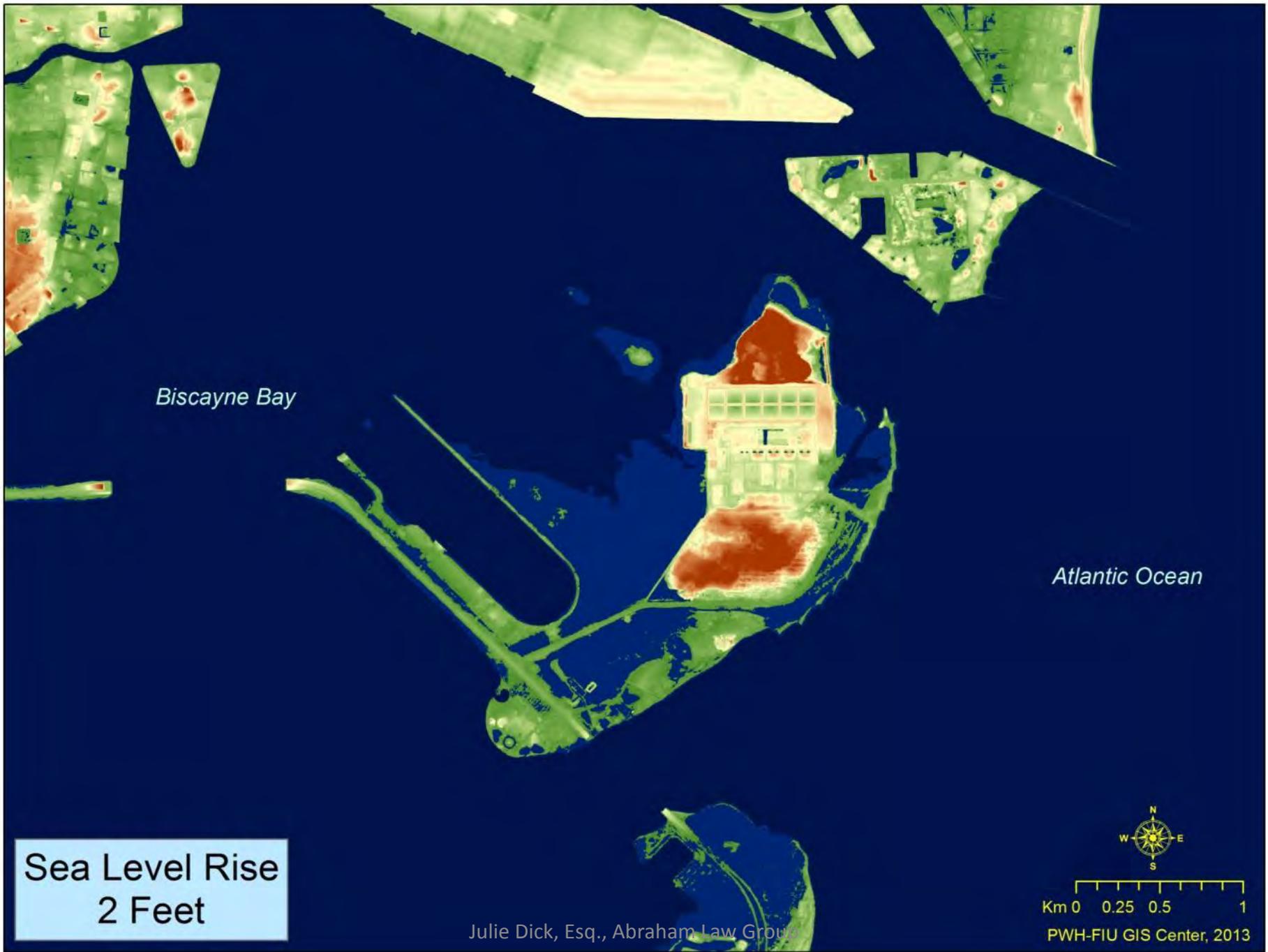
Sea Level Rise
1 Foot



Km 0 0.25 0.5 1

Julie Dick, Esq., Abraham Law Group

PWH-FIU GIS Center, 2013



Biscayne Bay

Atlantic Ocean

**Sea Level Rise
2 Feet**



Julie Dick, Esq., Abraham Law Group

PWH-FIU GIS Center, 2013

11 Billion Gallons of Sandy Sewage Overflow

Explore where sewage overflows happened during Hurricane Sandy, what caused them, and how treated each overflow was. <http://www.climatecentral.org/news/11-billion-gallons-of-sewage-overflow-from-hurricane-sandy-15924>

Storm Surge Caused 94 Percent of the Sewage Overflows From Sandy



Figure 4. Coastal flooding and power outages caused by the record storm surge during Sandy were responsible for almost all of the sewage overflow volume linked to Sandy. Most of the rest of the overflows is attributed to heavy precipitation.

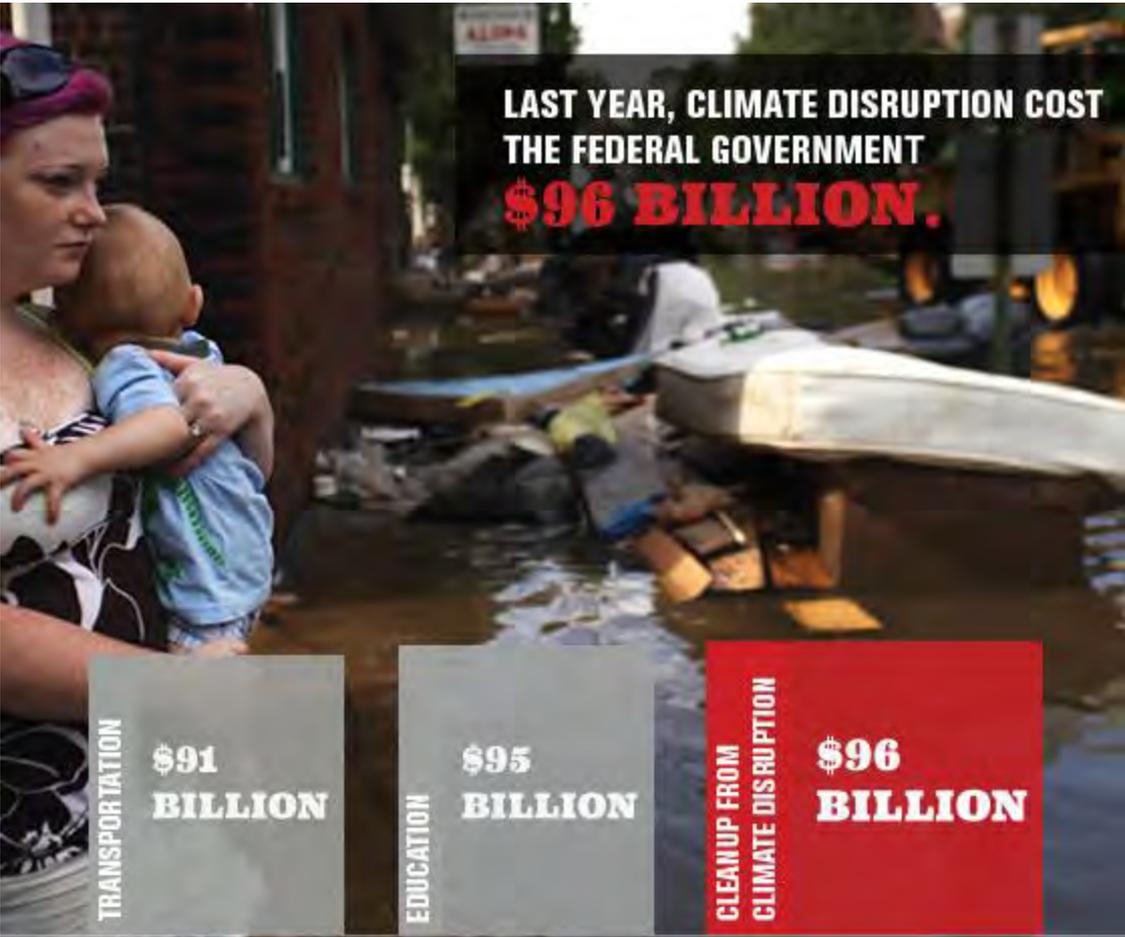
“In the month since the storm, hundreds of millions of gallons of raw and partly raw sewage from Bay Park and other crippled treatment plants have flowed into waterways in New York and New Jersey.”

“The [Middlesex County Utility Authority](#) plant in Sayreville, N.J., let about 75 million gallons of raw sewage a day flow into Raritan Bay for nearly a week before power was restored, said Larry Ragonese, a spokesman for the State Environmental Protection Department.”

“Motors and electrical equipment must be raised above newly established flood levels, and circuitry must be made waterproof. Dams and levees may have to be built at some treatment plants to keep the rising waters at bay, experts say.”

- **New York Times: Sewage Flows After Storm Exposes Flaws in System,** Michael Schwitz, November 29, 2012, <http://www.nytimes.com/2012/11/30/nyregion/sewage-flows-after-hurricane-sandy-exposing-flaws-in-system.html?pagewanted=all>





LAST YEAR, CLIMATE DISRUPTION COST
THE FEDERAL GOVERNMENT
\$96 BILLION.

TRANSPORTATION

**\$91
BILLION**

EDUCATION

**\$95
BILLION**

CLEANUP FROM
CLIMATE DISRUPTION

**\$96
BILLION**

In 2012, the U.S. spent **\$96 billion** to clean up the disastrous effects of climate disruption. This exceeds federal spending on essential programs like education and transportation.



Source: NRDC Switchboard, Dan Lashof's Blog, "Taxpayers Get Nearly \$100 Billion Bill for 2012 Extreme Weather, Equivalent to One-Sixth of Non-Defense Discretionary Spending," <http://switchboard.nrdc.org/blogs/dlashof/post.html>
Julie Dick, Esq., Abraham Law Group

2013 Federal laws, funding, guidelines and policies all call for resiliency planning

1. The Federal Disaster Relief Appropriations Act of 2013;
2. The National Oceans Policy Implementation Plan;
3. The US EPA's May 1, 2013 memorandum regarding "Award of Capitalization Grants with Funds Appropriated by P.L. 113-2, the "Disaster Relief Appropriations Act, 2013";
4. U.S. EPA Climate Resilience Evaluation and Awareness Tool;
5. U.S. EPA Adaptation Strategies Guide for Water Utilities;
6. Executive Office of the President, Office of Management and Budget Controller's Memorandum for Heads of Executive Departments and Agencies regarding "Accountability of Funds Provided by the Disaster Relief Appropriations Act";
7. Executive Order of the President – Establishing the Hurricane Sandy Rebuilding Task Force;

The National Ocean Policy Implementation Plan commits federal agencies to “enable and support efforts to understand, minimize, and adapt to the impacts of climate change, [], sea-level rise, and extreme weather events, strengthening the resilience of coastal communities.” National Ocean Policy, Implementation Plan, http://www.whitehouse.gov//sites/default/files/national_ocean_policy_implementation_plan.pdf, p. 15

By executive order of the President the infrastructure rebuild from areas impacted will “assess current vulnerability to extreme weather events and seek to mitigate future risk.” Fed Reg. Vol. 77, No. 241, Dec. 14, 2012, Presidential Documents, p. 74342, <http://www.gpa.gov/fdsys/pkg/FR-2012-12-14/pdf/2012-30310.pdf>

Federal Disaster Relief Appropriations Act of 2013

Requires FEMA to create a national strategy that considers “the vulnerability of the United States to damage from flooding, severe weather events, and other hazards... [and provides] mitigation measures... [and] recommendations on how to improve the resiliency of local communities...”

<http://www.gpo.gov/fdsys/pkg/PLAW-113publ2/pdf/PLAW-113publ2.pdf>.

- Miami-Dade’s sewer system planning should fit into FEMA’s national strategy under the DRAA.

CDWWTP plans in Consent Decree would not qualify for State Revolving Fund money EPA will distribute to water utilities hit by Sandy

- Federal funding will go to wastewater infrastructure rebuilding in New York and New Jersey that “shall only be used for eligible projects whose purpose is to reduce flood damage risk and vulnerability or to enhance resiliency to rapid hydrologic change or a natural disaster at treatment works.” Federal Disaster Relief Appropriations Act of 2013.

Consent Decree

- According to Internationally renowned experts from UM, FIU and FAU the 3 WWTP's are at risk from sea level rise and storm surge. The current Consent Decree does address these issues.
- County now says they consider sea level rise and storm surge in everything they do. Yet, the Consent Decree calls for essentially rebuilding much of the CDWWTP and the planning process and **capital improvement plan in the Consent Decree for that rebuild was not subject to include vulnerability assessment and planning for mitigation of risks from storm surge, sea level rise, erosion and extreme weather events.** It is not a climate ready capital improvement plan.
- Miami-Dade County needs a better Consent Decree.

Consent Must Incorporate Resiliency Planning

- Vulnerability Analysis
- Plan to Mitigate Risks
- Fundamental planning decisions must be made before committing to a \$550 Million rebuild of the VK Plant.
- These processes need to be built into the entire rebuild of Miami-Dade's sewer system, not only Consent Decree Projects

Voicing Concerns

Biscayne Bay Waterkeeper
Alexis Segal, Executive Director
& Waterkeeper
Miami Beach, FL

The CLEO Institute
Caroline Lewis, Founder &
Executive Director
Miami, FL

Natural Resource Defense
Council
Steve Fleischli, Water Program
Director
Ben H. Chou, Policy Analyst,
Water Program
Washington D.C.

Urban Environment League
Barbara Falsey, President
Miami, FL

Environmental Coalition of
Miami & the Beaches
Luiz Rodriguez, Executive
Director
Miami Beach, FL

Sierra Club Miami
Betsy Grass, Chair
Miami, FL

Mission Blue
Dr. Sylvia Earle, Founder & Chair
Laura Cassiani, Chief Operating Officer
San Francisco, CA

Plant a Fish
Fabien Cousteau, Founder and
Executive Director
Brooklyn, NY

Urban Paradise Guild
Sam Van Leer, President & Founder
Miami, FL

South Florida Green News
Anita Shirreffs, Owner
Fort Lauderdale, FL

Surfrider, Miami Chapter
Scott Stripling, President
Miami Beach, FL

Green Purchase Power
Anita Shirreffs & Mary Keel, Owners
Fort Lauderdale, FL

Tropical Audubon Society
Laura Reynolds, Executive Director
South Miami, FL

Greenspace Tree Advocacy Group
Sheryl Gold, Co-founder
Miami Beach, FL

Underwater Bar Association Inc.
David Black, Esq., President
Ft. Lauderdale, FL

International Seakeepers Society
Richard Snow, President and CEO
Coral Gables, FL

Julie Dick, Esq., Abraham Law Group



VILLAGE OF KEY BISCAIYNE

Village Council
Franklin H. Caplan, Mayor
Mayra P. Lindsay, 1st Vice Mayor
Michael W. Davey
Theodore J. Holloway
Michael E. Kelly
Ed London
James S. Taintor

February 15, 2013

The Honorable Carlos Gimenez
Mayor, Miami-Dade County
Stephen P. Clark Center
111 NW 1st Street
Miami, Florida 33128
mayor@miamidadecounty.gov

Re: Miami-Dade Central District Wastewater Treatment Plant at Virginia Key

Dear Mayor Gimenez:

The Village of Key Biscayne, with consulting support, has been monitoring plans for the central wastewater treatment plant located on Virginia Key, Key Biscayne, located just south of Virginia Key, is potentially affected directly and distinctly by the Virginia Key facility. We wish to ensure that planning and solutions for that facility are sound and effective for the long-term, with due consideration given to foreseeable risks and special circumstances.

We certainly support the impetus toward a new consent decree to address promptly Clean Water Act outflow violations and deteriorated conditions at the Virginia Key facility, and of sewer lines identified as being at risk of rupturing, including the 54 inch under-bay line from Miami Beach to Fisher Island to Virginia Key. We're informed that the current plans, featuring a new investment of approximately \$596 million to improve the Virginia Key facility, do not include adequate consideration of the risk (if not certainty) of sea level rise over time, and do not include contingencies for flood mitigation. Based on input from various consultants and sources, and our own assessment, we're concerned that the current rebuilding plan puts too little emphasis on sea-level rise that's projected to occur during the useful life of the facility, not to mention regular storm surge implications.

Commendably, Miami-Dade County demonstrates forward-thinking and leadership on climate change, as evidenced by the Green Print Plan and the 4-County Climate Compact, each of which addresses climate-adaptation strategies to protect public infrastructure. With regard to

88 West McIntyre Street • Key Biscayne, Florida

MISSION STATEMENT: "TO PROVIDE A SAFE, QUALITY COMMUNITY ENVIRONMENT"

www.keybiscaynecounty.com

The Miami Herald

• Posted on Sun, Mar. 10, 2013

• **Sewage solution requires public access**

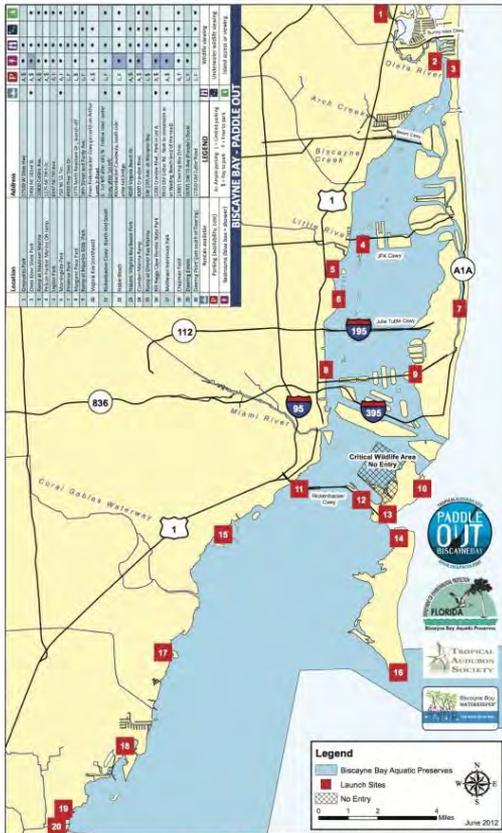
• The Miami Herald Editorial
HeraldEd@MiamiHerald.com

• Read more here:

<http://www.miamiherald.com/2013/03/10/v-print/3274743/sewage-solution-requires-public.html#storylink=cpy>

• http://www.miamiherald.com/2012/12/03/3125259_yes-to-the-sewer-system-overhaul.html#storylink=adddthis

• <http://www.miamiherald.com/2012/07/29/2916550/fix-this-stinky-mess.html#storylink=misearch>



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