AGENDA ITEM # IV.H

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DATE: JANUARY 22, 2024

TO: COUNCIL MEMBERS

FROM: STAFF

SUBJECT: CENTRAL & SOUTHERN FLORIDA FLOOD RISK STUDY PRESENTATION

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Today we will hear from representatives of Broward County, Miami-Dade County, South Florida Water Management District, and U.S. Army Corps of Engineers, Jacksonville District.

Currently, the Central & Southern Florida Flood Control System, a gravity drainage system, is not able to manage flooding reliably. Sea leave rise and aged infrastructure is contributing to the current and foreseeable failure of salinity control structures in Broward and Miami-Dade counties. According to the South Florida Water Management District's (SFWMD) 2023 Annual Consolidated Report addressing Flood Protection Level of Service (FPLOS), Miami-Dade County has 16 salinity control structures with 13 FPLOS Phase 1 Structures (unfunded) and 3 FPLOS Phase II Structures (partially funded). Broward County has 7 FPLOS Phase 1 Structures (unfunded). At this time, there is insufficient funding to conduct required Level 3 engineering studies for the vast majority of the Phase 1 unfunded projects. While a proposed study by the U.S. Army Corps of Engineers of a handful of salinity control structures is under consideration, the vast majority of the salinity control structures will languish without Level 3 engineering studies delaying needed funding for improvements past 2032 at the earliest.

Following the conclusion of the presentation and conversation, the SFRPC Board may wish to convey its recommendations to Broward and Miami-Dade counties, including a possible recommendation urging the counties to use local funding to expedite Level 3 engineering studies, in partnership with the South Florida Water Management District, to position the salinity control structures for federal funding on an expedited basis.

Resources:

SFWMD 2023 Sea Level Rise and Flood Resiliency Plan
SFWMD 2023 Consolidated Annua Report

Recommendation: Provide Council Staff with guidance as to next steps.

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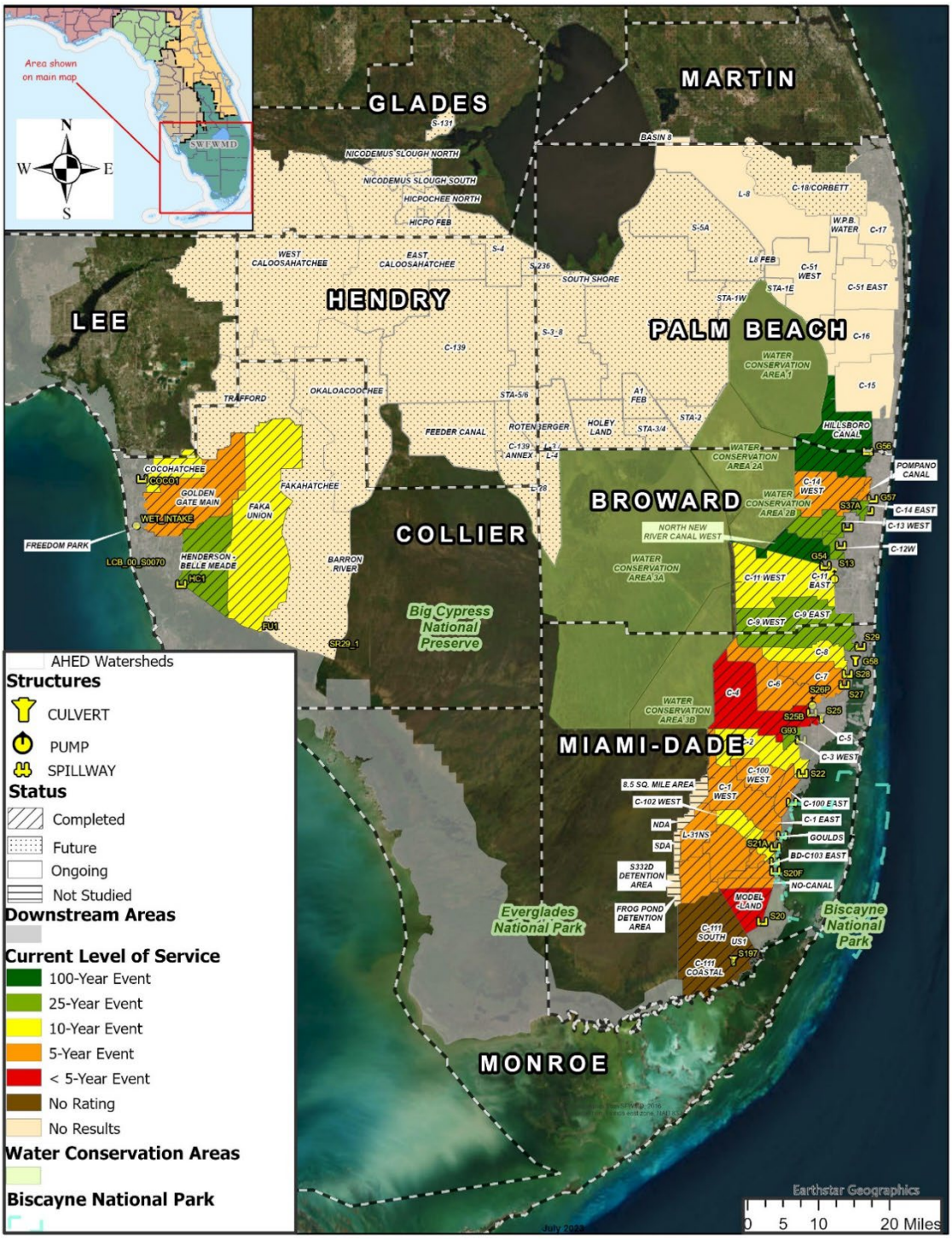


**Figure 3-3: Current Flood Protection Level of Service**

## Future Flood Protection Level Service

The future flood protection level of service, under a 2-foot sea level rise scenario is shown in Figure 3-4. The figure depicts the level of service generally provided by existing infrastructure in critical basins, predominantly located in Broward and Miami-Dade Counties. The level of service is represented by the respective rainfall frequency event that results in flooding within areas of each basin, simulated as part of completed FPLOS Phase I – Flood Vulnerability Assessments.

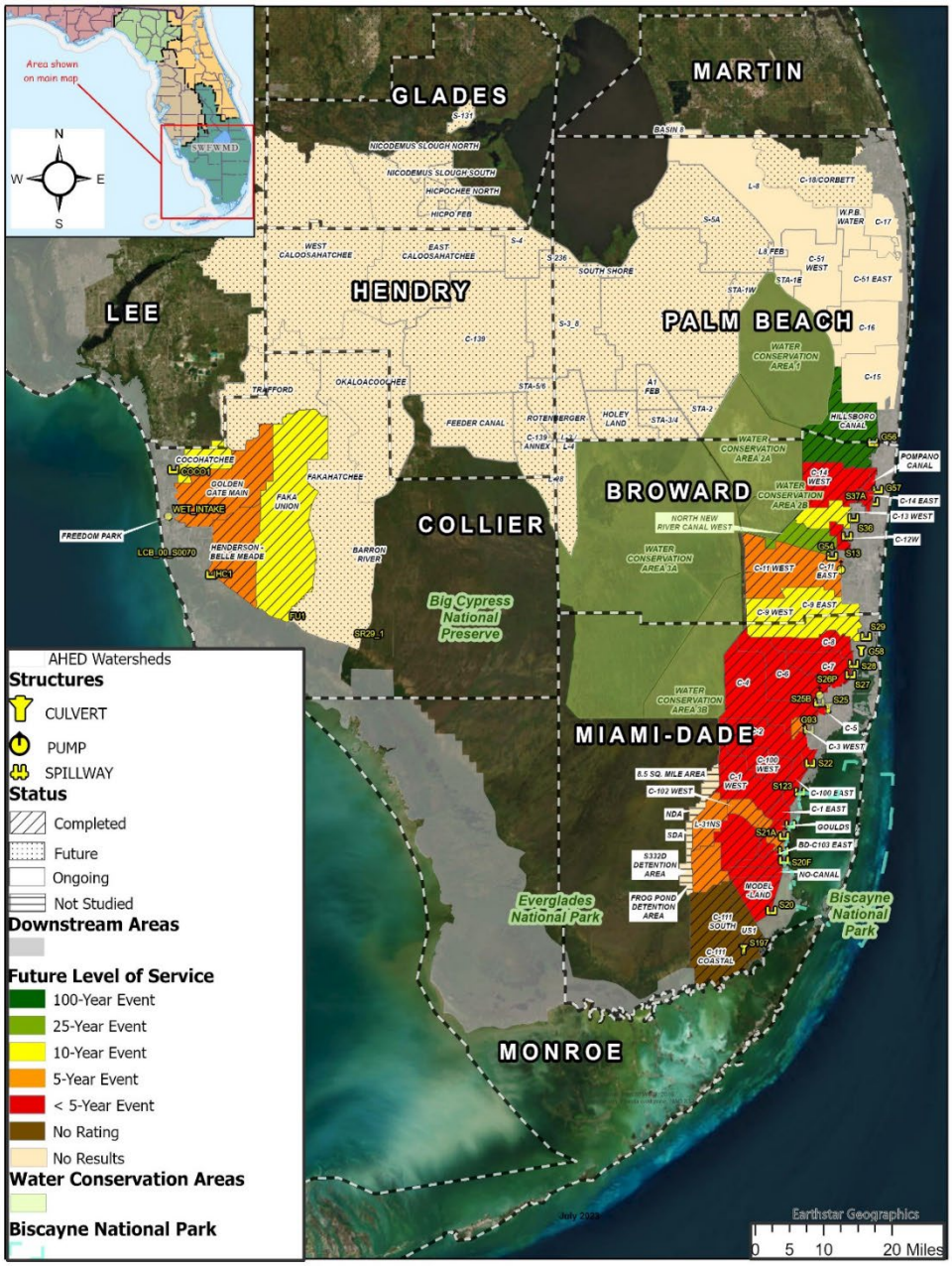


**Figure 3-4: Future Flood Protection Level of Service**

South Florida Water Management District's (SFWMD) 2023 Annual Consolidated Report

**October 2023**

**Flood Protection Level of Studies (FPLOS)**

Miami-Dade: FPLOS Phase I: 13 Structures; FPLOS Phase II: 3 Structures (Partially funded)

Broward: FPLOS Phase I: 7 Structures

Table 1: List of Resiliency Priority Water Control Structure Projects, including implementation and funding status

| Project Name / Water Control Structures | Project Source | Project below the expected service level (25-year/4%)? | Total Cost Estimate [1] | Status of Implementation | Status of Funding | Funds Expended (through June 30 2023) [2] |
|---|---|---|---|---|---|---|
| S-28 Coastal Structure and C-8 Basin Resiliency **Miami** | FPLOS Phase II | Yes | $261,446,031 | Not Started (Conceptual Design Completed) | Staff, H&H and Design Funds Construction partially funded $50M FEMA BRIC Award Recommendation + Match | $665,325 |
| S-29 Coastal Structure and C-9 Basin Resiliency **Miami** | FPLOS Phase II | Yes[3] | $355,280,352 | Ongoing Design Start: FY22 End: FY24 | Staff, H&H and Design Funds Construction partially funded $50M FEMA BRIC Award Recommendation + Match | $1,648,560 |
| S-27 Coastal Structure and C-7 Basin Resiliency **Miami** | FPLOS Phase II (Pilot) | Yes | $126,870,189 | Ongoing Design. Start: FY22 End: FY24 | Staff, H&H and Design Funds Construction partially funded $50M FEMA BRIC Award Recommendation + Match | $1,407,923 |
| S-26 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 144,858,126 | Not Started | Not yet funded | $0 |
| G-57 Coastal Structure Resiliency **Broward** | FPLOS Phase I | Yes | $ 33,394,620 | Not Started | Not yet funded | $0 |
| S-22 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $92,414,986 | Not Started | Not yet funded | $0 |
| S-37A Coastal Structure Resiliency **Broward** | FPLOS Phase I | No | $ 149,094,074 | Not Started | Not yet funded | $0 |
| G-58 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $20,927,917 | Not Started | Not yet funded | $0 |

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|---|---|---|---|---|---|---|
| S-123 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 104,958,469 | Not Started | Not yet funded | $0 |
| S-20F Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $77,703,413 | Not Started | Not yet funded | $0 |
| S-21 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $70,981,354 | Not Started | Not yet funded | $0 |
| S-21A Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 70,303,527 | Not Started | Not yet funded | $0 |
| G-93 Coastal Structure Resiliency **Miami** | FPLOS Phase I | No | $ 42,203,088 | Not Started | Not yet funded | $0 |
| S-25B Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 93,660,490 | Not Started | Not yet funded | $0 |
| G-56 Coastal Structure Resiliency **Broward** | FPLOS Phase I | No | $162,769,468 | Not Started | Not yet funded | $0 |
| G-54 Coastal Structure Resiliency **Broward** | FPLOS Phase I | No | $ 83,451,585 | Not Started | Not yet funded | $0 |
| S-25 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 28,748,435 | Not Started | Not yet funded | $0 |
| S-33 Coastal Structure Resiliency **Broward** | FPLOS Phase I | No | $ 35,505,876 | Not Started | Not yet funded | $0 |

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Broward: FPLOS Phase I: 7 Structures

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|---|---|---|---|---|---|---|
| S-20G Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $34,861,279 | Not Started | Not yet funded | $0 |
| S-13 Coastal Structure Resiliency **Broward** | FPLOS Phase I | Yes | $48,474,453 | Not Started | Not yet funded | $0 |
| S-36 Coastal Structure Resiliency **Broward** | FPLOS Phase I | Yes | $ 38,835,405 | Not Started | Not yet funded | $0 |
| S-197 Coastal Structure Resiliency **Miami** | FPLOS Phase I | N/A | $ 66,435,182 | Not Started | Not yet funded | $0 |
| S-20 Coastal Structure Resiliency **Miami** | FPLOS Phase I | Yes | $ 25,394,727 | Not Started | Not yet funded | $0 |

Notes: (1) The values reported under the Column "Total Cost Estimates" do not include staff time. (2) The values reported under the Column "Funds Expended" includes expenses since the start of FY20 through June 30, 2023. The total expended funds reported for each individual project includes in kind/staff time and planning funds. An additional $12,409,933 was spent within the same period for overall projects planning (FPLOS H&H modeling, data analyses, resiliency plan formulation, and other related planning efforts). (3) Expected service level is currently greater than a 25-year return period (less than 4% chance of occurrence), however the respective structure inspection report presents priority level for infrastructure refurbishment.