

Collier County, FL Floodplain Management Plan Update

Working Group Meeting #2

August 4th 2026, 9:00-11:00 AM

2800 North Horseshoe Drive Naples, FL 34104 Room 609/610

Attendees

- Chris Mason, Community Planning & Resiliency Division, Director
- Eric Johnson, Collier County EMCD Zoning
- Josh Starrett, Collier County Emergency Management
- Amy Howard, Collier County Emergency Management
- Ned Miller, public
- Peter Hayden, Collier County Stormwater
- Kari Hodgson, Collier County Solid Waste / PUD
- Amy Ernst, public
- Bob Dorta, City of Naples
- Lisa Koehler, SFWMD
- Linda Orlich, public
- Stan Chrzanowski, public
- Duke Vasey, public
- Paul Shea, public; Planning Commission
- Francisco Pena, SFWMD
- David Stroud, WSP
- Ranger Ruffins, WSP
- Kimmy Hansen, WSP

Agenda

- Planning Process Update
- Hazard Identification & Risk Assessment (HIRA) Review
 - HIRA Overview
 - Hazards Identification and Flood History
 - Asset Inventory
 - Hazard Profiles - Risk and Vulnerability Assessment
- Survey Update
- Next Steps
- Questions

Chris Mason provided opening remarks to kick off the meeting and thanked Working Group members for their participation in this planning process, noting the importance of representation and input from the various departments and stakeholders.

David Stroud and Ranger Ruffins facilitated the meeting according to the agenda above.

Planning Process

There is a 10-step planning process for the Floodplain Management Plan. We are currently working on updating the risk assessment, Steps 4 & 5, which comprises the bulk of the plan document. David noted that the next committee meeting will be held in person and will involve updating the mitigation goals, reviewing mitigation actions, and updating the action plan.

HIRA Overview

David reviewed the HIRA process, which involves identifying hazards, profiling hazard events, compiling an inventory of assets, and estimating losses.

The HIRA is organized in Section 4 of the plan document as follows:

- Section 4.1 Hazard Identification
- Section 4.2 Risk Assessment Methodology
- Section 4.3 Asset Inventory
- Section 4.4 Hazard Profiles, Analysis, and Vulnerability
- Section 4.5 Risk and Vulnerability Conclusions



Hazard Identification

The following hazards are included in the FMP: coastal/canal bank erosion, dam/levee failure, coastal and inland flooding, stormwater/localized flooding, hurricane & tropical storm, and sea level rise.

All hazards were included in the 2015 Collier County FMP; all but stormwater flooding are addressed in the 2023 State HMP, and all hazard except dam/levee failure are included in the County's 2025 Local Mitigation Strategy (LMS).

WSP reviewed hazard history to support updating the hazard identification, including disaster declarations and past hazard events.

- There have been 23 flood-related disaster declarations and 14 flood-related emergency declarations for Collier County, FL.
- NOAA's National Centers for Environmental Information (NCEI) database includes 105 flood related events which caused over \$2.9 billion in property damage, and 4 deaths in Collier County. David noted that NCEI data should be taken with a grain of salt as it only captures what is reported to the system and is not an exhaustive report of damage and loss.
- A question was raised concerning what type of data was used to produce the FMP update. David responded noting that a range of data types (quantitative and qualitative) and sources were used to evaluate the hazards. He noted that Atlas 15 was not used as it is not available until 2027.
- The FMP Working Group asked whether static or dynamic data was being used in the plan update. David noted that the data was static in the sense that what's included in the plan is reflective of the day/time it was mined. While some sources of data used in the plan may be dynamic – regular changes would not be reflected until the planning document is updated again.

- The FMP Working Group questioned why dam failure was not included as a hazard profile in the 2025 Local Mitigation Strategy. WSP confirmed that dam failure was not included in the 2025 LMS update because it was not part of the 2020 plan and was not identified as a priority hazard by the planning committee during the update process.
- Another question was asked concerning how storm surge is differentiated from flooding events in the disaster declarations. David noted that most hurricane and tropical storm events will have associated storm surge events. Therefore, storm surge events would be captured in those types of declarations.

Asset Inventory

Estimated building counts are based on 2025 property appraiser parcel data, and the content values are estimated using FEMA HAZUS methodology. Building exposure totals 128,884 buildings with a total value of \$132.7 billion (including structure value and estimated contents).

Priority Risk Index (PRI) Results

The Priority Risk Index was used to categorize and prioritize potential hazards as high, moderate, or low risk. The PRI value is calculated using five weighted categories: probability, impact, spatial extent, warning time, and duration. The final PRI value can range from 1.0 to 4.0, with higher values indicating greater relative risk. The preliminary PRI results show coastal and inland flooding and hurricanes and tropical storms as the highest rated hazards.

High	Moderate	Low
≥3.0	2.0-2.9	<2.0

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Risk Rating
Coastal/Canal Bank Erosion	Highly Likely	Minor	Negligible	More than 24 hrs	More than 1 week	2.2
Dam/Levee Failure	Unlikely	Limited	Negligible	Less than 6 hrs	Less than 1 week	1.8
Coastal and Inland Flooding	Highly Likely	Critical	Large	6 to 12 hours	Less than 1 week	3.5
Stormwater/Localized Flooding	Highly Likely	Limited	Small	6 to 12 hours	Less than 24 hours	2.8
Hurricane & Tropical Storm	Highly Likely	Critical	Large	More than 24 hrs	Less than 1 week	3.3
Sea Level Rise	Likely	Critical	Moderate	More than 24 hours	More than 1 week	2.9

- The FMP Working Group asked why sea level rise is evaluated as a standalone hazard. David noted that there is a lot of data that can help us understand sea level rise an individual flood mechanism. For example, WSP used the NOAA sea level rise viewer to show how many buildings may be impacted by sea level rise alone. However, WSP understands that many of these flood hazards do not operate as standalone events but rather have compounding impacts. Some of these impacts are addressed in the hazard profiles where relevant.

Hazard Profiles

Coastal and Canal Bank Erosion

- Coastal and canal bank erosion is an ongoing process rather than an episodic hazard. Erosion can intensify during storm events, particularly during hurricanes and storm surges.
- According to the FDEP Office of Resilience's 2024 "Critically Eroded Beaches in Florida" findings for Collier County, the County includes nine critically eroded beach areas totaling 15.5 miles, three non-

critically eroded beach areas totaling 5.1 miles, and one critically eroded inlet shoreline area totaling 0.8 mile.

- The South Florida Water Management District identified the Golden Gate Canal as a priority because debris blockages can increase flood risk.
- Mr. Vasey asked how much attention was paid to mangrove die off. David explained that the plan did not reference any data showing the amount or range of plant materials leaving the system. If data is available please share with WSP.

Dam Failure

- The St. Road 846 Land Trust IMP dam is the only dam located in Collier County.
- The dam has a hazard rating of “low” and is primarily surrounded by agricultural land.
- Inundation area was not available to estimate exposure.
- There have been no past dam failures in Collier County.

Levee Failure

- There are three low risk levees found in Collier County:
 - East Big Cypress Seminole IR
 - L-29
 - Picayune Strand
- The FMP Working Group noted that a portion of the Picayune Strand levee system was recently completed. WSP will see if shapefiles are available and will work with Lisa to incorporate details on the levee system.
- In total, there are 90 exposed properties totaling approximately \$34 million in combined structure and content value.
- It was asked if the date of construction for the dams and levees was shown. It was not included in the presentation, but year of construction is shown in the hazard profile for levee failure.

Coastal and Inland Flooding

- Based on the FEMA 2024 Effective FIRM for the unincorporated county, approximately 95 percent of the analyzed acreage falls within the Special Flood Hazard Area.
- NCEI reported 58 flood-related events from 1995 to 2025, with more than \$730,000 in property damages.
- The coastal and inland flooding hazard profile reported findings from the SFWMD 2025 Big Cypress Basin Model Update report.
 - Performance Metric 1: estimates the highest water levels across four design storms and identifies canals that do not meet flood protection level of service. Fifteen canals were identified as not meeting the flood protection level of service. Ranger clarified that in most cases, only particular part of the canals did not meet the flood protection level of service – not the entire canal.
 - Performance Metric 5: frequency of flooding, modeled the depth of flooding across four design storms. WSP only included findings from the 25-year and 100-year design storms.

- A summary of the reported findings can be found in *Section 4.4.3 Coastal and Inland Flooding* of the draft HIRA under “Extent”. Note that WSP did not conduct the referenced modeling and did not use raw data or models from SFWMD. WSP only summarized already published findings from the report. Extensive flood modeling is outside the scope of the project.
- Lisa indicated that a full detailed presentation of the Big Cypress Basin Model Update Report is available for review online for those who would like to learn more about the modeling methods.
- Ranger clarified that the Special Flood Hazard Area (SFHA) is the 1%-annual-chance flood zone (100-yr flood zone) and include zones VE, AE, AH, and A shown on the County’s Flood Insurance Rate Map (FIRM). The 0.2%-annual-chance flood zone (500-yr) is Zone X. The plan identifies properties and critical facilities located all flood zones.
- The FMP Working Group asked for more details concerning the Hazus Fast Tool. Ranger explained that Hazus software uses information such as building foundation and occupancy type to estimate losses. There are several other inputs and factors Hazus uses to generate these estimates. More information can be found on [FEMA’s website](#).

Stormwater and Localized Flooding

- There are 85 drainage problem areas in Collier County, with some of these being addressed by Public Utility Projects.
- NCEI reports 16 flash flooding events.

Hurricane and Tropical Storm

- According to the NOAA Historical Hurricane Tracks, there have been 84 storms withing a 50-mile buffer of Collier County from 1900-2025.
- From 1995-2025, NCEI reports 45 hurricane & tropical storm events causing over \$2.9 billion in property damages and 4 deaths.
- The majority of disaster declarations and emergency declarations are hurricanes and tropical storms.
- Based on NOAA SLOSH data, a category 1 storm surge event could exposure 25,755 buildings with a total estimated value of approximately \$41.8 billion. Under a Category 5 scenario, 117,696 buildings were identified as potentially exposed with a total estimated value of approximately \$127.9 billion.

Sea Level Rise

- Using data from NOAA Tides & Currents annual relative sea level rise projections were reported for various emissions scenarios. Projections are based on the 2000 mean sea level. The intermediate scenario for the Naples tide station projects estimated 0.82 feet of rise by 2040, 1.44 feet by 2060, and 3.67 feet by 2100.
- Based on data from NOAA’s Sea Level Rise Viewer, there are a total of 345 buildings exposed to 1 foot of sea level rise and a total of 2,121 buildings exposed to 3 feet of sea level rise in Collier County.

Survey Update

- There have been 16 responses to the survey so far. A summary of responses can be found on slide 28 of the presentation.
- Ranger asked Collier County to do another survey push to increase the number of responses. FMP Working Group members were also asked to share the survey with their networks and community. The survey can be accessed here: [Collier County, FL Floodplain Management Plan Public Survey – Fill out form](#) or by scanning the QR code.
- Survey responses are anonymous, and while not requested, if personal information is shared by respondents, such as addresses, the information will not be made public.
- The survey defines flooding broadly in order to capture a range of experiences from the County. FMP Working Group members suggested clarifying the definition of flooding in future survey questions.
- Ranger clarified that the survey does not ask respondents which flood zone they are in, as the questions are intended to gather broader experiences and concerns.
- David noted that the survey is intended to collect public perspectives and concerns to help inform mitigation planning, not to establish or implement public policy.



Next Steps

- WSP will share draft HIRA, meeting presentation, and meeting minutes for review
- WSP will work with County staff to schedule the next Working Group meeting
- FMP Working Group is asked to share the [public survey](#) QR code and website link
- Working Group is asked to review draft HIRA once made available. It will be posted on the County FMP website: <https://www.colliercountyfl-fmp.com/>