

PLANES DE MITIGACIÓN CONTRA PELIGROS NATURALES  
Resiliencia Planificada



2020

# Municipality of Comerío

Natural Hazard Mitigation Plan

Executive Summary

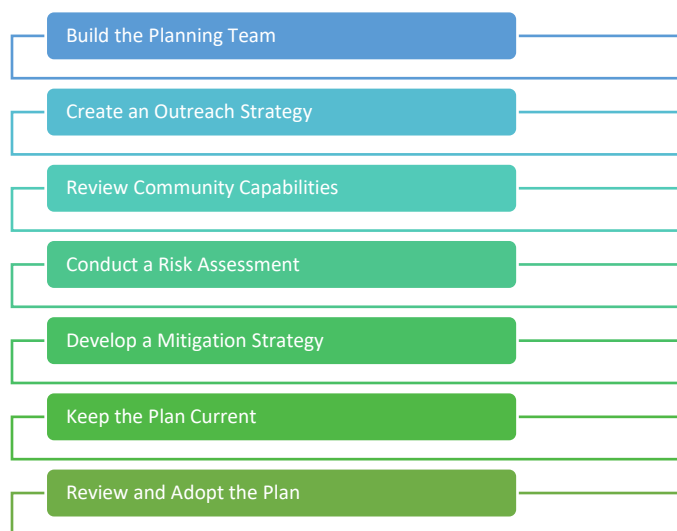


## 1 Introduction

The municipality of Comerío has revised its Local Hazard Mitigation Plan (LHMP).<sup>1</sup> This complies with the federal Disaster Mitigation Act of 2000 (DMA2K), which was signed into law to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988. One of the requirements that this legislation establishes is that in order for the municipality to receive federal mitigation funds, it must elaborate and adopt a Federal Emergency Management Administration (FEMA) approved LHMP.<sup>2</sup> Also, the DMA2K promotes that the local government, together with the State, work on pre disaster planning and encourages the development of sustainable hazard mitigation activities.

These LHMPs must be revised and updated every five (5) years to remain in compliance with regulations and Federal mitigation grant conditions. This updating requirement offers the municipality an opportunity to reevaluate recommendations, monitor the implementation of mitigation strategies included in the previous Plan, monitor the impact of mitigation actions that have been implemented, and determine if any changes to the plan need to be incorporated. This plan complies with said regulations.

### ***Hazard Mitigation Planning Process***



The strategies and projects enumerated in the LHMP have the goal of reducing the loss of life, personal injuries, and property damages that can result from a natural disaster. Hence, the mitigation strategies, included in the LHMP, involve planning efforts, capital projects, and other activities that reduces the impacts of the natural hazards included in Comerío's LHMP of 2020.

The municipality has also revised the LHMP under the authority of Act 81-1991, known as the Autonomous Municipalities Act of 1991, as amended. Section 2.004 of said Act 81-1991, states that the municipality can carry out any activity that establish programs or

adopt convenient and useful measures to prevent and fight fires, aid the community in cases of emergency or natural disasters, catastrophic accidents of fires and for the civil protection in general.<sup>3</sup>

This Executive Summary will discuss

- Comerío's social characteristics,
- The public participation and outreach effort to the community during the LHMP planning process,

<sup>1</sup> Please note that the 2020 Revised HMP was written in Spanish as per agreement between the Municipality, of Comerío, the Planning Board, the Governor's Authorized Representative (GAR) and FEMA.

<sup>2</sup> 42 U.S.C 5165; 44 C.F.R. § 201.6.

<sup>3</sup> 21 L.P.R.A § 4054

- Comerío's risk assessment,
- A review of the mitigation strategies, goals and action plan of the LHMP,
- Plan maintenance, and how to keep the Plan current

## 2 Comerío: Main Characteristics and Profile

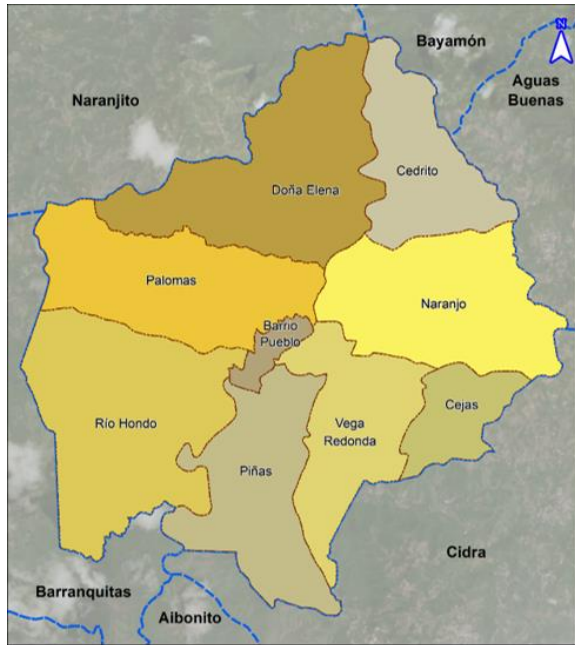


Figure 1: Comerío and its wards

The Municipality of Comerío is in the Central eastern region of Puerto Rico. It borders the municipalities of Aguas Buenas and Cidra to the east, Naranjito and Bayamón to the north, Barranquitas to the west. The geographic extension of the municipality is approximately 28 square miles. Administratively, Comerío is divided in nine (9) wards or *barrios*. These *barrios* are: Cedrito, Cajas, Doña Elena, Naranjo, Palomas, Piñas, Río Hondo, Vega Redonda and Pueblo.

The main body of water in the municipality is the Río La Plata that runs from north to south.

According to the 2010 Census, Comerío had 20,778 inhabitants. The 2017 American Community Survey estimates the population of Comerío decreased to 19,914 inhabitants, a 4.16 % decrease regarding 2010 Census. Of the nine (9) barrios of Comerío, six (6) have shown a decrease in population, while three (3) showed a marginal increase (Pueblo, Naranjo, Río

Hondo). The Barrio of Vega Redonda experienced a percentage change of -21.39 between 2010 and 2017. Further details, regarding the profile of the municipality, can be found in Chapter 3 of the updated 2020 LHMP.

Table 1 Comerío Population Change

Population	2010 Census	2017 ACS estimate	% Rate of Change
Younger than 5 years age	1,367	1,030	-24.65%
5 to 19 years of age	4,583	3,902	-14.86%
20 to 64 years of age	12,224	11,794	-3.52%
65 years of age and older	2,604	3,188	22.43%
Total	20,778	19,914	-4.16%

This profile highlights the population that could be potentially vulnerable to natural hazards in the municipality, particularly persons with 65 years of age and older which had an increase of 22.34% in the municipality during this seven-year period (2010 to 2017).

Hazard mitigation strategies and actions consider these population characteristics and its vulnerability toward natural hazards analyzed in this update.

## 3 Outreach and Public Participation

To serve as the engine behind the review of the LHMP, the Mayor of Comerío appointed the following officials to constitute the Mitigation Planning Committee. The Committee is comprised by representatives from five (5) departments with key roles in community planning, public works, and emergency

management. Hence, the Committee members included those with responsibility for, and expertise in, implementing mitigation projects in the Municipality of Comerío.

*Table 2 Hazard Mitigation Planning Committee*

Name	Position	Agency	email
Jaime García	Director	Municipal Office for Emergency Management	jgm.omme@gmail.com
Carmen Pérez	Representative	Office of Social Development	desarrollosocialcomerio@gmail.com
Héctor Quiles	Commissioner	Municipal Police Department	Hquiles1970@gmail.com
Jean Ortiz	Representative	Office of Federal Programs	jean@muncomerio.com
Gilberto Rodríguez	Representative	Office of Planning Development and Project Management	gpcomerio@gmail.com
Eva Y. Reyes	Representative	Community and wards	Evareyes2@gmail.com

The Planning Committee activities included: (1) updating the list of the municipality assets and local critical facilities; (2) updating the status of the previous LHMP mitigation strategies; (3) determine possible new mitigation strategies for the 2020 LHMP; (4) development and implementation of public participation and outreach activities and stakeholders at large such as neighboring municipalities, governmental agencies; (5) announce the municipality's LHMP efforts to agencies, stakeholders and public feedback on Comerío LHMP 2020 draft version. Accordingly, from June 27, 2019 to December 27, 2019, the Planning Committee reviewed and provided comments on the 2020 LHMP preliminary and draft versions.

On September 9, 2019, a notice was published on local newspaper. The said notice informed the public about the first Public Participation meeting in Comerío. On November 22, 2019, a second notice was published regarding the publication of the 2020 LHMP draft version for review providing 20 days period for review, submit comments, and the opportunity to participate in a second community meeting. A draft version of the 2020 LHMP was made available on the Puerto Rico Planning Board (PRPB) website. Also, a hard copy of Comerío's 2020 LHMP was placed in the Municipal Office for Emergency Management of Comerío for public review. The hard copy was available for public inspection 24 hours a day, 7 days a week.

## 4 Comerío's Risk Assessment

After reviewing the natural hazards identified as priorities on the previous Comerío's 2013 LHMP, the Municipal Emergency Response Plan, the Comerío Land Use Plan of 2016, the municipality's disaster history, and other literature related to potential future hazards, the Planning Committee identified the following hazards in the 2020 LHMP; (1) Sea level rise:(2) Droughts (3) Earthquakes: (4) Flooding: (5) Landslides (6) High Winds (tropical storms); (7) Tsunamis (8) Coastal erosion, (9) Storm surge: and (10) Wild Fire. Discussion of these natural hazards are included in the 2020 LHMP's Chapter 4. In addition, the 2020 LHMP includes a quantitative vulnerability analysis based on the best available data for Comerío and

Puerto Rico accounting for future developments to assess mitigation strategies to prevent repetitive and severe property loss.

This assessment served as a key tool for the Planning Committee and the public to identify and prioritize potential mitigation strategies by focusing attention on areas that present the greatest risk of damages to people, critical facilities, and normal municipality operations. The analysis for earthquake, tsunamis, flood, landslides, storm surge, high winds, sea level rise, and costal erosion was performed by assessing the potential impacts from each hazard using geographic information system data.

By ranking each section, the municipality was in position to determine an overall risk classification. It is important to mention that this classification exercise resulted from the municipality's 2020 LHMP technical risk assessment along with a capability gap analysis and the local community input, which is based on previous natural events experienced by the Committee and the residents and business owners of Comerío.

The following table shows the conclusions of the Committee based on the risk assessment.

*Table 3 Natural Hazard Ranking*

<b>Natural Hazard</b>	<b>Risk to people</b>	<b>Risk to facilities</b>	<b>Risk to Operations</b>	<b>Classification</b>
High Winds/Tropical Cyclones	Moderate	Moderate	High	<b>Moderate</b>
Floods	High	High	High	<b>High</b>
Landslides	High	Moderate	High	<b>High</b>
Climate Change/ Extreme Heat	Low	Moderate	Moderate	<b>Moderate</b>
Earthquakes/Liquefaction	High	Low	Low	<b>Moderate</b>
Droughts	Low	Moderate	Moderate	<b>Low</b>

Based on the Natural Hazard Ranking table, the following hazards are considered as significant for Comerío: (1) High Winds; (2) flooding; (3) landslides; (4) climate change/ extreme heat; (5) earthquakes; and (6) droughts. However, as stated by the Planning Committee, the flood hazards pose the greatest risk of loss to Comerío's population, building stock, critical facilities and infrastructure. For example, on a 100-year flood, an estimated 1,961 people in Comerío will experience a flood between 5 to 8 feet and 1,602 people may experience a flood over 14 feet. Furthermore, a large number of the critical infrastructure, including the town hall, government center, police and firemen headquarters, are locates in areas susceptible to flooding.

This ranking methodology was adopted to develop the mitigation strategies discussed in Chapter 6 of the revised LHMP. The Mitigation Strategies in Chapter 6 are divided into the following categories: (1) Prevention, (2) Property Protection, (3) Natural Resources Protection, and (4) Emergency Services The

category with the most mitigation strategies is Property Protection with a total of 15 mitigation projects. Flood is the natural hazard that is most addressed by the projects in the category of Property Protection.

## 5 Mitigation Strategies, Goals, and Action Plan

The municipal capabilities, together with the risk assessments, serves a foundation for the design, development and implementation of the mitigation strategies. The mitigation strategies, found in Chapter 6, consist of a broad local goals and strategies. The local mitigation actions were gathered from the 2013 LHMP and were incorporated into the 2020 LHMP. The chapter provided information about the assigned implementation mechanisms and target completion dates. Also, the sections of Chapter 6 are designed to make the Plan strategic by identifying long-term goals, but functional by identifying short term and immediate actions that will guide the daily local decision-making process and project implementation.

The mitigation goals consist of general guidelines that explain what the Municipality of Comerío wants to achieve in terms of hazard and loss mitigation. Thus, the goals included in the 2020 LHMP, offers the Planning Committee and the communities a framework for identifying, prioritizing and implementing actions to reduce the risks associated to natural hazards in Comerío.

On the other hand, mitigation strategies are activities, projects, measures, or processes that Comerío will adopt in order to reduce or eliminate risk to people and property from hazards. Consequently, Comerío reviewed and revised the criteria adopted in the 2013 LHMP to analyze and prioritize potential mitigation strategies for the municipality. In order to developed the actions, the Planning Committee used the following criteria: (1) the potential of the strategy to reduce expected future damages and/or losses; (2) the capacity of the municipality to implement the action within the 5-year cycle of the Plan; (3) support from the public, agencies, municipal departments, amongst others; and (4) the potential of the action to increase resiliency of Comerío and its residents. Accordingly, the Planning Committee adopted these criteria, the results from the risk assessment, and the suggestions of the communities to prioritize each mitigation strategy that was contained in the 2020 LHMP.

Most of the strategies and project in the action plan concern the hazard of flooding. Among the strategies to mitigate this hazard are:

- Flood control projects for communities adjacent or near the La Plata River.
- Flood control projects for communities adjacent or near the Rio Hondo community
- Improvement to flood control canals and stormwater system on individual communities.

## 6 Maintenance to Keep the Plan Current

Chapter 7 of this updated 2020 LHMP details the revision and monitoring process in great extent. The formal maintenance process, selected by the Planning Committee of Comerío, aims to keep the document viable and living. The plan maintenance process provides the procedures an evaluation and review every third quarter of each fiscal year during its 5-year life-cycle evaluation. This evaluation will include a review of the mitigation action plan implementation, continued public involvement in the LHMP planning and review process, and for updating the 2020 LHMP within the life cycle of the Plan, as required by federal legislation. As part of the review process, the members of the Planning Committee or representants from municipal departments will be asked to participate in an emergency LHMP meeting if a major natural disaster occurs in Comerío. As a result of the emergency, the municipality might choose to update or

amend the 2020 LHMP if the Planning Committee determines that it is needed. The Office of Federal Programs will coordinate with other municipal dependencies as needed to achieve the goals and objectives stated in this LHMP.

Finally, the municipality will promote continued public participation during the plan maintenance by;

- Advising local communities regarding their strengths and weaknesses to deal with natural hazards and how to mitigate the associated risks,
- Advising local communities regarding what resources are available before, during and after a natural disaster,
- Creating a database of citizens that are interested in hazard mitigation issues in order to keep them up to date on any information that may increase their capabilities in that subject matter,
- Keeping a least two members in the local hazard mitigation planning committee that represent the community, and
- Holding public meetings to discuss HMP monitoring and supervision at the beginning of the last quarter of each fiscal year and/or after the occurrence of any natural disaster in Comerío.

## 7 Plan Approval and Adoption

The Federal Emergency Management Agency (FEMA) completed review of the Municipality of Comerío Hazard Mitigation Plan, based on the standards pursuant to title 44 C.F.R. Section 201 as authorized by the Disaster Mitigation Act of 2000 (DMA2k). The Plan received a satisfactory rating for all required criteria and was approved as approvable pending adoption (APA). Accordingly, the Municipality of Comerío, adopted said Plan on June 4, 2020 via Resolution No. 26, Series 2019-2020.

Upon receiving the record of adoption from the municipality, FEMA approved the 2020 LHMP by June 26, 2020 and issued an official approval letter to municipality that dates from June 29, 2020 stating the jurisdiction has adopted said Plan thus approved and eligible for FEMA Hazard Mitigation Assistance programs. The approval letter includes the expiration date 5 years from the date of approval, or until June 25, 2025.