Local Mitigation Strategy 2024

Palm Beach County
Public Safety Department
Division of Emergency Management

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SECTION 3: MITIGATION STRATEGY

3.1 Governmental

Local Mitigation Strategies take into account an abundance of information from the Federal and State levels, as each has their own mitigation strategy as well. For example, the Federal Government has the National Mitigation Framework, and the State of Florida has the State Hazard Mitigation Plan. Strategies, goals, and objectives from these are very beneficial for local LMS officials to use in the formulation of their own strategies as they help align the overall mitigation goals with each other, in order to make all communities more resilient after a disaster has occurred.

This section, in part, addresses the following FEMA requirements **Plan Content**. The plan must include the following:

Requirement 44CFR 201.6(c)(2)(i): A description of the type, location, and extent of all natural hazards that affect the jurisdiction. The plan must include information on previous occurrences of hazard events and on the probability of future hazards.

Requirement 44CFR 201.6(c)(2)(ii): A description of the jurisdiction's vulnerability to the hazards escribed in paragraph (c)(2)(i) of this section. This description must include an overall summary of each hazard and its impact on the community.

Requirement 44CFR 201.6(c)(2)(ii): All plans approved after October 1, 2008, must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazards areas.
B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate.
C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decision.

Requirement 44CFR 201.6(c)(3)(i): The Plan must include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Requirement 44CFR 201.6(c)(3)(ii) and 201.6(c)(3)(iv): The Plan must include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Requirement 44CFR 201.6(c)(4)(ii): A plan maintenance process that includes a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate**.**

3.1.1 Federal

The National Mitigation Framework establishes a common platform and forum for coordinating and addressing how the Nation manages risk through mitigation capabilities. This Framework describes mitigation roles across the whole community. The Framework addresses how the Nation will lessen the impact of disaster by developing, employing, and coordinating core mitigation capabilities to reduce loss of life and property. Building on a wealth of evidence-based knowledge and community experience, the Framework seeks to increase risk awareness and promote resilience building by leveraging mitigation enhancing products, services, and assets across the whole community. The National Mitigation Framework discusses seven (7) core capabilities required for all entities involved in mitigation:

- Threats and Hazards Identification
- Risk and Disaster Resilience Assessment
- Planning
- Community Resilience
- Public Information and Warning
- Long-term Vulnerability Reduction
- Operational Coordination

3.1.2 State

The FDEM, under the Executive Office of the Governor, has primary responsibility in disaster response and mitigation. The FDEM developed the Enhanced State Hazard Mitigation Plan (SHMP) to establish a comprehensive program to effectively and efficiently mobilize and coordinate the state's services and resources to make Florida's communities more resistant to the human and economic impacts of disasters. The Florida Enhanced SHMP achieves this purpose through the following goals and objectives:

Goal 1: Implement an effective comprehensive statewide hazard mitigation plan.

- Objective 1.1: Engage technology to continually advance and expand the statewide hazard mitigation program.
- Objective 1.2: Support the development of comprehensive mitigation initiatives that will enhance mitigation successes and build resiliency.
- Objective 1.3: Prioritize engagement with underserved and vulnerable populations to ensure that social equity issues are integrated into Florida's hazard mitigation program.
- Objective 1.4: Integrate mitigation practices throughout all state plans, programs, and policies.
- Objective 1.5: Evaluate risk to all hazard in the State of Florida to be able to leverage available mitigation funding, including HMA, FMAG, and HHPD grant programs.

Goal 2: Increase Whole Community awareness and support for hazard mitigation in Florida.

- Objective 2.1: Engage and collaborate with a broad range of stakeholders in hazard mitigation planning efforts.
- Objective 2.2: Work with state and regional entities throughout Florida to incorporate mitigation concepts and information into their outreach efforts.
- Objective 2.3: Educate Florida's public, private, and non-profit sectors about mitigation concepts and opportunities.
- Objective 2.4: Support hazard mitigation research and development, with an emphasis on equitable solutions for underserved and vulnerable communities.

Goal 3: Support local and regional mitigation strategies

- Objective 3.1: Support local mitigation strategy planning process and maintenance.
- Objective 3.2: Maintain up-to-date risk assess information in coordination with local communities.
- Objective 3.3: Support the integration of hazard mitigation concepts into other local and regional planning efforts such as comprehensive plans, local mitigation strategies, and comprehensive emergency management plans.
- Objective 3.4: Ensure all communities are aware of available mitigation funding opportunities and resources.
- Objective 3.5: Promote strategic planning for climate change and sea level rise resilience at state, regional, and local levels.

Goal 4: Support mitigation initiatives and policies that protect the state's cultural, economic, and natural resources.

- Objective 4.1: Support flood reduction activities to reduce or eliminate potential future losses due to hazards while protecting natural and cultural resources.
- Objective 4.2: Promote restoration and conservation of natural resources whenever possible.
- Objective 4.3: Seek mitigation opportunities that reduce losses and promote responsible growth of the economy and built environment.
- Objective 4.4: Coordinate effective partnerships between stakeholders for floodplain management.

Goal 5: Support mitigation initiatives and policies that increase Florida's climate resilience

- Objective 5.1: Integrate climate resilience education into Florida's hazard mitigation program.
- Objective 5.2: Increase visibility of evolving climate change and sea level rise research to further the state and local government's ability to decrease hazard vulnerability.
- Objective 5.3: Create effective partnerships and collaborate with experts in the field of climate resilience.
- Objective 5.4: Promote the integration of equitable climate resilience efforts into statewide planning, initiatives, and policies, emphasizing underserved and vulnerable populations.

The SHMP provides the FDEM with operational and programmatic guidance to promote the goals and objectives of the nationally based National Mitigation Strategy as coordinated by FEMA.

The FDEM has the lead role in coordinating state resources to support local government unless the scope of the emergency warrants a higher degree of state involvement. This may occur when emergencies involve multi-jurisdictional hazards, when local governments believe the emergency is beyond the capabilities of local resources, or when the Governor determines there is an overriding concern for the safety of the public. For these situations, the Governor can designate the primary responsibility for emergency response to the state by issuing an Executive Order under the provisions of Section 252.36, Florida Statutes (F.S.).

The FDEM is the designated State Watch Office as the notification point in the event of a hazardous materials incident. As such, the FDEM is responsible for receiving notification of an emergency from the County Communications Coordinator (i.e., County Warning Point), and coordinating the request(s) for County support, if requested. The DEM is responsible for assisting LEPC's in providing warnings and instructions to the general public.

The FDACS Florida Forest Service has major responsibility for protecting forest lands and the public from the effects of wildfire. Local fire-rescue departments have primary responsibility for structural fires. They also are the first responders to all fires. If the local fire-rescue department has determined that the wildfire event is beyond its capacity to fight, the local fire-rescue department can request assistance from the Florida Forest Service. When that occurs, an incident command control is established with state and local fire-rescue departments working together to extinguish the wildfire.

3.1.3 Regional

3.1.3.1 Treasure Coast Regional Planning Council (TCRPC)

The TCRPC was created under Section 186.501, F.S. The TCRPC is multi-county entity encompassing Indian River, Martin, Palm Beach, and St. Lucie counties. It has responsibility for addressing growth management issues that are multi-jurisdictional in scope. This includes working in cooperation with federal and state agencies planning for emergency management issues as described in Section 252.34(4) F.S. The TCRPC provides full-time staffing for the District X LEPC. The LEPC is charged with administering regional compliance with hazardous materials reporting and training laws. Its many initiatives include the State Hazardous Materials Training Task Force; District X Hazardous Materials Emergency Plan; training for emergency first response personnel; hospital and hazardous materials response team needs; public hazardous chemical awareness and reporting seminars; public and private sector hazardous materials emergency exercises; and assisting public and private facilities with chemical emergency preparedness planning.

Section 186.507, F.S. directs regional planning councils to prepare strategic regional policy plans. One of the elements that the plan must address is emergency preparedness. The TCRPC promotes mitigation initiatives within Section 5.0, Emergency Preparedness, of its “Strategic Regional Policy Plan”. (Appendix B).

- **Strategy 5.1.1** Direct development away from areas most vulnerable to the effects of natural and man-made disasters.
- **Strategy 5.2.1** Utilize land use, transportation, and community planning processes to address vulnerability issues.
- **Strategy 5.3.1** Provide shelter space for residents of areas susceptible to flooding from the effects of hurricanes and other storms.
- **Strategy 5.4.1** Develop the mechanisms necessary to ensure that emergency planning agencies have input into the local government decision-making process.
- **Strategy 5.5.1** Initiate disaster preparedness activities which will protect lives and property and reduce evacuation times.
- **Strategy 5.5.2** Establish mechanisms and regulations necessary for post-disaster reconstruction to occur in a consistent manor making future disasters less destructive to life and property.

3.1.3.2 South Florida Water Management District

The creation of the South Florida Water Management District (SFWMD) along with the four (4) other water management districts were enabled under Section 373.069, F.S. As required under Section 373.036(2), F.S., each district has prepared a district water management plan. The SFWMD oversees the water resources in the southern half, and most dense region of the State. It covers 16 counties from Orlando to the Florida Keys and serves around 9 million residents. SFWMD is the oldest and largest of the state's five water management districts.

The plan provides the overarching vision for the districts. The key elements of the plans are:

- Flood Protection
- Restoration of Water Resources and Ecosystems
- Water Supply
- Public Engagement and Administration

One of the purposes of the plan is to provide a blueprint to successfully achieve balanced regional water resource management, addressing issues of water conservation, extreme drought and flooding. Focused on the agency’s core mission to safeguard and restore South Florida’s water resources and ecosystems while protecting communities from flooding and meeting the region’s present and future water supply needs. The SFWMD administers several programs that achieve hazard mitigation relative to flooding, hurricanes, and drought.

To fulfill the need of long-term flood protection for basins throughout the 16-county region, the flood protection level of service (FPLOS) program has been established since 2015. The mission of this program is to identify and prioritize long-term infrastructure improvement needs, and to develop an implementation strategy to assure that each basin can maintain its designated FPLOS, in a technical and cost-effective manner, in response to population growth, land development, and climate change, including sea level rise. Results of the FPLOS flood vulnerability assessments and adaptation planning studies have been integrated into the SFWMD Sea Level Rise and Flood Resiliency Plan. The plan, updated annually, is the first District Initiative to compile a comprehensive list of priority resiliency projects with the goal of reducing the risks of flooding, sea level rise, and other climate impacts on water resources and increasing community and ecosystem resiliency in South Florida. Throughout the year, SFWMD conducts an active inspection and maintenance program on its flood control system and critical facilities and structures with regional significance. They schedule regular canal clearing maintenance in preparation for hurricanes or other storm events. This mitigates against flooding that could be caused by canal debris inhibiting water flow. The District also performs vegetation control and canal bank enhancements to ensure maximum conveyance of the flood control system.

SFWMD, through its Capital Improvement Plan, has built and maintained infrastructure and acquired land needed to support flood control, protect South Florida's water supply sources, and restore the region's impaired ecosystems. SFWMD implements its CIP based on these inspection results and other operation and maintenance needs, including expenditures for (1) basic construction costs including design, engineering, permits, inspections, and site development; and (2) other project costs including land acquisition and associated costs, surveys, and facility acquisition.

To meet Florida's future water demands, the state's water management districts are working with water users to best use the state's traditional water sources while also promoting the development and use of alternative sources. Water supply management strategies include sound planning and permitting; demand reduction through water conservation; development of alternative water sources such as new surface water storage, reclaimed water and desalination of brackish and saline water; and Everglades restoration. SFWMD is also initiating the development of Water Supply Vulnerability Assessments to evaluate the impacts of climate changing conditions, including sea level rise, in its water supply sources. The District submits local and regional projects, provides representatives, and collaborate with the counties' LMS working groups to assist in pre-identifying and ranking various mitigation projects. Also, collaborating local governments, with the support of FDEM Watershed Planning Initiative, to develop Watershed Master Plans, leveraging data, tools and models from its FPLOS Program, and assist with awarding Community Rating Systems (CRS) credits and respective discount on flood insurance premiums.

The District is strongly committed to addressing the impacts of climate change, including rising sea levels, changing rainfall and flooding patterns. Current SFWMD resiliency efforts focus on assessing how sea level rise and extreme events happen under current and future climate conditions and how they affect water resource management. The District's resiliency efforts also focus on understanding the impacts of future climate conditions on ecosystems and restoration efforts. The District is making infrastructure adaptation investments that are needed to successfully implement its mission of safeguarding and restoring water resources and ecosystems, protecting communities from flooding, and also ensuring an adequate water supply for people and the environment with special attention to natural and green infrastructure solutions.

3.1.4 Local

3.1.4.1 Palm Beach County

Not counting Lake Okeechobee, the County occupies approximately 1971 square miles on Florida's southeastern Atlantic coast. It is the second largest county in the state in terms of land area. It has approximately 47 miles of coastal shoreline that fronts the Atlantic Ocean.

The county is the third most populated county in the state. In 2020, the countywide population was listed as 1,492,191 (US Census). That is an increase of nearly 172,057 people from the 2010 census. It is projected that by the year 2030, the population will increase by over another 150,000 to about 1,643,900. The majority of the growth is expected between the coastal ridge and Water Conservation Areas.

Thirty-nine (39) municipalities exist in the County. In terms of population, they vary significantly. The City of West Palm Beach is the largest (117,415) while the City of Westlake (906) is the smallest (see Table 3.1). There are three (3) urban centers of population along the coast: in south PBC, the Boca Raton/Delray Beach/Boynton Beach area (combined population – 244,648); the West Palm Beach/Lake Worth Beach/Riviera Beach area (combined population – 197,238) in central PBC; and in north PBC, the Palm Beach Gardens/Jupiter area (combined population – 120,229). Two (2) other centers of population exist in the County. One (1) is the Glades agricultural communities of Belle Glade, Pahokee, and South Bay that border Lake Okeechobee, (combined population – 27,082). This area has unique needs because of its relative physical isolation from the highly urban areas along the Atlantic coast. The other area, rapidly urbanizing, is the Royal Palm Beach/Wellington/Greenacres (combined population – 144,559) area. Based upon the figures provided by the U.S. Census Bureau, the City of West Palm Beach has experienced the largest population growth amongst the municipalities of PBC, with an increase in population of 17,496 during the period of 2010 through 2020.

As growth has occurred and PBC has become more and more urbanized, large portions of the County have experienced shifting land use patterns, moving from rural, agricultural areas to emerging residential communities, industrial and business employment centers. Land in PBC is used for three (3) major purposes: urban uses, agriculture, and protecting environmentally sensitive resource areas (e.g., water conservation areas, Corbett Wildlife Refuge, beach areas). Table 3.2 provides a synopsis of each municipality.

From a hazards perspective, transportation is an important component shaping the overall development pattern. Being a major urban county, the residents and businesses are serviced by many suppliers that depend upon the air, rail, and trucking industries that distribute goods throughout the region. Key major modes of transportation traverse throughout PBC. The area is served by major transportation corridors (e.g., Interstate 95, Florida Turnpike), four (4) rail lines (Florida East Coast Railroad, CSX Railroad, Tri-Rail, and Brightline), the Port of Palm Beach, and Palm Beach International Airport. Brightline is a high-speed, inter-city rail route operating between Miami and Orlando with two (2) stations in Palm Beach County, Boca Raton and West

Palm Beach. As the area becomes more urban and more congested, the potential for transportation accidents will increase.

Within PBC, the SFWMD operates six (6) major drainage canals: C-18, C-17 (Earman River), C-51 (West Palm Beach Canal), C-16 (Boynton Canal), C-15 canal, and the Hillsboro Canal. Secondary stormwater drainage canals drain into these regional conveyance system drains. Prior to the construction of the extensive SFWMD canal system, flooding was a common occurrence after significant rainfall events, and served as a limiting factor to growth. In addition to providing drainage relief, the regional drainage facilities also benefit the area's water resources. Eastern PBC generally relies upon local rainfall and water stored in Lake Okeechobee and the Water Conservation Areas for its water. The regional SFWMD system can move water from Lake Okeechobee, the Water Conservation Areas, and then to eastern PBC where the water helps supplement local recharge of urban wellfields. The county's connection to the SFWMD regional system makes it less vulnerable to drought conditions than if it depended solely upon local supplies. In general, the south County wellfields would be seriously impacted by the loss of recharge from surface water systems.

It is the goal of PBC to protect human life and property by limiting public expenditures in areas subject to destruction by natural disasters (especially within the coastal high hazard area), maintaining and implementing an effective emergency management program, and providing for orderly recovery and redevelopment in a post-disaster period. Toward this end, PBC and its 39 municipalities maintain a series of coordinated, interlinked preparedness and recovery plans including, but not limited to:

Comprehensive Plans at County and municipal levels which focus on environmental resources management, managed avoidance of development in high hazard areas, and responsible post disaster redevelopment;
Comprehensive Emergency Management Plan (CEMP) and Local Emergency Plans establish the framework to ensure that PBC and the municipalities will be adequately prepared to deal with the all-hazards threatening the lives and property of citizens and details pre- and post-disaster hazard mitigation strategies, policies and activities;
Local Mitigation Strategy (LMS) describes county-wide strategies and projects for mitigating the effects of identified vulnerabilities to natural, technological and human-caused hazards;

Continuity of Operations Plan (COOP) ensures the continuance of essential governmental functions during any emergency or situation that, might otherwise disrupt normal operations.
Hazard Specific Plans (HSP) reference and include the LMS in their implementation and updates. HSPs are updated every three (3) years. (Agricultural Pests and Diseases, Dike Failure, Domestic Security, Fire, Floods, Hazardous Materials, Nuclear Power Plant Emergency, Severe Weather, Transportation, and Workplace/School Violence)
Other DEM Plans reference and include the LMS in their implementation and updates. Plans are updated every three (3) years. (Command Staff Coordinating Procedures, Continuity of Government – COG, and Post Disaster Recovery Plan – PDRP.

Through sub-committees of the LMS, these and other plans relevant to the protection of life and property are closely monitored in an effort to ensure their language, policies, procedures, and practices are compatible, consistent, coordinated, and mutually beneficial with the LMS.

The County, the 39 municipalities, and special districts participate in a full complement of federal, state, and local mitigation programs and initiatives. Representatives of these programs and initiatives are the LMS, CRS, NFIP, FMAP, Community Emergency Response Team (CERT), Continuity of Operations (COOP), counterterrorism, radiological emergency preparedness initiatives, and hazardous materials. The collective purpose of these activities is the elimination or mitigation of hazards presenting significant risk to PBC and its residents, with a focus on new and existing buildings and infrastructure. Further, adoption of the LMS by each local government and special district is required and reinforces countywide mitigation efforts and cross-county collaboration.

Table 3.1 PBC Population Estimates as of April 1, 2022

County and City	April 1 2022 Estimate	Total Change	April 1 2020 Census	Inmates	Estimates less Inmates April 1, 2022
Palm Beach County	1,518,152	25,961	1,492,191	2,587	1,515,565
Atlantis	2,145	3	2,142	0	2,145
Belle Glade	17,213	515	16,698	0	17,213
Boca Raton	99,542	2,120	97,422	0	99,542
Boynton Beach	81,748	1,368	80,380	0	81,748
Briny Breezes	498	-4	502	0	498
Cloud Lake	139	5	134	0	139
Delray Beach	67,073	227	66,846	0	67,073
Glen Ridge	217	0	217	0	217
Golf	260	5	255	0	260

Greenacres	44,797	807	43,990	0	44,797
Gulf Stream	957	3	954	0	957
Haverhill	2,190	3	2,187	0	2,190
Highland Beach	4,302	7	4,295	0	4,302
Hypoluxo	2,686	-1	2,687	0	2,686
Juno Beach	3,869	11	3,858	0	3,869
Jupiter	61,341	294	61,047	0	61,341
Jupiter Inlet Colony	406	1	405	0	406
Lake Clarke Shores	3,565	1	3,564	0	3,565
Lake Park	9,030	-17	9,047	0	9,030
Lake Worth Beach	42,637	418	42,219	0	42,637
Lantana	12,132	628	11,504	21	12,111
Loxahatchee Groves	3,375	20	3,355	0	3,375
Manalapan	422	3	419	0	422
Mangonia Park	2,134	-8	2,142	0	2,134
North Palm Beach	13,166	4	13,162	0	13,166
Ocean Ridge	1,831	1	1,830	0	1,831
Pahokee	5,579	55	5,524	378	5,201
Palm Beach	9,218	-27	9,245	0	9,218
Palm Beach Gardens	60,675	1,493	59,182	0	60,675
Palm Beach Shores	1,309	-21	1,330	0	1,309
Palm Springs	26,924	34	26,890	0	26,924
Riviera Beach	38,613	1,009	37,604	0	38,613
Royal Palm Beach	39,345	413	38,932	0	39,345
South Bay	5,015	155	4,860	1,934	3,081
South Palm Beach	1,472	1	1,471	0	1,472
Tequesta	6,152	-6	6,158	0	6,152
Wellington	61,807	170	61,637	0	61,807
Westlake	2,981	2,075	906	0	2,981
West Palm Beach	119,971	2,556	117,415	26	119,945
UNINCORPORATED	661,416	11,640	649,776	228	661,188

Sources: US Census Bureau (2020 Census) and University of Florida, Bureau of Economic and Business Research (2022 Estimates).

Table 3.2 Characterization of Municipalities in Palm Beach County

Municipality	***Location***	***Urban/Rural***	***Community Character (Residential/Working/ Retirement)***	***Percent Built Out***	***Source Year***	***Economic Base (Agricultural/Business/Industrial/ Residential/Retirement)***
Atlantis	Inland	Urban	Residential	NI		Residential/Retirement
Belle Glade	Lakefront	Rural	Working	75	89	Agricultural
Boca Raton	Coastal	Urban	Working	97	2014	Business/Residential
Boynton Beach	Coastal	Urban	Residential	NI		Business/Residential
Briny Breezes	Coastal	Urban	Retirement	100	89	Retirement
Cloud Lake	Inland	Urban	Residential	94	89	Retirement/Residential
Delray Beach	Coastal	Urban	Residential/Working	98.9	08	Business
Glen Ridge	Inland	Urban	Residential	86.3	89	Residential/Commercial
Golf	Inland	Urban	Residential	NI		Residential
Greenacres	Inland	Urban	Residential	97	06	Residential/Commercial
Gulfstream	Coastal	Urban	Residential	NI		Residential
Haverhill	Inland	Rural/Urban	Residential	96	89	Residential/Commercial
Highland Beach	Coastal	Urban	Residential/ Retirement	98	08	Residential/Retirement
Hypoluxo	Coastal	Urban	Residential	NI		Retirement
Juno Beach	Coastal	Urban	Residential	90	2014	Residential/Commercial
Jupiter	Coastal	Urban	Residential/Working	90	2014	Business/Residential
Jupiter Inlet Colony	Coastal	Urban	Residential	99	08	Residential/Retirement
Lake Clark Shores	Inland	Urban	Residential	96	2014	Residential/Commercial
Lake Park	Coastal	Urban	Working	95	08	Business
Lake Worth Beach	Coastal	Urban	Residential	NI		Commercial
Lantana	Coastal	Urban	Residential	NI		Residential/Commercial

Loxahatchee Groves	Inland	Rural	Residential	NI	09	Residential
Manalapan	Coastal	Urban	Residential	NI		Residential
Mangonia Park	Inland	Urban	Working	85	2014	Working/Residential
North Palm Beach	Coastal	Urban	Residential	98	89	Residential/Commercial
Ocean Ridge	Coastal	Urban	Residential	NI		Residential/Retirement
Pahokee	Lakefront	Rural	Working	NI		Agricultural
Palm Beach	Coastal	Urban	Residential	97	2014	Residential/Commercial
Palm Beach Gardens	Inland	Urban/Rural	Residential/Working	95%	2014	Agricultural/Business
Palm Beach Shores	Coastal	Urban	Residential	NI		Residential/Retirement
Palm Springs	Inland	Urban	Residential	96	2014	Residential/Commercial
Riviera Beach	Coastal	Urban	Working	94		Industrial
Royal Palm Beach	Inland	Urban	Residential	90		Business/Industrial/Residential
South Bay	Inland	Rural	Residential/Working	91	89	Agricultural/Industrial
South Palm Beach	Coastal	Urban	Residential	100	89	Residential/Retirement
Tequesta	Coastal	Urban	Residential	95	89	Residential/Retirement
Wellington	Inland	Urban	Residential	NI		Residential
Westlake	Inland	Rural	Residential	1	2017	Residential
West Palm Beach	Coastal	Urban	Residential	NI		Business

County Agencies with Key Roles in Mitigation

Within the existing county organizational structure, there are a number of departments that play key roles in hazard mitigation. They are as follows:

Public Safety Department (PSD). The PSD is composed of six (6) divisions: 9-1-1 Program Services, Animal Care and Control, Consumer Affairs, Emergency Management, Finance and Administration, and Justice Services, and Victim Services. During emergency events (e.g., hurricanes), the DEM has the lead role in coordinating the resources and key agencies, non-profits, and private sector entities involved in the emergency situation.

Department of Planning, Zoning & Building (PZ&B). The PZ&B is comprised of three (3) divisions: Planning, Zoning and Building. The PZ&B has primary responsibility for administering the PBC Comprehensive Plan and appraising and updating it from time to time. In addition to its long-range planning role, PZ&B is responsible for processing development petitions (i.e., rezoning petitions, site plans). The Building Division issues and oversees compliance with all building permits. The Zoning Division administers the Zoning Ordinance and Lot Clearing Ordinance. The County also issues building permits for one (1) municipality Gulf Stream.

Department of Environmental Resource Management (ERM). The ERM is involved in the evaluation and assessment of environmental projects (e.g., shoreline stabilization projects, beach erosion initiatives), and administering various environmental ordinances (i.e., Irrigation & Water Conservation, Sea Turtle Protection/Sand Preservation Ordinance, Stormwater Pollution Prevention, Vegetation Protection and Preservation, Turnpike Wellfield Protection). To mitigate erosion and enhance and restore the beaches and dunes along its coastal shorelines, the County has developed a Shoreline Protection Plan. The County avoids the use of shoreline armoring (except as a measure of last resort). Preferred alternatives include beach nourishment, dune restoration, and inlet sand transfer.

Facilities Development and Operation (FD&O). FD&O's responsibilities are varied and include siting and land acquisition, designing, constructing, managing, and providing audio visual, radio and security services to 707 County facilities and its fleet of 3000 vehicles and equipment for the Board of County Commissioners and its departments, Constitutional Officers, Palm Beach County Sheriff's Office and the 15th Judicial Circuit Court.

Engineering and Public Works Department (EPW). The Engineering & Public Works Department is responsible for administering the County's Five-Year Road Program and for Operation and maintenance of the County-owned roads, bridges, and the north and south inlet sand transfer plants.

PBC Fire Rescue (PBCFR). Palm Beach County Fire Rescue provides fire suppression, emergency medical services, fire prevention, and community education programs throughout PBC. The department not only serves the unincorporated County but also 19 municipalities including Belle Glade, Cloud Lake, Glen Ridge, Haverhill, Juno Beach, Jupiter, Lake Clarke

Shores, Lake Park, Lake Worth Beach, Lantana, Loxahatchee Groves, Manalapan, Pahokee, Palm Springs, Royal Palm Beach, South Bay, South Palm Beach, Wellington, and Westlake. The County also provides fire-rescue dispatch service to 13 municipalities. Besides emergency services, the Department provides other types of services. The Bureau of Safety Services is responsible for ensuring that buildings comply with appropriate fire codes. The department also offers public education programs which focus on fire safety guidelines for schools, community groups, and individuals. In addition, the department has responsibility for coordination of fire protection, hazardous materials mitigation, and advance life support services.

Palm Beach County Sheriff's Office (PBSO). Besides their responsibilities for crowd and traffic control during emergency events such as hazardous waste truck spills, the Sheriff's Department is responsible for enforcing PBC's dumping ordinance.

Mitigation Policies and Ordinances

Policy Plans. The two (2) key policy plans that address issues related to natural, human-caused and technological hazards identified in the LMS include: the County Comprehensive Plan (PZB) and the County Comprehensive Emergency Management Plan (DEM). Figure 3.1 below illustrates the interdependence and interoperability of the three (3) plans.

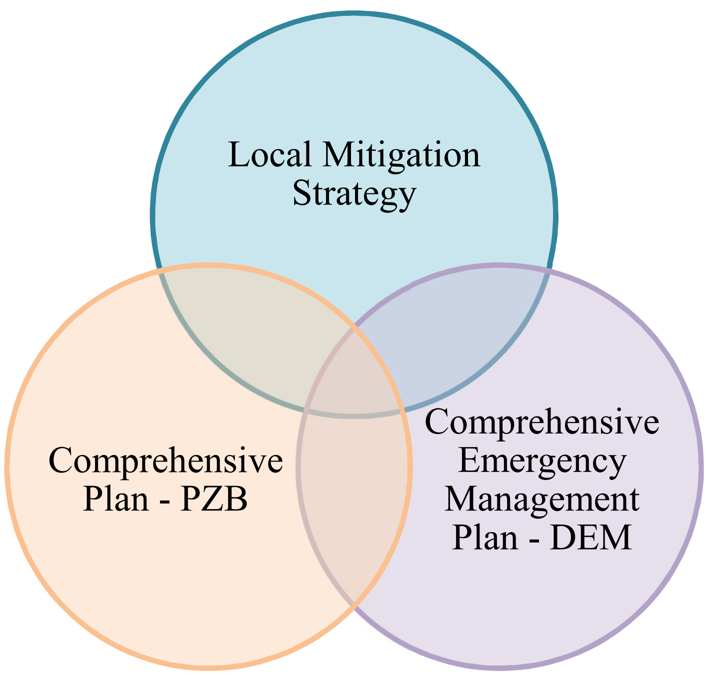

Figure 3.1 County Plan Continuity

The two (2) County Comprehensive Plans are described, briefly below.

- County Comprehensive Plan

  The County's Comprehensive Plan (Planning, Zoning, and Building) provides the framework for future development (3.4 Future Land Use) within the unincorporated area and provides mechanisms and standards through which changes could occur. The directives include implementing countywide growth management strategies while providing the opportunities for flexibility that recognize and maintain the diversity of lifestyles. The Comprehensive Plan contains the ten (10) required plan elements, as set out in Section 163.3177, F.S. They include Conservation, Coastal Management, Utilities (i.e., potable water, sanitary sewer, stormwater management, solid waste, and natural aquifer recharge), Future Land Use, Housing, Recreation and Open Space, Transportation, Intergovernmental Coordination, Capital Improvement, and Property Rights. In addition, the County has added several optional elements to the Comprehensive Plan. This plan addresses Library Services, Historic Preservation, Fire-Rescue Services, and Health and Human Services. Hazard Mitigation is addressed in the Conservation and Coastal Management Elements. A listing of relevant hazard mitigation objectives and policies for PBC is located in Appendix B.

  Mitigation of natural hazards such as flooding, hurricanes, drought, and beach erosion is a focus of the Coastal Management Element in the Comprehensive Plan. Technological and societal hazards are also addressed in the plan Coastal Management Element.

  Effective October 8, 2022, by Ordinance 2022-22, PBC's Comprehensive Plan contains specific language that recognizes, concurs with, and links the County's LMS objectives, processes, and project prioritization criteria with mitigation initiatives, capital improvement, and coastal management policies and priorities. Key references can be found in Policy 1.4 of the Capital Improvement Element; and Section 2, Objective 2.4 and Policies 2.4-e and 3.1-c of the Coastal Management Element. By virtue of their intended purpose to mitigate public hazards, projects carried on the LMS Prioritized Project List are considered to meet the County's standards for categorization as "Essential." The Comprehensive Plan also recognizes that the governing body of the LMS program shall comprise representatives assigned by each of the 39 municipalities and PBC and be governed by appropriate policies, procedures and/or either interlocal agreements or resolutions.

  The PZB Planning Commision, serving as the Local Planning Agency, meets every second Friday of each month and advises the BCC on matters pertaining to the Comprehensive Plan. The last update was in 2022. The LMS2020's risk and threat assessments and vulnerability analyses were reviewed. Changes germane to the Comprehensive Plan were incorporated into the 2022 update. The next update is scheduled for 2026. The LMS2024's updates and current risk assessment will be reviewed and incorporated into the Comprehensive Plan for county continuity.

Appendix B

Conservation Element: Policy 1.3-e: The County shall pursue opportunities, such as State Hazard Mitigation Grant Funding, to preserve lands for natural resources (e.g. beaches and dunes, native vegetation, wetlands and barrier islands). A benefit of preserving lands for natural resources is hazard mitigation aimed at protecting development from natural disasters.

Coastal Management Element: Policy 2.5-d: The County shall continue to enforce regulations and codes, which provide for hazard mitigation. These include land use, building construction, flood elevation, septic and sanitary sewer, coastal construction setback, and stormwater facility regulations. These regulations shall also be applied to eliminate unsafe conditions and inappropriate uses.

Coastal Management Element: Policy 2.5-e: The County shall, pursuant to the Comprehensive Emergency Management Plan, continue recommended hazard mitigation activities, including land development regulations and construction law administration. Post-disaster recommendations contained in Hazard Mitigation Plans shall be incorporated to avoid future destruction and loss of life.

- Comprehensive Emergency Management Plan (CEMP)

The BCC has adopted the CEMP. It is an operations-oriented document that establishes the framework for effective management of emergencies and disasters for PBC. The CEMP addresses LMS identified and profiled hazards and threats, some of which include:

- Severe Weather
- Flooding
- Fire
- Agricultural Pests and Diseases
- Hazardous Materials
- Nuclear Power Plant
- Dike Failure
- Domestic Security
- Mass Migration
- Communicable Diseases
- Transportation
- Workplace/School Violence

The CEMP addresses evacuation in terms of local and regional evacuation, public shelter, disaster response and recovery, rapid deployment of resources, communications and warning systems, training exercises, and agency responsibilities. These responsibilities constitute Emergency Support Functions (ESF). Each ESF is headed by a lead agency that has been selected based on its authorities, resources, and capabilities in the functional area. The ESFs serves as the primary mechanism through which outside assistance to PBC is coordinated.

In the Mitigation section of the CEMP, there is extensive language stating the objectives and details of the LMS. The mitigation techniques within the both the CEMP and LMS include projects, policies, or programs which will reduce, eliminate, or alleviate damage caused by disasters. Moreover, the CEMP and the LMS work collectively to improve the community's resistance to damage from known natural, technological, and human-caused hazards.

Ordinances. Hazard-related ordinances are administered primarily by the PZ&B, ERM, or Fire-Rescue departments. The list of relevant ordinances includes:

- Irrigation & Water Conservation
- Sea Turtle Protection/Sand Preservation
- Stormwater Pollution Prevention
- Countywide Wellfield Protection
- Turnpike Wellfield Protection
- Lot Clearing
- Zoning
- Building Code
- Fire Prevention Code
- Vegetation Protection and Preservation

County Mitigation Plans, Programs, Projects/Initiatives

There are a number of projects and initiatives PBC has implemented to mitigate potential damage resulting from various hazards.

The County has also made a statement of the importance of hazard mitigation, by incorporating within its Comprehensive Plan policy statements regarding the development of a countywide Local Mitigation Strategy. In addition to its CEMP, there are special hazard plans that apply to unique situations. They address hazards such as dike failure, hazardous materials, and severe weather to name a few. In addition, in a county that experiences substantial development each year, Fire-Rescue actively participates on the County development review committee. The Fire-Rescue staff reviews and comments on whether there is adequate access to buildings by both personnel and apparatus, and whether there is adequate vehicle ingress and egress.
The Fire-Rescue Department has a significant role relative to hazardous materials. Fire-Rescue staff pre-identifies hazardous chemical waste facilities and pre-plans emergency response. In addition, staff works with the facility managers by assisting in writing their emergency operations/evacuation plans.

In addition, as many other counties have done since Hurricane Andrew, PBC has upgraded its building code. It requires that all structures be able to withstand 140 mph wind load. The code now requires a finished floor elevation at six (6) inches above minimum 100-year flood level. The

County's building code also requires corrosion resistant hurricane clips, water resistant adhesives for shingles, and trusses manufactured in accordance with local wind models. Unlike many counties in Florida, PBC also requires shutters for all new single-family homes and glazing of exterior windows to achieve impact resistance from windborne debris.

Another mitigation activity of Fire-Rescue involves pre-planning for hurricanes. This involves identifying "target hazards." These are buildings/developments that are highly vulnerable to damage during a hurricane. In pre-storm stage, Fire-Rescue personnel identify residents that did NOT evacuate and where they live in the event Fire-Rescue staff has to search for individuals following the storm event.

All fire stations have been fitted with shutters and have emergency generator and LP gas power sources. In addition, all new facilities are being built to updated standards and have fire sprinkler/alarms.

National Flood Insurance Program (NFIP)

The function of NFIP is to provide flood insurance to homes and businesses located in floodplains at a reasonable cost and to encourage the location of new development away from the floodplain. The program is based upon mapping areas of flood risk and requiring local implementation to reduce that risk, primarily through guidance of new development in floodplains.

Congress created the NFIP in 1968 to minimize response and recovery costs and to reduce the loss of life and damage to property caused by flooding. FEMA administers the NFIP. The two (2) main policy goals of NFIP are to:

1. Provide access to primary flood insurance, thereby allowing for the transfer of some of the financial risk of property owners to the federal government.
2. Mitigate and reduce the nation’s comprehensive flood risk through the development and implementation of floodplain management standards.

The objectives of the NFIP are to:

1. Ensure reasonable insurance premiums for all.
2. Have risk-based premiums that would make people aware of and bear the cost of their floodplain location choices.
3. Secure widespread community participation in the NFIP and substantial numbers of insurance policy purchases by property owners.
4. Earn premium and fee income that, over time, covers claims paid and program expenses.

The County and 31 municipalities participate in the NFIP (Appendix J). In return for NFIP making flood insurance available to property owners, the County and municipalities are required to adopt ordinances to manage development within 100-year floodplains to prevent increased flooding and minimize future flood damage. Palm Beach County Flood Insurance Rate Maps, published by

FEMA and updated in 2017 are used as the basis for delineating the 100-year floodplain and identifying regulated land. New FIRMs are projected to become effective in December 2024.

Flood Damage Prevention Ordinances

The County's Flood Damage Prevention Ordinance, covering the unincorporated areas of the County, can be accessed through the County's website (https://discover.pbcgov.org/pzb/building/BuildingCodes/ULDC%20Article%2018,%20Flood%20Damage%20Prevention.pdf). Municipal residents should contact their respective building department officials to determine what requirements are in effect for their jurisdictions.

Floodplain Permitting

The NFIP requires participating counties and municipalities to issue permits for all development in the 100-year floodplain. Development is broadly defined by NFIP to include any man-made change to land, including grading, filling, dredging, extraction, storage, subdivision of land, as well as the construction or improvement of structures. Proposed development must not increase flooding or create a dangerous situation during flooding, especially on neighboring properties. If a structure is involved, it must be constructed to minimize damage during flooding. Permitting officials work with applicants to discourage development in the floodplain wherever possible. When unavoidable, the effects of development must be minimized.

The permitting review process is a requirement for continued community participation in the NFIP. Violations cannot only jeopardize a community's standing in the NFIP; moreover, they can impact the ability of residents to obtain flood insurance. Residents witnessing development occurring without permits are asked to protect their rights by reporting violators to the local permit office.

Map Modernization Program

The County is an active participant in the Map Modernization Program. Since September 2000, PBC and its 39 municipalities have been working with FEMA, their contract consultants, local engineering agencies, the SFWMD, and the County's contract consultant in the development of a complete new set of FIRM maps. The data provided to FEMA's contractor included new accurate Light Detection and Ranging (LIDAR) developed elevation data obtained from the U.S. Army Corps of Engineers and from a PBC contract with Florida International University.

On October 5, 2017, the complete set of FIRM maps for all of PBC became effective. The new FIRMs are projected to become effective in December 2024. The coordination process established between all of the agencies listed above will continue to provide for faster coordination of future changes with FEMA, to ensure continued improvement in the currency and accuracy of the FIRMs. The County also produced more layperson-friendly flood maps for each municipality and are located in Appendix N.

Community Rating System (CRS)

In 1991, the NFIP implemented the CRS for encouraging and recognizing community flood plain management activities that "exceed" these minimum NFIP standards. Today more than 1500 communities across the nation participate in CRS, including PBC and most of its municipalities. The County joined the CRS program in October of 1991.

As an incentive and reward for participation, the flood insurance rates of residents in CRS communities may be reduced by up to 45% to reflect the reduced flood risk resulting from activities that meet CRS's three (3) goals: reducing flood losses, facilitating accurate insurance ratings, and promoting the awareness of flood insurance.

Communities can earn points in creditable activity areas grouped into four (4) areas of emphasis: promoting public awareness, reduction of flood damage, improved mapping and regulations; and enhanced flood preparedness. Based on the number of points earned, each CRS community is ranked in one of ten (10) classes (with Class 1 requiring the most points). In turn, a community's class rating determines the amount of flood premium reduction its residents are eligible to receive. Communities are encouraged to improve their class ratings. Property owners residing within a Special Flood Hazard Area, an area subject to the 1 % chance a year, may qualify for anywhere between 5% and 45% discount. Property owners outside the Special Flood Hazard Area qualify for a standard discount of 5%. The County strongly encourages all of its communities to take part in the CRS program.

The County and its CRS participating municipalities track repetitive loss properties countywide on an ongoing basis using information gathered annually from FEMA and state Focus reports. For analysis, LMS GIS maps and databases are updated using these inputs to reflect repetitive loss property locations relative to historical flood areas and designated Special Flood Hazard Areas.

In accordance with CRS guidelines, letters are mailed annually to repetitive loss property owners by the County and municipalities explaining NFIP program benefits, the availability of mitigation assistance funding through the FMAP and other mitigation assistance programs. Repetitive loss properties are an ongoing discussion and planning priority for the LMS. These Committees, comprised of public and private sector representatives, are encouraged to develop and promote mitigation project ideas and strategies.

Table 3.3 outlines the communities involved in the CRS program. All the communities involved in the CRS program have program activities that follow the same strategies. The County's CRS program activities overlap and are inextricably interlinked with the activities of the LMS program. While the objectives of the CRS program are many, its key strategic objectives include:

1. Heightening public awareness of flood threats in PBC
2. Discouraging/managing development in flood plains
3. Minimizing flood losses in the community
4. Mitigating to eliminate repetitive loss properties
5. Ensuring residents have access to the most cost affordable flood insurance possible

Some of these goals were met through the Education and Outreach Sub-Committee formed during the development of the PBC Local Mitigation Strategy. Today, a countywide CRS committee's purpose is to provide information to the community and involve the community in mitigation efforts. The countywide CRS Committee has been organized and adopted by PBC as a Program for Public Information. One major effort of this committee has been to encourage countywide participation in the CRS program by providing technical assistance to communities wishing to enter the CRS program and assisting those communities already participating in the CRS program to improve their CRS ratings. Most communities in PBC are already participants in the program.

These objectives are met by encompassing County and municipal plans and programs including FMA, CRS, CEMP, Comprehensive Plan, Capital Improvement Plan and the LMS. All have the objective to ensure the successful mitigation activities to reduce repetitive loss properties throughout the County and its municipalities.

Outreach & Education

The LMS administers and supports a range of community Outreach and Education initiatives. Detailed descriptions of these activities and initiatives are contained in the County's Multi Year Training and Exercise Plan, Comprehensive Emergency Management Plan, the Five (5) Year Strategic Plan, documentation associated with Community Rating System recertification, DEM website, etc. Outreach activities take many forms, including (but not limited to): presentations, workshops, courses, multilingual brochures, flyers, websites, media releases, plans, telephone directory postings, mailings and inserts, expos, on-site briefings, special websites and website postings, and library holdings. Many of these activities are done in cooperation with private-public partners and sponsors.

Another significant part of mitigation outreach education are the community outreach presentations that are conducted throughout the Palm Beach Community. These presentations provide local governments, schools, neighborhood associations, not-for-profit organizations, and residents' information on mitigation, mitigation projects, disaster preparedness, and hazards that may affect the County. More than 100 presentations are conducted each year.

As part of its participation in the Community Rating System program, the County maintains a collaborative Outreach Project Strategy Program under a PPI, which encompasses a number of major outreach activities that are updated and reported to the Insurance Services Office as part of the annual recertification process.

A representative listing of some of the more significant outreach and education activities includes:

- Annual publication of a Hurricane & Flood Survival Guide (3 languages)
- Annual Hurricane & Flood Awareness Expo(s)
- Preparation/distribution of hazard and audience-specific brochures
- Business preparedness and post-disaster needs posting websites
- Business disaster planning guide - CD

- Flood Information website
- Emergency Information website
- Social Media (Twitter/Facebook)
- LMS meetings open to the public
- Library holdings through the County Library System
- Special programs for association represented communities
- On-site presentations, structural evaluations, and planning assistance for special-interest groups such as homeowner associations, property management firms, businesses, churches & synagogues, public gathering facilities, etc.
- Participation in numerous fairs and expos hosted by public and private sector groups
- Course offerings (certified and not) on safety and preparedness topics
- Participation as presenters/instructors at the National and Governor's hurricane conferences
- Published articles, papers

Most of the activities above are provided on an ongoing or seasonal basis. Details of most activities are documented in one or more of the following forms: in program specific reports, recertification packages, post-activity reports, monthly status reports, and in plan updates. The County and municipal jurisdictions maintain and distribute government and not-for-profit publications as appropriate. Lists of most distributed and held government and not-for-profit publications are contained in PBC's CEMP and relevant Community Rating System documentation.

Flood Mitigation Assistance Program (FMAP)

The FMAP is an NFIP initiative administered by the FDEM to help communities identify and implement measures to reduce or eliminate the long-term risk of flood damage to homes and other structures insurable under the NFIP.

Presently PBC offers the program on a limited basis to owners of "repetitive flood loss" properties based on the availability of federal and state funds and the availability of local resources to administer the program. The program provides homeowners with reasonable, cost-effective hazard mitigation options and potential public and private financing alternatives.
The FEMA contributes 75% of eligible mitigation costs. The remaining 25% must come from non-federal sources. The homeowner must contribute at least 12.5%. At the present time, PBC requires the homeowner to contribute the full non-federal share.

Examples of flood mitigation projects that might qualify for FMA funding assistance include:

- Elevation of flood prone structures
- Relocation of flood prone structures
- Demolition (with or without rebuilding at higher elevation)
- Acquisition
- Various flood proofing measures.

Information and support are provided in a variety of forms to potential FMA applicants to assist them in developing projects and preparing application packages. Through the County's LMS committee structure, the Hazard Vulnerability Analysis Sub-Committee, as well as FDEM, is available to offer technical and administrative guidance and assistance to applicants, including assistance with benefit-cost computations.

Table 3.3 Summary of Repetitive Loss Properties by Local Government and Community Rating System (CRS) (2023)

Community Number	Community Name	Number of Repetitive Loss Properties	Number of Claimed Repetitive Losses	CRS Rating	% Reduction in NFIP Rates
120192	PBC - Unincorporated	177	266	5	25%
120193	City of Atlantis	1	2	10	0%
120194	City of Belle Glade	0	0	NP	0%
120195	City of Boca Raton	24	40	7	15%
120196	City of Boynton Beach	40	66	5	25%
120197	Town of Briny Breezes	0	0	NP	0%
120198	Town of Cloud Lake	1	2	7	15%
125102	City of Delray Beach	38	61	6	20%
120200	Town of Glen Ridge	0	0	10	0%
120201	Village of Golf	1	2	NP	0%
120203	City of Greenacres	1	2	9	5%
125109	Town of Gulf Stream	5	9	10	0%
120205	Town of Haverhill	3	4	NP	0%

Community Number	Community Name	Number of Repetitive Loss Properties	Number of Claimed Repetitive Losses	CRS Rating	% Reduction in NFIP Rates
125111	Town of Highland Beach	1	2	10	0%
120207	Town of Hypoluxo	0	0	7	15%
120208	Town of Juno Beach	7	12	5	25%
125119	Town of Jupiter	32	51	5	25%
120162	Town of Jupiter Inlet Colony	0	0	NP	0%
120211	Town of Lake Clark Shores	0	0	8	10%
120212	Town of Lake Park	5	7	6	20%
120213	City of Lake Worth Beach	24	40	6	20%
120214	City of Lantana	12	27	8	10%
120309	Loxahatchee Groves	1	2	NP	0%
120215	Town of Manalapan	6	12	8	10%
120216	Town of Mangonia Park	3	10	10	0%
120217	Village of North Palm Beach	10	13	5	25%

Community Number	Community Name	Number of Repetitive Loss Properties	Number of Claimed Repetitive Losses	CRS Rating	% Reduction in NFIP Rates
125134	Town of Ocean Ridge	40	58	6	20%
120219	City of Pahokee	1	2	NP	0%
120220	Town of Palm Beach	253	375	6	20%
120221	City of Palm Beach Gardens	14	19	10	0%
125137	Town of Palm Beach Shores	8	11	7	15%
120223	Village of Palm Springs	2	3	6	20%
125142	City of Riviera Beach	24	35	8	10%
120225	Village of Royal Palm Beach	2	3	6	20%
120226	City of South Bay	0	0	NP	0%
120227	City of South Palm Beach	16	27	8	10%
120228	Village of Tequesta	7	11	6	20%
125157	Village of Wellington	0	0	5	25%
120018	City of Westlake	0	0	NP	0%
120229	City of West Palm Beach	54	89	5	25%

• Based on the FEMA Florida Repetitive Loss List • NP Non-Participant in the CRS Program

Elevation of New and Substantially Improved Structures

According to FEMA,

> "Substantial damage" applies to a severely damaged home or other structure in a Special Flood Hazard Area in National Flood Insurance Program participating communities. If the cost of repairing the structure is 50 percent or more of its market value before the disaster, it is considered substantially damaged.
>
> For example, if your home's market value before a disaster – as determined by local officials – was $200,000 and repairs are estimated to cost more than $100,000, the home is determined to be substantially damaged. Land value is not considered when determining if the home is substantially damaged.
>
> The same rules apply for "substantial improvement," where the cost of improvements would equal or exceed 50 percent of the market value of the structure.
>
> Rebuilding a substantially damaged structure in a floodplain or making substantial improvements to one requires that the property be brought into compliance with local floodplain management regulations. In order to this you may need to:
>
> - Elevate the building to a height determined by local officials.
> - Relocate the structure outside the floodplain.
> - Demolish the home.
> - Floodproof a non-residential structure.

Damage to "new" and "substantially improved" floodplain structures is minimized by elevating the lowest floor of occupied areas a specified amount above the 100-year flood elevation. Substantially improved structures are those where the cost of reconstruction, rehabilitation, additions or other improvements equals or exceeds 50% of the building's market value. Substantially improved structures are subject to the same elevation standards as new structures.

Florida Building Code requires one (1) foot of Freeboard for new construction and for Substantial Damage/Substantial Improvement (SD/SI) in the SFHA. This change in development in hazard-prone areas decreases flooding vulnerability. However, the County adopted and enforces a requirement for new development to obtain a MT-2 map amendment as a prerequisite for approval when more than five (5) acres or 50 lots are proposed in a SFHA. [The term MT-2 refers to the Letter of Map Revision (LOMR) process used by the Federal Emergency Management Agency (FEMA) for revising Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) reports. When significant changes occur in Special Flood Hazard Areas (SFHAs) or Base Flood Elevations (BFEs), the MT-2 process allows for due process and official incorporation of these changes into the effective FIRM.]

Some jurisdictions (e.g. West Palm Beach) have adopted higher standards in SD/SI such as the 5-year cumulative calculation that decreases vulnerability in hazard prone areas. The State of Florida developed a state-wide matrix of the adoption of these higher standards. The LMS Steering Committee is in the process of inventorying local governments on their adoption of the higher standards which will be finished after submission of this document.

With domestic and international migration as well as corporate relocation and expansion to Palm Beach County remaining steady for the past five (5) years, regulatory compliance has and continues to reduce flood risk vulnerability in flood prone areas.

Each jurisdiction's building officials or permit offices determine which permits for repairs are required and implement their processes for post-disaster SD/SI. FEMA's "Substantial Improvement Checklist" and "Substantial Improvement/Damage Checklist" are utilized to determine structure value and improvement costs. If the property is in a SFHA, the Planning, Zoning, and Building staff of the local government are required to determine if the proposed work is Substantial Improvement (SI). The Cost of Improvement (CI) is based on the cost of the proposed work listed in the initial application and any work conducted on the same structure within the last year. Market Value (MV) is initially calculated from the County Property Appraiser's office. If the initial SI calculation is over 40%, an independent appraisal of the market value (structure only) may be requested. The "cost approach" method will be used to ensure that the structure value is separated from the land value. The appraisal will be prepared and signed by the designated appraiser no earlier than 90 days before the building permit application is submitted. The permit will be issued within 180 days of the application. If the final SI calculation for the proposed work equals or exceeds 50%, then the floodplain development standards will apply. The structure must be elevated (or flood proofed if non-residential) to at least 1-foot above the Base Flood Elevation (BFE) and meet other applicable requirements listed in the local government's Floodplain Management Ordinance and Florida Building Codes.

Elevation Certificates

To verify that a building has been properly elevated, building officials require the completion of an Elevation Certificate by a professional engineer or surveyor. After the lowest floor is in place, its elevation above sea level is determined by a survey. The Elevation Certificate is part of the permit record and must be submitted before the building may be occupied.

Further information on the requirements for floodplain development, the permitting process and Elevation Certificates can be obtained from your local permit office.

Documented Repetitive Losses

The County adheres to FEMA's definition of repetitive loss properties (RLP), that is, properties whose owners have received payment for more than one (1) claim within a 10-year period of their flood insurance policies as recorded by the NFIP. Severe Repetitive Loss Properties (SLRP) are defined as any building that has incurred flood damage for which:

- Four (4) or more separate claim payments have been made under a Standard Flood Insurance Policy issued pursuant to this title, with the amount of each such claim exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000; or

- At least 2 separate claims payments have been made under a Standard Flood Insurance Policy, with the cumulative amount of such claim payments exceed the fair market value of the insured building on the day before each loss.

Table 3.3 summarizes the repetitive losses from PBC and the incorporated areas. Also, present data on each community's CRS score indicates the percent reduction in National Flood Insurance rates each community's residents receive if they participate actively in the CRS program. Appendix H contains repetitive loss properties and evaluates its continued vulnerability to flooding damage.

Currently, FEMA records reports 432 repetitive loss properties within unincorporated PBC and its jurisdictions as of January 12, 2024. The number has grown steadily with the increased tropical activity and extraordinary rain events the County has experienced. A significant percentage of these repetitive loss properties lie outside of PBC's recognized special flood hazard areas.

The PBC LMS's goal is to reduce the number of repetitive loss properties throughout the County and prevent new properties from being added to the list. The County takes great strides in trying to reduce and prevent repetitive loss properties. The County takes part in various programs to reduce and prevent repetitive losses such as FMA and CRS as demonstrated above. The LMS also has various plans incorporated into it to ensure it correlates with the other objectives throughout the County and its jurisdictions. The LMS is referenced throughout the Mitigation section of the Comprehensive Emergency Management Plan as the guiding source for mitigation activities pre and post disasters. In addition, the Capital Improvement Plans reflect mitigation objectives to prevent repetitive loss properties.

Since its inception, PBC's LMS has placed a major emphasis on drainage improvement projects as a major flood mitigation strategy. Indeed, drainage improvement projects have had a predominant representation on the LMS prioritized project list. Some large-scale drainage improvement projects, perceived to be beyond the threshold for funding assistance applications, have historically been handled locally by Capital Improvement Plans rather than through the LMS. The LMS drainage projects are often coordinated with larger self-funded community drainage improvement projects.

Drainage improvement projects; however, are often not the answer for isolated repetitive flood loss properties. Increasingly, the LMS has been moving toward a more comprehensive program of mitigation directed at repetitive loss problems.

The County's network of CRS communities provides an excellent mechanism for identifying repetitive flood loss properties and coordinating comprehensive activities to launch mitigation initiatives. The LMS program not only provides the strategic guidance necessary to coordinating flood mitigation initiatives, but it also helps in translating those strategies into viable flood mitigation projects. The final component in PBC's multi-program strategy is participation in the FMAP.

Mitigation Projects to Repetitive Loss Properties

The County first submitted project applications for FMAP assistance in 1999. It was not until 2002 that the initial two (2) projects were approved for FMAP funding. The projects were completed in 2003. These projects provided all jurisdictions an opportunity to learn about the program and information that would be useful in planning their own programs. These two (2) completed projects have been successful since two (2) properties have been taken off the repetitive loss properties list.

Project #1 - Elevation Project
The first project involved a home in the unincorporated area of PBC referred to as "The Acreage." The property has amassed four (4) insurance losses since 1988 despite, the fact that the property does not reside in Special Flood Hazard Area.

The elevation involved raising a slab on grade structure with the slab intact and placing it on extended foundation walls. A series of coordinated hydraulic jacks were used to achieve the target elevation above the base flood elevation. Openings for equalization of flood forces were included per FEMA specifications.

Project #2 – Flood Wall Project
The second FMAP project involved a multiple flood loss property located in a residential community in the Lake Park area. The property did not suffer from floodwater build up. Instead, floodwater runoff from neighboring properties tended to enter the slab at grade level structure, flowing through the house before exiting to lower elevations on the opposite side of the home. The project involved a combination of mitigation measures, including construction of a deflection wall, creation of swales, and the installation of improved drainage systems. These measures permit floodwater runoff to be redirected around the structure rather than through it.

These projects served two important purposes. First, they gave the county's CRS participating communities the opportunity to observe and learn about the requirements and procedures of the FMAP and what will be required to organize and manage their local initiatives. Second, they also provided lessons learned that will be valuable in developing a model for County jurisdictions and residents seeking FMA assistance.

3.1.4.2 Municipalities

Within PBC, there are 39 municipalities (see Table 3.2). There is wide variation among the jurisdictions in terms of community character. Community character is shaped by factors such as land use mix, density, size of population, and location (e.g., on the Atlantic Ocean, adjacent to Lake Okeechobee, inland). Due to the differences, it is not unusual for local governments to have different perspectives relative to the significance various hazards have on their community. Certainly, there are hazards that all jurisdictions, regardless of the community character, have concern over such as flooding, hurricanes, tornadoes. In agricultural communities like Pahokee, South Bay and/or Belle Glade, agricultural pests, freezes, and drought are more likely to be of greater concern, while in communities bordering the Atlantic Ocean (e.g., Ocean Ridge, Palm Beach, and Jupiter), hazards such as beach erosion and shoreline stabilization generate considerable concern among the residents.

The information in the section below was reviewed, inserted, and agreed upon by PBC and its participating jurisdictions as a way to demonstrate examples of how mitigation has been incorporated for each jurisdiction within the scope of the PBC Unified Local Mitigation Strategy.

Table 3.2 delineates the location, type, community character, economic base, and degree to which each of the participating municipalities within PBC is "built-out" at the present time. The following defines the headings displayed in the table:

- Location
  - Coastal - Municipality borders on the Atlantic Ocean.
  - Inland - Municipality does not border on the Atlantic Ocean or Lake Okeechobee.
  - Lakefront - Municipality borders on Lake Okeechobee.

- Urban/Rural
  - Urban - Area characterized by activities predominantly based on the manufacture, production, distribution, or provision of goods and services in a setting which typically includes residential and nonresidential development uses other than those which are characteristic of rural areas.
  - Rural - Areas characterized by activities which are largely based on agricultural uses or the extraction of natural resources, or areas containing large proportions of undeveloped, unimproved, or low-density property.

- Community Character
  - Residential - Land use is primarily for housing.
  - Retirement - Land use is primarily for adult housing communities.
  - Working - Land use is primarily connected with the sale, rental, and distribution of products or performance of services.

- Percent Built Out

- Economic Base
  - Agricultural - Main source of income is activities within land areas which are predominantly used for the cultivation of crops and livestock.
  - Business - Main source of income is primarily connected with the sale, rental, and distribution of products or performance of services.
  - Industrial - Main source of income is activities predominantly connected with manufacturing, assembly, processing, or storage of products.

- Residential/Retirement - Main source of income is primarily connected with real estate.

Listing of Municipal Agencies

The organizational structure of each municipality within the County differs in terms of organizational complexity and functional responsibility. A city like West Palm Beach (population – 117,415) has an organizational structure that is considerably more complex than some of the smaller communities like Atlantis, Cloud Lake, or Jupiter Inlet Colony.

The following is a brief discussion of typical agencies within the municipal organizational structure having hazard mitigation functional responsibilities.

Emergency Management. Emergency management responsibilities generally fall within the purview of public safety, fire, and/or police departments. West Palm Beach is one of the few municipalities that have a staff person whose sole responsibility is emergency management. It is not unusual that in many cities, emergency management is an individual's secondary responsibility. During emergency events, such as hurricanes, each local government has an "executive group" (e.g., Mayor, city manager, police chief, fire chief) which coordinates the city's efforts with the County Division of Emergency Management.

Planning. The larger jurisdictions such as West Palm Beach, Boca Raton, Jupiter, Boynton Beach, Delray Beach, and Palm Beach Gardens operate planning departments with professional staffs. Some of the smaller jurisdictions have single-person staffs, while the smallest assign those duties to a lay planning and zoning board and provide staff support by a building official or comparable staff person**.** The community development departments review zoning petitions, site plans, and other development orders (e.g., variances and special exceptions), as well as administer their local comprehensive plan.

Building. Most municipalities issue their own building permits. However, for one (1) municipal government, the County Building Division reviews and issues their permits. The-community is the Town of Loxahatchee Groves. All communities in the state operate under the *Florida Building Code.* Modifications can be made to the administrative / enforcement provisions (e.g., what requires a permit, what inspections are required, etc...) of the Code, as long as the administrative provisions are equal or more stringent than the "base" version of the Code; however, municipalities may not amend their local building code to be less stringent, or make changes to the technical provisions of the Florida Building Code without going through a formal technical amendment process which requires demonstration of unique local geographical need for the amendment and an analysis of the cost impact of the proposed technical amendment. If local technical amendments are enacted and adopted by a community, then the amendments automatically sunset during the next statewide code adoption (unless the local technical amendment is adopted statewide by the Florida Building Commission).

Public Works and Engineering. While not all municipalities have a public works and engineering department, all generally perform this function in some manner. If it is under a contractual arrangement, there is someone in the jurisdiction responsible for overseeing the consultant. The group having responsibility for public works and engineering has the responsibility for implementing structural improvements (e.g., stormwater facility retrofit, shuttering buildings, constructing new Emergency Operations Centers (EOCs).

Fire Departments. While many cities contract with the PBC Fire Rescue Department, there are others that operate their own fire-rescue departments. In some instances, smaller jurisdictions contract with a larger municipal neighbor.

Municipal Mitigation Policies, Ordinances, and Plans

Policy Plans

- Municipal Comprehensive Plans

  Like the County, each city has an adopted Comprehensive Plan. It serves as a policy instrument for each city and defines that particular city's development and redevelopment policies. All comprehensive plans are required by Section 163.3161, F.S. to contain eight (8) plan elements: Conservation, Infrastructure (i.e., potable water, sanitary sewer, stormwater management, solid waste, and natural aquifer recharge), Future Land Use, Housing, Recreation and Open Space, Transportation, Intergovernmental Coordination, and Capital Improvement. For units of local government abutting the Atlantic Ocean, they must also prepare a Coastal Management Element. In PBC, 19 municipalities border the Atlantic Ocean coastline.

  There is considerable variation among local governments in the depth to which hazards are addressed in their comprehensive plans. Certainly, the population size, geographic spatial limits, diversity in mix of land uses, and depth of understanding of hazard mitigation affects the level of detail local governments apply to the issue of hazards. Any extended discussion of hazards occurs, for the most part, are in the Conservation, Coastal Management, and Infrastructure elements.

- Local Emergency Management Plans

  A number of municipalities have adopted emergency management plans. Most follow the content of the PBC CEMP. Their focus is on emergency response versus long-term hazard mitigation.

Ordinances and Other Plans

Other types of ordinances and plans municipalities that have adopted that are relevant to hazard mitigation include:

- Incorporating the Florida Building Code 2023 (8^{th} edition) complete with Appendices A,B,C,D,E,F,G,H,I,J and K
- Adding window glazing and/or shuttering requirements to their building codes

- Becoming affiliated with the CRS program (*currently 29 out of 39 local governments are CRS qualified)*
- Emergency Water Restriction ordinances
- Stormwater Master Plan
- Repetitive Loss Area Analysis
- Flood Damage Prevention and Protection Ordinance
- Adoption of FDEM Model Floodplain Ordinance which 1) eliminates the possibility of having conflicting or duplicative regulations for buildings, 2) keeps local programs consistent with the Florida Building Code even when it changes over time, and 3) incorporates clarifying language from FEMA guidance documents to address problems DEM has observed in the field.

Mitigation Projects/Initiatives/Outreach

A LMS Survey was prepared and distributed to all participating local governments as a means to inventory and assemble data on mitigation projects and initiatives each governmental entity had or was implementing. Projects are defined as capital facilities. Initiatives can be anything from purchase of property and relocation of homes or businesses, to upgraded building codes, to incentives, to public information campaigns, to preparedness training and drills, to professional development seminars. *Thirty-six municipalities responded.* There is wide variation; while a number of municipalities have not undertaken any mitigation projects, others have been highly proactive, completing multiple projects/initiatives. The following provides a general discussion of what is being accomplished by municipal governments in PBC. In addition, there are a few communities that already have well-developed hazard mitigation programs in place. A brief discussion of each is included.

Projects. Shuttering public facilities and upgrading or correcting drainage facility deficiencies are the two most common types of hazard mitigation projects undertaken by PBC municipalities. Other types of projects reported in the local government LMS Survey are:

- Glazing exterior windows on public facilities to achieve impact resistance from windborne debris.
- Replacing and/or upgrading drainage pumps.
- Installing emergency power generators.
- Installing a radio telemetry monitoring system for public utilities.
- Sirens/loudspeaker warning system used for severe storms/lightning.

Codes/Ordinance Amendments. Many municipalities incorporated the Florida Building Code 2023 (8th Edition). Some of the more important features include:

- Modifying building codes to require floor slab or wood joists be above the 100-year floodplain and a minimum of 18 inches above the crown of the road.
- Establishing increased freeboard of one (1) to two (2) feet above the Base Flood Elevation in Special Flood Hazard Areas (SFHAs).
- Addition of a specified accumulation of modification and repair costs (e.g. 5 years) for substantially damaged or substantially improved structures in the SFHAs.
- Requiring the elevation of structures.
- Trusses manufactured in accordance with local wind models.

Other actions municipalities have taken include:

- Modifying existing Local Development Regulation (LDR) to incorporate windborne debris impact standards.
- Amending LDR to include section titled, "Building and Property Maintenance: Hurricane Precautions.
- Professional Development Training. *Twenty-three* municipalities reported that their staff received professional development training over the course of a year. The amount of training staffs received differed by jurisdiction.
- Computer-Aided Management of Emergency Operations (CAMEO) is a system of software applications used to plan for and respond to chemical emergencies. Developed by EPA and the National Oceanic and Atmospheric Administration to assist front-line chemical emergency planners and responders, CAMEO can access, store, and evaluate information critical for developing emergency plans.
- Amending LDR to include section titled, “Building and Property Maintenance: Hurricane Precautions”.
- Orientation to disaster assistance programs.
- Radiological emergency management.
- Annual state hurricane conference training sessions.
- Natural hazards mitigation and recovery.
- Yearly conference of National Fire Protection Association.
- Yearly conference of Building Officials Association of Florida.
- Training sessions with Federal Emergency Management Agency.
- Building Inspector courses on topics like hurricane resistant structural design, roofing updates, wood construction, and fire resistance and egress.

Preparedness Training

Fourteen (14) local governments reported that they conduct preparedness training and drills for emergency situations. They carry out hurricane exercises and other types of preparedness training based on their Municipal CEMP or EAP as reported to the LMS Coordinator:

- Structural fire drills
- Tornado drill
- Chemical spills
- Terrorist response
- Chlorine leak drills
- Communication tests
- Generator tests

Education/Public Awareness

It is common practice among local governments to distribute informational materials to its citizens, especially as it relates to hurricanes. Among the 18 local governments reporting, the scope of their programs varied. The following are methods municipalities in PBC use to disseminate information about hazards or an impending emergency event:

- Annual correspondence mailed to the residents reminding them of the need to be prepared for a hurricane
- Hurricane Survival Guide
- A Homeowner's Guide to Hurricane Retrofit
- Classes on Emergency Response Training and Community Emergency Response Team
- Discussions with residents about hurricane preparedness
- Hurricane preparation video shown on city cable station
- StormWatch, a preparedness series on the County Cable TV channel produced by DEM
- Brochures on variety of disaster/emergency topics, including insurance, pet care, business interests, children and disasters, lightning and tornado safety
- FAX-back system with a menu of public safety information
- Emails to residents
- Everbridge or a similar system which automatically dials and plays recorded information regarding imminent emergencies, as well as sending out blast text messages to subscribers of the service.
- City newsletter and County's "LMS Times" mitigation newsletter
- Various social media outlets

3.1.5 Intergovernmental Coordination

An essential element of the hazard mitigation process is intergovernmental coordination. Disasters know no boundaries. Governments and service providers increasingly must work together to strengthen communities against the loss of life and property. Coordination is important not only horizontally at the local level between county, municipalities, non-profit organizations, and the private sector, but also vertically with key state and federal agencies. Besides the potential of the LMS initiative, there are several other coordination mechanisms that already exist. They are described briefly below.

Metropolitan Planning Organization

The Metropolitan Planning Organization of PBC, commonly known as the MPO, coordinates local, state, and federal funding for thoroughfare improvements. The policy board is comprised of 18 voting members (i.e., five (5) representatives of the BCC, 13 representatives from the municipalities), and one (1) non-voting member (i.e., Secretary of the Florida Department of Transportation, District IV). Two key policy documents of the MPO are the long-range transportation plan, and the five-year transportation improvement plan (TIP). The TIP identifies and schedules all future roadway improvements in the near-term.

Local Government Comprehensive Plans

One mechanism to achieve intergovernmental coordination is the local comprehensive plan. Each comprehensive plan contains an intergovernmental coordination plan element.

Palm Beach County Comprehensive Emergency Management Plan

The County's CEMP, as described in the section titled Mitigation Policies and Ordinances, is very important in terms of coordination. It identifies coordination of the responsibilities and functions of agencies and organizations during disaster situations and is the operational plan of the LMS.

District X Local Emergency Planning Committee

The LEPC is an important vehicle to coordinate administering regional compliance with hazardous materials reporting and training laws. The TCRPC provides full-time staff to administer the activities of the Committee.

State Emergency Management Plan

The State of Florida CEMP establishes the framework of a coordination system to ensure that the State of Florida is prepared to respond to the occurrence of emergencies and disasters. The plan describes roles and responsibilities of state agencies, special districts, local governments, and voluntary organizations, unites the efforts of these groups for a comprehensive approach. The plan is divided into three (3) sections.

Basic Plan	Outlines how the state will assist counties in response, recovery, and mitigation of disasters; details responsibility at various levels of government; describes method of operations and financial management policies; ensures continuity of government; and addresses recovery issues.
Specific Response/Recovery Actions	Actions that are unique to a specific hazard, and are described in the Basic Plan and Response Functions sections.

Response Functional Annexes	Present the State's strategies for disaster response by outlining ESF. ESF's are structured from the Federal Response Plan.

Comprehensive Plan Amendment Coordinated Review Committee

The Comprehensive Plan Amendment Coordinated Review Interlocal Agreement establishes a countywide Comprehensive Plan Coordinated Review Process. It is designed to provide coordination of proposed plan amendments, cooperation between affected local governments and service providers, and opportunities to resolve conflicts only within the Plan Amendment Process. This process includes the following actions:

- Proposed plan amendments must have sufficient distribution and dissemination to ensure that initial transmittal and final approval do not occur without adequate notice to local governments and service providers who may be adversely affected by the action.
- An avenue for discussion and evaluation of the proposed plan amendments is created so that the governing body is aware of objections, the basis for them, and the reasonableness of the objection.
- An opportunity is created for conflict resolution of an item that, if approved, may result in a potential problem for another local government or service provider.
- The Comprehensive Plan Amendment Coordinated Review Process does not diminish or transfer existing authority with respect to planning and implementation decision of the participants.

The Multi-Jurisdictional Issues Coordination Forum

The forum has been established through a resolution/interlocal agreement. The primary goal of this entity is to establish a mechanism that will provide a means of communication and education between the various local governments and service providers. This is accomplished through the receipt and review of reports; through presentations of items of multi-jurisdictional impact; and through the review of actions taken by the Executive Committee. All members of this forum must be participants in the Comprehensive Plan Amendment Coordinated Review Interlocal Agreement.

Emergency Management (EM) Team

Emergency Management Team is an organization of professionals from agencies and municipalities throughout PBC who share a mutual interest in emergency management issues. The EM Team meets bi-monthly. Meeting notices of related interest and other information are distributed in advance of the scheduled meeting date. Members of EM Team benefit by:

- Receiving the latest information from federal, state, and local levels of government concerning all issues relating to comprehensive emergency management.
- Strengthening ties and sharing information with the County, neighboring municipalities and other agencies in the area.

- Exchanging ideas and receiving information regarding training opportunities in emergency management (many of which are free or involve minimal costs).
- Meeting the managers and officials they may need to call on in times of emergency or disaster.

3.2 Private Sector

3.2.1 Background

Major disasters have repeatedly demonstrated that all components of the community can be significantly impacted, either directly or indirectly by the event. It is therefore important that mitigation and redevelopment planning efforts also involve the entire community. Involvement of the private sector in the LMS process was given high priority from the outset of the program by the DEM. Besides receiving funding from the FDEM to prepare the LMS, FDEM also awarded PBC a grant pursuant to Chapter 9G-19, Florida Administrative Code, to develop a Business Community Recovery and Redevelopment Strategy program. Since private sector involvement was important in both efforts, a committee for education and outreach was created. In addition, staff from the DEM and the PBC Office of Economic Development coordinated with each other on all relevant issues of mutual interest to both programs.

The Palm Beach County Disaster Recovery Plan provides an operational overview and organizational framework that will be implemented during the four (4) phases of the disaster recovery process. The Disaster Recovery Plan details a coordinated system for recovery operations; identifies the operational concepts and provides an overview of organizational structures that will bridge the gap between the Comprehensive Emergency Management Plan (2020) and the Post-Disaster Redevelopment Plan (2022). The plan addresses policies that promote an expedited, all-hazards disaster recovery process among all stakeholders.

The following groups have participated actively in the program:

- Business Alliance
- Business Loan Funds of the Palm Beaches
- Florida Light & Power Company
- Palm Beach State College
- Florida Insurance Council
- Black Business Investment, Inc.
- Brown Distributing
- Home Depot
- Tourist Development Board
- Motorola
- Farm Bureau West
- Port of Palm Beach
- Palm Beach County Purchasing Department
- Delray Beach Chamber of Commerce
- Delray Beach Community Development Agency
- WPBF Channel 25
- PBC Information System Services Department
- The Boynton Beach Mall
- Palm Beach County Economic Office

- Fidelity Federal of the Palm Beaches
- Poe & Brown, Inc.
- The Northern Palm Beach Chamber of Commerce
- Small Business Bank
- Truist Bank
- Marine Industries Association of Palm Beach County, Inc.
- Pratt & Whitney
- Bank Atlantic

Perhaps the greatest accomplishment, beyond the specific accomplishments outlined in this section, has been special collaborative relationships now established between the private sector and public sector entities. Cornerstone partnerships in this endeavor now exist between the DEM and Economic Development Divisions, and participating municipalities on the public side and a network of participating Chambers of Commerce.

The initiatives outlined in this section are an integral part of the ongoing local disaster mitigation strategy. In the private sector, efforts are directed at minimizing private sector losses, improving business survival rates, protecting and preserving the economic base provided by businesses, and speeding the overall community recovery process.

Four (4) key objectives were addressed:

Objective 1	Establish improved intergovernmental and private sector coordination.
Objective 2	Refine the hazard and vulnerability analysis for the economic sector.
Objective 3	Evaluate local available resources, identify gaps, and develop appropriate funding mechanisms and strategies to fill any gaps.
Objective 4	Create a public education program focusing on educating the business community to be prepared for disasters and able to recover quickly.

3.2.2 Accomplishments

The following summarizes the improved accomplishments of the private sector work effort of the Outreach and Education Committee by objective:

3.2.2.1 Objective 1 Establish improved intergovernmental and private sector coordination.

Three (3) tasks related to this objective represent the beginning points for an ongoing, long-range program to improve intergovernmental and private sector collaboration, coordination and relations.

Task 1

Prepare a comprehensive vendor list and inventories of equipment and supplies. The primary thrust of this task was to create a system whereby businesses victimized by disasters could access vendors and suppliers to procure goods and services necessary to rebuild and resume normal business operations.

Early in the project, the Economic Development Specialist met with the purchasing staff of several County and municipal agencies relative to the characteristics of their databases and their potential suitability for business disaster applications. With the assistance of representatives from the PBC Information Systems Services Department (ISS), the idea was conceived of housing the vendor database in the business section of the PBC Emergency Management web site.

Upon further discussion, the idea eventually evolved to the creation of a reverse vendor database, an emergency need posting system for disaster-impacted businesses. This approach avoids most of the maintenance costs and burdens that are associated with traditional vendor databases.
ISS was subsequently commissioned to develop this system, eventually dubbed the "Emergency Business Buyers' Database." Development and testing were successfully accomplished in early July; the system awaits activation if and when a local disaster occurs.

Task 2

Develop a comprehensive list of needs for emergency contracts and agreements, and secure sources for items needed by the response community which are usually not needed in day-to-day operations. Research determined that the PBC Purchasing Department has in place item lists, source lists, and systems and procedures necessary for fully meeting the needs of the County's response community and to satisfy the assistance requirements spelled out by the mutual aid agreement with Orange County. Efforts to publicize the existence of this list to the local community are being made through the Chambers of Commerce to facilitate local involvement, when possible.

Task 3

Establish Business Hotlines, Business Aid and Redevelopment Assistance Centers. An important element in the support of private sector preparedness and timely recovery is the ability of businesses to stay abreast of critical information. An objective in this project was to provide the business community with a single-point contact for accessing important business-related information to assist pre-disaster preparations and post-disaster recovery activities. As part of its partnership agreements with various Chambers of Commerce throughout the County, PBC Emergency Management is encouraging chambers to dedicate one or more telephone lines to serve as an emergency "hot line" service for community businesses.

3.2.2.2 Objective 2 Refine hazard and vulnerability analysis for the economic sector.

The LMS definition (as described earlier) of critical facilities includes several economic sector facilities, notably nursing and convalescent centers, and public communication facilities in what are designated as primary critical facilities, and financial institutions, pharmacies, reconstruction material suppliers, medical clinics, and food distribution centers in what are designated as secondary critical facilities. Private sector primary critical facilities are included in the ArcView database, and, when the Property Appraiser's office completes the automated inventory conversion of commercial and industrial properties into an ArcView database, secondary critical facility information will be merged with the database file.

The vulnerability of the business community to potential disasters was analyzed. Mapping and tabular products were developed that may be used by commercial/industrial property owners for performing self-analysis of hazard vulnerabilities. These products also provide a better understanding of the various hazards that could potentially impact segments of business community.

An Economic Disaster Management Information System (EDMIS) was developed and designed. Unfortunately, this product cannot be used until database conversion is completed by the Property Appraiser's Office. Once on-line, however, EDMIS will be used to explore mitigation opportunities more fully in the private sector.

3.2.2.3 Objective 3 Evaluate local available resources, identify gaps, and develop appropriate funding mechanisms and strategies to fill the gaps.

Exploratory initiatives were explored relating to ensuring post-disaster cash flow, creating emergency loan programs and community credit programs, expediting the processing of post-disaster loans, and establishing a "bridge loan" capability. The policies and programs of area banks were reviewed, various loan funds examined, and state and federal agency programs, including "Operation Open for Business," were reviewed. Among the most glaring "gaps" uncovered that could impact PBC businesses were the following:

- Meeting the managers and officials they may need to call on in times of emergency or disaster.
- Insurance typically does not cover all business losses.
- Banks will not necessarily loan money to victimized businesses and may not relax their requirements for financial documentation and credit status in emergency periods.
- Business interruption insurance is seldom purchased by businesses because it is so costly.
- Low interest loans for mitigation projects are not yet available in PBC.

The challenge of dealing with these issues, however, is indeed complex. The decision authority for creating policies and programs dealing with these issues invariably resides at levels outside PBC. Creation of emergency business assistance programs will likely require legislative initiatives and corporate lobbying beyond the influence of even regional interests. Even so, the need for creative funding mechanisms and strategies was a consistent theme throughout the project and was a common speaking point at private sector and public sector forums.

The project team of a year 1999-2000 grant funded to PBC, entitled Businesses Addressing Readiness & Recovery (BARR), will continue efforts to mobilize sufficient support to positively influence private sector and public sector decision makers to institute meaningful emergency assistance programs for businesses. It will support other related initiatives underway at the state level. The BARR program will also pattern many of programs and initiatives after those of *Project Impact* and the City of Deerfield Beach's *Operation Open for Business*.

3.2.2.4 Objective 4 Create a public education program focusing on educating the business community to be prepared for a disaster and able to recover quickly.

Two (2) tasks of this objective address a program to enable the business community to educate and prepare itself, reaching the greatest number of businesses in the shortest time possible.

Task 1

Train Chamber of Commerce staff and the business community. During the course of the project, staff members attended, participated in, and led a variety of business-related forums on disaster issues, including disaster conferences, workshops, professional association meetings, expos and trade shows, and community planning sessions. They also worked closely with private and public sector experts on a number of significant community initiatives and reviewed extensive literature from FEMA, state, federal and non-government organization sources. Among the many methods employed to reach and educate the business community throughout PBC were:

- Insurance typically does not cover all business losses
- Distribution of specially designed BARR pamphlets and business cards
- "Business" location on the County's Emergency Management web site
- Booths in expos, fairs, trade shows
- Presentations to business, professional and public sector groups
- Media interviews and articles
- Presentations at the National and Florida Governor's Hurricane Conference
- Participation in other initiatives

One-on-one contingency planning assistance for larger businesses. In this task, members of several Chambers of Commerce and mentors from large and medium-sized businesses have been trained to train others and make presentations raising the business community's awareness of preparedness issues and options. These efforts will continue.

Task 2

Develop a written business contingency planning guide. It was reasoned that preparation and distribution of a business contingency planning workbook and a business contingency plan template would be practical and productive contributions to building a more disaster resistant business community. The workbook that has been developed serves as the primary text for Emergency Management's ongoing series of contingency planning workshops. Following the template, small- to middle-sized businesses are able to easily prepare contingency plans tailored to their specific needs.

More information regarding business survival and recovery can be found on DEM's website at http://discover.pbcgov.org/publicsafety/dem/HurricanePlanning/Protecting-Business.aspx.

3.3 Strengthening the Role of Local Governments

As has been described earlier in this document, local governments in PBC have taken steps to strengthen themselves both in terms of capital facility improvements and ordinances, regulations, and programs. Becoming more disaster-resistant is not limited to just hardening of structures. There are a number of activities that the County and municipalities can undertake to strengthen the role of local governments to lessen the impacts resulting from emergency events that do not require expending money on capital projects. Plans can be modified, laws and regulations can be amended, informational materials published and distributed, and professional training augmented. Ideas were generated from a variety of sources: interviews with local jurisdictions, and information generated from LMS Survey forms, the LMS Steering Committee and sub-committees, and discussions with local governments. The suggestions for countywide projects resulting from the various discussions with local government include:

1. Projects on the LMS PPL should be incorporated in local government comprehensive plans, capital improvement elements (CIE), at the time the CIEs are on an annual basis in accordance with Section 163.3177 (3) (a), Florida Statutes (F.S.).

2. As permitted under Section 163.3177 (7) (h) & (l), F.S., local governments could incorporate optional comprehensive plan element for public safety, or a hazard mitigation/post-disaster redevelopment plan.

3. Integrate the LMS into the PBC CEMP as appropriate and within the state specified guidelines.

4. Assess existing CRS programs to determine ways to strengthen and improve the local jurisdiction's CRS rating and support non-CRS communities to join the program.

5. Recommend that public building construction, whether it be new construction or renovation of older public structures, incorporate hazard mitigation building practice, whenever financially feasible.

6. Recommend to the appropriate authorities, the incorporation of safe room requirements in the local building code.

7. Update existing PBC post-disaster redevelopment plans and prepare a model plan as a guide for local jurisdictions.

8. Support BARR in the continuing effort of coordination and mutual support between the PBC, local, and business community, before, during, and after a disaster event.

9. The LMS Steering Committee should work with the partner communities and the County to continue ongoing funding and staffing for the continuation of LMS.

10. Recommend emergency building permit procedures to local authorities and jurisdictions.

11. Seek avenues to provide technical assistance in grant writing and engineering for local jurisdictions in the support of LMS projects.

12. Develop a model CEMP mitigation element as a guide for local jurisdictions in mitigation plan development.

13. Seek opportunities and potential funding sources to bury electrical wires, especially in multi-jurisdictional projects.

14. In order to increase shelter capacity countywide, support the retrofitting of all appropriate structures suitable for use as shelters.

Develop and disseminate multi-media outreach program countywide that will support the goals of LMS.

Capability assessments examine existing gaps or weaknesses within ongoing government activities that could preclude mitigation activities and possibly exacerbate community hazard vulnerabilities. Each municipality is unique in its planning, regulatory, fiscal, political, and outreach capabilities; however, each city has adopted the county Comprehensive Emergency Plan, Emergency Operations Plan and Floodplain Management to expand on and improve their existing capabilities and identify mitigating actions. The capabilities and gaps have been identified for each municipality identified in the table below.

Table 3.4 Palm Beach County Municipal Capabilities

Palm Beach County Capabilities

Plan/Ordinance	Unincorporated County	MUNICIPALITIES																																					
		Atlantis	Belle Glade	Boca Raton	Boynton Beach	Briny Breezes	Cloud Lake	Delray Beach	Glen Ridge	Golf	Greenacres	Gulf Stream	Haverhill	Highland Beach	Hypoluxo	Juno Beach	Jupiter	Jupiter Inlet Colony	Lake Clarke Shores	Lake Park	Lake Worth Beach	Lantana	Loxahatchee Groves	Manalapan	Mangonia Park	North Palm Beach	Ocean Ridge	Pahokee	Palm Beach	Palm Beach Gardens	Palm Beach Shores	Palm Springs	Riviera Beach	Royal Palm Beach	South Bay	South Palm Beach	Tequesta	Wellington	Westlake	West Palm Beach
Local Mitigation Strategy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Comprehensive Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Zoning Ordinance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Subdivision Ordinance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Floodplain Ordinance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Erosion, Sedimentation, and Pollution Control Ordinance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Other Special Purpose Ordinance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Building Code	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fire Department ISO Rating	1	2	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1		1	1	1	1	1	1				1	1			1		1	1	1		1	1	
Stormwater Management Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Site Plan Review Requirements	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Capital Improvement Plans	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Emergency Operations Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Flood Insurance Study	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Elevation Certificates	✓	✓		✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓		✓

- Greenacres Fire and Rescue Department services the municipality of Atlantis.
- Palm Beach County Fire and Rescue services the municipalities of Belle Glade, Cloud Lake, Glen Ridge, Haverhill, Juno Beach, Jupiter, Lake Clarke Shores, Lake Park, Lake Worth Beach, Lantana, Loxahatchee Groves, Manalapan, Pahokee, Palm Springs, Royal Palm Beach, South Bay, South Palm Beach, Wellington, and Westlake

3.4 Future Land Use

Land use in Palm Beach County is managed by the Department of Planning, Zoning, and Building (PZB). The Comprehensive Plan has been prepared to meet the requirements of Chapter 163, F.S. that includes future land use. The Goals, Objectives and Policies presented in the Plan Elements reflect the directives of the citizenry and the Board of County of Commissioners. These directives, which are discussed in greater detail in the Land Use Element, are:

A. Redirect growth to the East where services and facilities can be provided and encourage the revitalization/redevelopment of the coastal communities,

B. Through the implementation of a concurrency management system provide for orderly growth and provision of facilities and services to maintain the existing quality of life in an economical manner,

C. Implement County-wide growth management strategies while providing the opportunities for flexibility within the Plan that recognize and maintain the diversity of lifestyles.

GOAL 2 LAND PLANNING

It is the GOAL of Palm Beach County to create and maintain livable communities, promote the quality of life, provide for a distribution of land uses of various types, and at a range of densities and intensities, and to balance the physical, social, cultural, environmental and economic needs of the current and projected residents and visitor populations. This shall be accomplished in a manner that protects and improves the quality of the natural and manmade environment, respects and maintains a diversity of lifestyle choices, and provides for the timely, cost-effective provision of public facilities and services.

OBJECTIVE 2.1 Balanced Growth

Palm Beach County shall designate on the Future Land Use Atlas sufficient land area in each land use designation to manage and direct future development to appropriate locations to achieve balanced growth. This shall be done to plan for population growth and its need for services, employment opportunities, and recreation and open space, while providing for the continuation of agriculture and the protection of the environment and natural resources through the long-range planning horizon.

OBJECTIVE 2.2 Future Land Use Provisions - General

Palm Beach County shall ensure development is consistent with the County’s diverse character and future land use designations. All public and private activities concerning the use, development and redevelopment of a property, and the provision of facilities and services shall be consistent with the property's future land use designation, and the applicable Goals, Objectives and Policies of this Element.

GOAL 3 SERVICE AREAS AND PROVISION OF SERVICES

It is the GOAL of Palm Beach County to define graduated service areas for directing services to the County's diverse neighborhoods and communities in a timely and cost-effective manner, reflective of the quality of life associated with each respective Tier.

OBJECTIVE 3.1 Service Areas - General

Palm Beach County shall establish graduated service areas to distinguish the levels and types of services needed within a Tier, consistent with sustaining the characteristics of the Tier. These characteristics shall be based on the land development pattern of the community and services needed to protect the health, safety and welfare of residents and visitors; and, the need to provide cost effective services based on the existing or future land uses

GOAL 4 COMMUNITY PLANNING AND DESIGN

It is the GOAL of Palm Beach County to develop and implement strategies that will enhance the quality of life within its neighborhoods and communities by ensuring that these areas are well planned, visually pleasing, safe, and devoid of substandard housing and blight. Neighborhoods and communities shall also be accessible to all of the residents of Palm Beach County through an emphasis on the provision of a variety of housing opportunities through the continuous development of affordable housing.

OBJECTIVE 4.1 Community and Neighborhood Planning

Palm Beach County shall develop and implement a Community Planning and Neighborhood Planning program to allow consideration of Community and Neighborhood Plans and strategic actions to create, enhance, and maintain more livable communities, which provide a strong sense of place and identity for the various regions within the County.

GOAL 5 NATURAL AND HISTORIC RESOURCE PROTECTION

It is the GOAL of Palm Beach County to provide for the continual protection, preservation, and enhancement of the County's various high quality environmental communities and historic resources for the benefit of its current and future residents and visitors.

OBJECTIVE 5.1 Protection of Natural Resources and Systems

Palm Beach County shall ensure the protection of natural resources and systems by enforcing and monitoring existing environmentally related ordinances and developing ordinances, as needed, pursuant to the goals and policies of the Conservation Element.

As development increases in the County and its jurisdictions, the probability of identified threats and hazards will cause property damage or human casualties also increases. With more people migrating to Palm Beach County and its jurisdictions, a larger percent of the land and population may become more vulnerable to hazards. The higher standards adopted by Florida's Building Code decrease vulnerability.

3.5 Population Allocation Model

3.5.1 Introduction

The County prepares the Population Allocation Model every other year as a tool for long-range service delivery planning in Palm Beach County. Ch. 163.3177(1)(f)3, F.S., requires that each comprehensive plan be based upon population projections published by the Office of Economic and Demographic Research (OEDR) or generated by the local government based upon professionally acceptable methodology. The OEDR publishes the projections prepared by the University of Florida's Bureau of Economic and Business Research (BEBR). Palm Beach County utilizes the OEDR/BEBR medium range projections for the County's Population Allocation Model.

Each year, OEDR /BEBR issues population projections in five-year increments for every Florida County. Since these projections are countywide figures, each municipality within the County is responsible for devising an allocation strategy to describe its own future growth. Technically, therefore, the County is only responsible for unincorporated lands. However, since many County agencies provide services beyond the unincorporated boundaries, Palm Beach County has developed a Population Allocation Model to allocate the countywide figures to smaller geographies called Traffic Analysis Zones (TAZs) throughout the County for localized planning efforts, providing population projections for these TAZs through 2045.

The Population Allocation Model incorporates:

- 2010 Census populations and related information (Summary File 1, released in August 2011) such as persons per household, group quartered populations, vacancy and seasonal rates by TAZs. Henceforth the baseline for future population models will be the year 2010.

- OEDR projections, released in 2020. These projections are based on the 2010 Census released in late March of 2011, and the OEDR population estimates released in 2020.

- Land use densities changes, approved or expired residential projects, annexations, and Municipal population estimates.

- 2010 MPO Traffic Analysis Zones, adding over 500 zones in the urban area and enabling a finer breakdown of geography and calibration of population estimates.

3.5.2 Historical Population Growth

The 2010 Census indicates that the County population grew 16.7% from 2000, averaging 1.7% or 18,895 people each year for the last ten years. Unincorporated County grew 12.7%, averaging 1.3% or 6,600 people each year. Both Countywide and Unincorporated growth rates have declined since 1980.

The County grew rapidly in the 80's and 90's, with a net growth of 20,000-30,000 people per year, and annual growth rate surpassing the rest of Florida. The surge continued in the early 2000's, until 2007 when annual growth rate fell behind Florida, with only 5,000-10,000 people annually. In 2008-2012 when the County was so negatively affected by the slump of construction activities, population almost came to a standstill. 2013-2014 saw its comeback, with annual growth bouncing beyond the 10,000 level, though not at a rate as before the recession.

3.5.2.1 Components of Population Change

As of July 1 of each year, the Bureau of Census also publishes population estimates for the nation's counties. The methodology differs from BEBR, however, as it employs sources such as vital statistics, tax records, school enrollment and other administrative records.

In addition, the Bureau provides a breakdown of components of population changes. For this County, in-migration has always been the strongest component of population growth. After two decades of rapid growth, however, net in-migration (both domestic and international) declined from an annual average of 25,000 people during 2000-2005 to an average of only 2,700 between Palm Beach County Population Allocation Model Page 4 2006 and 2008. In particular, domestic migration has even dwindled to a net loss of population of 11,364 people to other counties in Florida or other states. The County subsequently is experiencing a healthy resurgence of in-migration averaging a net migration of around 16,000 residents per year in the last few years.

3.5.2.2 Building Permit Activities

Historically in the County, there has been a direct correlation between building activity and population growth. Building permits continue to hold steady, and growth in the cities exceeds the county's growth. The last five years witness an average growth of 5,400 units per year.

3.5.2.3 BEBR Palm Beach County Population Projections

Chapter 163.3177(1)(f)3, F.S., stipulates that local government comprehensive plans shall be based upon permanent and seasonal population estimates and projections, which shall either be those provided by the Office of Economic and Demographic Research (ODER) or generated by the local government based upon a professionally acceptable methodology. The

ODER issues the projections generated by the Bureau of Economic and Business Research (BEBR).

Since 1973, BEBR has developed, and published annually, population projections (low, medium, and high) in five-year increments for all Florida counties. The BEBR mid-range projections are derived from the average of ten projections using four techniques (linear, exponential, share-of growth, and shift-share) and three different historical base periods, which essentially mitigates the effects of rapid or slow growth, and are considered the most reliable of the three sets of figures.

Projections issued by ODER/BEBR for Palm Beach County have historically varied significantly from year to year, as shown in Table 5. Following the release of the 2000 Census figures in 2001, BEBR's projection levels for the County sharply increased. For example, the 2000's projection of 2030 population was over 1.6 million, yet 2001's projection of the same year had climbed by 236,300 to 1.873 million and 2005's reached an all-time high of nearly 1.9 million. However, subsequent projections have now fallen, and now have returned to the levels anticipated in 2000.

3.5.3 Historical Unincorporated County Population Growth

Historical Population Growth

Since the incorporation of the County in 1909, the municipalities, which developed much earlier along the eastern coast, have held the bulk of the County's population. Starting in the 1960's, population growth began to move westward into the unincorporated land. Consequently, the municipal population share began to drop steadily through the 1990's, at which time it reached a plateau of approximately 53%.

Over the past 20 years, municipal population growth has begun to increase. Through active annexations and downtown development or redevelopment, together with the incorporation of the Village of Wellington in 1995, the Village of Loxahatchee Groves in 2006, and the City of Westlake in 2016, the municipal share of the population has crept up to 56%, an increase in over 2 percentage points over the 2000's share.

3.5.4 Projected Population

Based on the ODER/BEBR projections for the County, the current distribution of existing housing developments and availability of developable residential lands, the 2020 Population Allocation Model shows the projected Unincorporated County populations as follows:

Projected County Populations, 2020 - 2045

	2020	2025	2030	2035	2040	2045
Unincorporated	638,552 43.0%	667,670 42.6%	691,997 42.4%	713,652 42.3%	734,207 42.3%	751,909 42.3%
Incorporated	827,942 57.0%	879,530 57.4%	924,503 57.6%	962,948 57.7%	995,293 57.7%	1,023,291 57.7%
County Total	**1,466,494**	**1,547,200**	**1,616,500**	**1,676,600**	**1,729,500**	**1,775,200**

	2020	2025	2030	2035	2040	2045
East County	1,431,473 97.6%	1,511,239 97.6%	1,578,069 97.7%	1,635,264 97.6%	1,684,882 97.5%	1,725,534 97.4%
West County	35,021 2.4%	35,961 2.4%	38,431 2.3%	41,336 2.4%	44,618 2.5%	49,666 2.6%
County Total	**1,466,494**	**1,547,200**	**1,616,500**	**1,676,600**	**1,729,500**	**1,775,200**

3.5.5 Population Allocation Model Methodology

Local governments and service providers require small area projections for the planning of future service needs. In particular, the BEBR Countywide total is inadequate for planning public services (parks, libraries, schools), emergency services (Fire-Rescue, Sheriff), and infrastructure (transportation, water and wastewater, solid waste). To this end, the Planning Division developed the Population Allocation Model to distribute BEBR's projections to smaller geographies, namely, the traffic analysis zones (TAZ). Using TAZs, population growth can be summarized into areas such as census tracts, zip codes, or neighborhoods. By modeling projected population in local areas, the Planning Division provides insight into the direction and location of future growth within the County.

In keeping with the methodology used in previous years, the Model incorporates significant land use changes over the past two years, including the following:

- Newly built residential developments
- Land use amendments
- Environmental land purchases
- Adopted neighborhood or redevelopment plans
- New development approvals

- Municipal annexations

The methodology used for the Allocation Model is a housing unit method in which population growth is assumed to occur where houses are being built. Changes in population will be reflected by changes in occupied housing units. (The US Census Bureau has conducted surveys showing that a majority of local government agencies make local population estimates utilizing some form of housing unit method.) Therefore, the assignment of population growth to a locality would depend on the locality's present housing, past growth history, and the capacity for new housing units based on land use policies which either deter or encourage residential development.

The building blocks of the Allocation Model are the 1,447 Traffic Analysis Zones in which residential units are built and/or potentially available. For TAZs with units available, the units are allocated across the years according to the project's projected build-out date. The individual TAZs are then aggregated to arrive at a total County housing stock totals for each year to 2045.

Potential capacity is determined by the amount of developable residential land and the specified density in each jurisdictions' Comprehensive Plans. Considerations for density designations are described in the Housing Supply Section.

The methodology steps for the Population Allocation Model are as follows:

Step One: Converting Population to Occupied Residential Units

The first step in the allocation process is to convert the County's BEBR population estimates/projections to occupied housing units, or the number of households. This is done by subtracting the "group quarters" population from the population totals, and dividing the results by the 2010 Census average person per household (PPH) rate of 2.39. For projections, the PPH is expected to steadily increase to 2.50 by 2035. This constitutes the demand for permanent housing based on BEBR's medium projections.

Person per Household Rate

The Person per Household (PPH) rate for the County has been steadily increasing, from 2.32 in 1990, to 2.34 in 2000 and 2.39 in 2010. The population model assumes this trend to continue, so that by 2035, the PPH in Palm Beach County will be 2.50. For individual TAZs, the PPH continues to rely on the 2010 Census; they will, however, adjust themselves during the normalization process. The Census 2010 average household size nationwide is 2.58, and for Florida it is 2.48. While one may purport smaller household size in South Florida in the future because of the influx of retirees, such conjecture could be countered by a steady influx of immigrants (with historically larger households) and younger families in recent years. Therefore, it is reasonable to expect that the County's PPH, which is well below the state and national average, will rise in the future. As an urban County approaching build-out, our neighboring Broward County's PPH was 2.45 in 2000, which increased to 2.52 in 2010.

Group-Quartered Population

According to the 2010 Census, Countywide group-quartered population (institutionalized and non-institutionalized population) has remained around the same percentage as the reported in Census 2000. The 19,972, group population constitutes 1.51% of the total population in the County.

As South Floridians age, demand for group homes will increase. The 2020 publication of "Population Projections by Age, Sex and Race and Hispanic Origin for Florida and Its Counties, 2020-2045" indicates that the 65+ age group will increase by 35% by 2035. Census 2010 showed that of this age group, only 1.9% live in assisted living facilities or other group quarters. Table 8 below shows the projected share of Group Population to the total population.

Group Population as % of Total Permanent Population

	2010 Census	2020	2025	2030	2035	2040	2045
2020 BEBR projected Population	1,320,134	1,465,835	1,547,210	1,616,487	1,676,582	1,729,472	1,775,242
2020 BEBR projections of 65+	285,155	350,002	399,372	447,102	477,633	493,340	496,948
Seniors in Group Quarters (1.9% of all 65+)	5,434	6,650	7,588	8,495	9,075	9,373	9,442
Others in Group Quarters (1.1% of total pop.)	14,538	16,124	17,019	17,781	18,442	19,024	19,528
Total Group Population	19,972	22,774	24,607	26,276	27,517	28,397	28,970
Group Population as % of Total Pop	1.51%	1.55%	1.59%	1.63%	1.64%	1.64%	1.63%

Step Two: Building Growth Models for Individual TAZs

As the County matures, many small areas have established distinct growth patterns. Some are already built out, while many areas have approved projects with projected completion dates. The current methodology examines the growth trend of each individual TAZ, extrapolating it into the future either linearly or logistically (if the TAZ is near build-out). The model also considers project completion dates to depict realistic growth spurts. In all cases, the build-out capacity must be determined, and the historical trends of total built units by year established from the Property Appraiser Data Base.

Step Three: Determining Total Countywide Housing Stock, 2020-2045

The sum total of the extrapolated, year-by-year, built residential developments of these TAZs constitutes the County housing stock to 2045. This constitutes the total supply of housing units for the County for the period.

Step Four: Determining Seasonal Housing Units for TAZs

For the estimation of seasonal housing units for the TAZs, the model again relies on the 2010 Census estimates. The growth of this sector has been surprisingly minimal, from 51,875 units Countywide in 1990, to 53,124 in 2000, to 59,440 in 2010. Its share of housing units has declined from 9.5% in 2000 to 9.05% in 2010. The bulk (over 60%) of seasonal housing is located in the municipalities in the coastal areas. In the unincorporated County, seasonal housing only constitutes about 7.4% of the total housing units.

Growth of seasonal housing has slowed from a 13% share of new housing units in 1990-2000 to 10% in 2000-2010. Maintaining this current share, the Model shows a total 65,000 seasonal units in the County by 2035. As the County's land supply decreases, it is likely that seasonal units will be absorbed by permanent population growth.

Step Five: Determining Market Vacancy Rates for the County and Individual TAZs

Market vacancies for the years through 2045 are determined by taking the difference between total housing units, total seasonal units, and occupied housing units in Step One. They are apportioned to the individual TAZ according to the 2010 Census vacancy rate. Because of the aggressive development activities in the last decade, market vacancies were very high in 2010 (9% countywide), with some zones having a vacancy rate over 20-30%. Information from the annual American Community Survey and the USPS Vacant Address Data provided by the U.S. Department of Housing and Urban Development are used to update and modify these vacancy rates.

Step Six: Conversion Back to Population Estimates

Once the dwelling units have been distributed to the TAZs, they are converted back to population estimates. This is done by subtracting seasonal units and market vacancies from the total built units and multiplying the remaining units (i.e. occupied units) by the TAZ-specific PPH rate. Finally, "group quarters" population is added to reflect the total permanent population for each TAZ. These TAZ specific populations are normalized to add up to the total Unincorporated County and Municipal population estimates for the current year and the BEBR total County projections to 2045.

3.5.5.1 Housing Supply Assumptions

The Allocation Model, with an individual growth curve for each TAZ, is a realistic way of portraying future housing trends in the County. The Model closely follows the BEBR methodology of using housing units (for which detailed records are available) rather than population as the object of projection. More importantly, the Model takes on local characteristics such as availability of vacant land, approved projects and project completion date, and adopted Comprehensive Plans, etc.

The projections of housing supply year by year differ from forecasts. The former are mere extrapolations (linear or nonlinear) of what went on before. The latter utilize various exogenous economic variables to produce a probable picture of the housing market. In effect, the model utilizes housing units as "weights" to allocate BEBR's countywide population projections to small geographies. Using these "weights," the final normalization process forces the individually derived TAZ populations to sum up to the independent BEBR medium County totals. The current and potential housing supply utilizes the following inputs:

1. 2020 Existing Residential Units Calibration

a. Property Appraiser Public Access (PAPA) Parcel Data, with the following corrections:
   i. PAPA often identifies an accessory unit as a unit, even when it is obviously a garage or guesthouse. These are not included in the population model. Only when the accessory unit has separate entrance and driveway or identified as a grandparent unit (additional tax exemption), it is included in the model.
   ii. Obvious dilapidated (not inhabitable) houses are treated as vacant.
   iii. Housing units in agricultural production or nursery parcels are considered only when there is a homestead associated with the parcel. Otherwise, they are counted as storage.
   iv. Ortho-digital aerials (Source: PBC MyGeoNav), or pictometry are utilized to clarify existing conditions whenever necessary.

b. The 2010 Census PL94-171

During 2009-2010, the Bureau of Census expended much effort to ascertain local addresses and promote residents' response (overall County response rate was 74%). Besides population, it provided valuable housing tenure (occupied, vacant, seasonal, etc.) information by census blocks, which in turn were aggregated into TAZs. These are the base data for all future allocation models until the next census in 2020. Attempts are made to update market vacancies by the 2009-2013 American Community Survey (available by census block groups) and the HUD_US Postal Service Quarterly Vacancy Data (available by census tracts).

2. Developable and Underutilized lands

All developable unsubdivided parcels of land will be built out to the maximum dwelling unit potential according to each parcel's future land use designation. A parcel is considered developable according to the following criteria:

a. Some vacant parcels are not developable even with a residential Future Land Use (FLU) designation, because they are buffers, golf courses, or water.
b. Parcels owned by tax-exempt organizations (such as religious organizations) are not given any residential potential when the parcel is exempted from

property tax (This indicates that the organization has initiated development process on the parcel.)

c. All vacant school board properties are not given any residential potential.
d. All publicly owned lands outside the Urban Service Area (USA) are not given any residential potential. Neither are the urban lands owned by the South Florida Water Management District.
e. Municipal EARs and Comprehensive Plans are consulted

Potential units yielded by vacant, developable parcels:

a. Potential units are calculated as max density multiplied by legal parcel acres.
b. For parcels that may have split FLU designations, potential units are calculated accordingly.
c. For parcels with a nonresidential/underlying residential FLU, no potential units are assigned, except in the Westgate CRA (where FLU is generally CH/8). Even in this area, parcels along major roads such as Okeechobee Blvd, and Westgate Blvd are considered commercial.
d. Urban Redevelopment Area (URA) and County Community Revitalization Team Area (CCRT) - Since most of the vacant land in these areas are small parcels, to encourage development in the URA and CCRT areas, maximum permitted Planned Unit Development (PUD) density is applied even if the size of the parcels does not meet the PUD threshold. Impacts on total capacity due to this change are minimal.
e. The Acreage's future land use designation is Rural Residential, 1 unit per 2.5 acres (RR-2.5). However, the Acreage is composed nearly entirely of 1-1/4 acre or less single-family lots, and development is permitted on each platted parcel. Hence, the potential units assigned to the Acreage are consistent with the number of platted lots in addition to the density pursuant to the RR-2.5 designation for larger unplatted tracts.

Potential units yielded by underutilized parcels:

a. Un-subdivided Parcels which are built under the maximum residential density are given additional capacity according to their FLU density.
b. Surrounding parcels' existing density is also considered to maintain consistency and compatibility with surrounding neighborhoods. For example, if the entire area is built under its max potential, no additional unit is assigned.
c. Some developed equestrian parcels with residential FLUs are not given any residential potential, especially those in Wellington within their equestrian protection boundary, and those owned by equestrian companies. Some equestrian parcels are developable if they are amidst single family neighborhoods.
d. A few nonconforming nonresidential developments with residential FLU designations are not given residential potential.
e. Nurseries within the urban service area only are given residential potential according to their designated FLUs.

Transfer of Development Rights (TDR) potentials for Unincorporated vacant and underutilized parcels:

The balance in the TDR bank is apportioned to each vacant and underutilized parcel according to:

a. du/acre if in CCRT or
b. 3 du/acre if east of turnpike, within USA
c. 2 du/acre if west of turnpike, within USA

Agricultural Reserve Development Potential:

a. Consistent with the Comprehensive Plan, the Model primarily assumes a 1 unit per acre development potential to establish the total development potential within the Agricultural Reserve.
b. For isolated pockets of low-density residential development, such as areas with single-family homes built on 5-acre tracts, a development potential of 1 unit per 5 acres is assumed.
c. Pursuant to the Ag Reserve Master Plan, and planned purchases by the South Florida Water Management District (SFWMD), the model shifts future units away from the Loxahatchee National Wildlife Refuge and concentrates the bulk of the future growth between the Florida Turnpike and State Road 7.
d. The Model does not assign development potential to the properties currently owned by SFWMD or by the County.

Land Owned by Districts, State and Local Governments

The Florida Department of Environmental Protection, SFWMD, Lake Worth Drainage District, Indian Trail Improvement District, and various local government entities have acquired land in the County with residential development rights. The Model retains their residential potential only if these tracts of land lie inside the Urban Service Area, east of the 20 Mile Bend and/or have not received a Conservation future land use designation.

Other Additional Development Capacities

These are added at the TAZ level whenever the provision for potential development is not parcel specific. These are:

a. Approved Unbuilt and unplatted residential projects. Expired projects are taken out, and regular potential units according to the land's FLUs are included.
b. Adopted Redevelopment plans, Boca Raton DRI, Municipal TCEAs, URA (Congress, Military and Lake Worth Corridors).

Inland Port in the Glades

> Population growth in the West County has been essentially flat for decades. This is despite thousands of acres designated for urban residential uses. The approval of the Inland Logistics Center in the Unincorporated County, between Belle Glade and South Bay, has added 850 acres of industrial land to the West County, having amended the land use from LR-3 to IND. The Center, however, will be a major source of employment, which will in turn encourage residential developments in the proximity areas.

3.5.6 Future Updates of the Model

The Model is kept dynamic by updates every other year, accounting for density changes, newly approved development or redevelopment projects, annual BEBR population estimates, and any demographic shifts depicted by the annual American Community Survey. The County's Model is based on BEBR medium projections and the supply of housing as specified from the County's currently adopted land use policies.

As population increases in the County and its jurisdictons, the probability of identified threats and hazards will cause property damage or human casualties also increases. With more people migrating to Palm Beach County and its jurisdictions, a larger percent of the land and population may become more vulnerable to hazards. The higher standards adopted by Florida's Building Code decrease vulnerability.

3.6 LMS Action Plans

The vulnerability, risk and hazard assessments, coordination with other agencies, review of existing plans and documents, as well as establishment of goals and objectives, completed by the LMS Working Group, Revisions Committee and Steering Committee, and described in the previous sections, culminated in the creation of a two-pronged Action Plan made up of County-wide Action Items and Prioritized Project List.

> <u>The County-wide Action Plan:</u> contains county-wide and multi-jurisdictional action items from several CRS credited mitigation categories such as public information, floodplain management, natural resource protection, emergency management, regulatory, and post disaster, most of which are expected to remain unchanged throughout the 5-year life of the plan.

> <u>The Prioritized Project List:</u> contains finite, grant funded, primarily structural projects that are community and problem specific. This list is expected to be changed and updated many times throughout the 5-year cycle of the LMS.

3.6.1 Review of Possible Activities

In order to select the most appropriate, feasible and effective mitigation action items for both the Countywide Action Items and Prioritized Project List, the respective committees for each conducted a Review of Possible Activities in accordance with the CRS 10-Step Planning Process. The reviews are described in the following sections.

3.6.1.1 Review of Possible Activities for the County-wide Action plan

During this 2024 update of the Local Mitigation Strategy, the LMS Revisions Sub-Committee, made up of representatives of the County and LMS participating municipalities as well as local stakeholders, not only reviewed the Action Items from the 2020 Local Mitigation Strategy, but also considered numerous additional possible activities. The review process took place during two meetings starting in October 2023 and finishing in November 2023. The activities that were chosen were then drafted into an Action Plan in January 2024 and posted for public review in March 2024.

During this thorough review of possible activities, some previous and possible activities were removed from the list because they had been completed, were determined to be too vague or redundant, were already required, or were not considered a priority. Other possible activities were either accepted as stated, combined with other activities, revised or removed from the list. Additional action items were proposed at the beginning of each meeting and new ones arose during the meetings as a result of Committee suggestions and group discussion. Many of the new action items pertain to the County's recent efforts related to watershed planning and vulnerability assessment.

The Committee reviewed possible activities for each of the following categories:

- Floodplain Management
- Regulatory/Current & Future Conditions
- Preventive Measures
- Property Protection
- Natural Resource Protection
- Emergency Services
- Structural Flood Control Projects
- Public Information
- Post Disaster Planning

The review performed by the Committee is detailed in table form and included in Appendix J. The table lists the Action Plan items, states the results of the review and explains why each decision was made. It also identifies the goals and addresses whether or not the ongoing activities are achieving expectations. For each action item that will be included in the Action Plan, possible funding, responsible parties, timeframes, and priority ranking are identified. All excluded items are noted in the table. Records of the Committee meetings, included in Appendix L, document the thorough review process.

In addition to specific proposed Action Items, County staff separately reviewed relevant components of the County's Comprehensive Plan, building codes and zoning ordinances. The County CRS Coordinator has also requested that all participating municipalities also conduct policy and regulation reviews and report any findings, recommendations or regulation changes to the County so that an attempt can be made to coordinate and align efforts and regulations across all jurisdictions in Palm Beach County.

3.6.1.2 Review of Possible Activities for the Prioritized Project List

A separate committee, the LMS Evaluation Panel, reviews possible projects for the Prioritized Project List and updates the list twice per year. Additional details about the procedures related to this review can be found in **Section 4: Prioritized Project List Procedures.** The meeting details can be found in Appendix L and the resulting project list can be found in Appendix E.

3.6.2 County-Wide Action Plan

For each action item selected for inclusion in the Countywide Action Plan, possible funding, responsible parties, timeframes, have been identified and the items have been ranked according to priority. The resulting Action Plan can be found in Appendix J.

3.6.2.1 Implementation, Evaluation and Revision of the County-wide Action Plan

As implementation of the Countywide Action Plan proceeds, it is important that it be periodically evaluated and updated. Not only does this assure that the plan remains current and relevant, but it also assures the implementation of the Action Plan. To ensure that there is a continuing and responsive planning process, the planning committee will institute the following procedures:

Annual Evaluation

The LMS Steering Committee, responsible for the development of this plan, or a successor committee similar in membership that is created to replace the original committee, shall meet quarterly to review the progress of the Plan. The Committee will complete an annual evaluation. Because the Committee is composed of both staff members as well as stakeholders, the quarterly reviews and annual evaluation will include community input.

The LMS Working Group meetings will typically take place in March, June, September, and December, and the LMS Steering Committee meetings will typically take place in February, May, August, and October with the annual review taking place during the last meeting of the year. The documentation of these meetings, including advertisements inviting the public, minutes, and sign-in sheets will be collected by the Committee Chair for submission to the CRS program. The LMS Steering Committee Chair is responsible for overseeing and monitoring implementation of the Plan and may call meetings or contact members more often as deemed necessary.