6. COMMUNITY PROFILES

This chapter updates the community information on the HMS fishing communities identified and described in the 2006 Consolidated HMS FMP and its amendments. Background information on the legal requirements and summary information on the community studies conducted to choose the communities profiled in this document is not repeated here and can be found in previous HMS SAFE Reports, and was most recently updated in the 2011 HMS SAFE Report. Additionally, the 2011 and 2012 HMS SAFE Reports contain modified demographic profile tables from previous documents to include the same baseline information for each community profiled, and use 1990, 2000, and 2010 Bureau of the Census data for comparative purposes. A profile for the U.S. Virgin Islands was not created because of the limited availability of 1990, 2000, and 2010 Census data for the region. The descriptive community profiles in the 2011 HMS SAFE Report include information provided by Wilson, et al. (1998) and Kirkley (2005), Impact Assessment, Inc. (2004), and information obtained from MRAG Americas, Inc. (2008), along with 2010 Bureau of the Census data.

Of the communities profiled in previous SAFE Reports, ten were originally selected due to the proportion of HMS landings in the town, the relationship between the geographic communities and the fishing fleets, the existence of other community studies, and input from the HMS and Billfish Advisory Panels (which preceded the combined HMS Advisory Panel that currently exists). The remaining 14 communities, although not selected initially, have been identified as communities that could be impacted by changes to the current HMS regulations because of the number of HMS permits associated with these communities, and their community profile information has been incorporated into the document. The list of communities profiled is not intended to be an exhaustive record of every HMS-related community in the United States; rather the objective is to give a broad perspective of representative areas.

6.1 Community Impacts from Hurricanes

This section is an overview of the impacts on HMS communities caused by hurricanes during 2012. Please refer to prior SAFE reports for hurricane impact information prior to 2012.

The 2012 hurricane season had more storms than average with 19 named storms, of which 10 became hurricanes, and only one, Hurricane Sandy, became a major (Category 3-5) hurricane. The number of storms in recent years could be largely attributed to climatological conditions, such as La Nina, the tropical multi-decadal signal, and above average Atlantic sea surface temperatures (Bell et al., 2012). Four of these storms made landfall in the United States, two as hurricanes (Hurricanes Sandy and Isaac), and two as tropical storms (Tropical Storms Alberto and Debby). Hurricane Sandy, also named Super Storm Sandy after it combined with a nor'easter, was easily the most severe of these storms. Hurricane Sandy initially started as a Category 1 hurricane in the southwest Caribbean Sea where it first made landfall in Jamaica (Blake et al., 2013). The storm strengthened while in the Caribbean, and then moved northeast were it eventually made landfall near Brigantine, New Jersey, on October 29, 2012. While Super Storm Sandy had weakened to a post-tropical cyclone before making landfall in the United States, it still produced a catastrophic storm surge along the New Jersey and New York coastlines due to its immense size. Super Storm Sandy is reportedly responsible for 147 deaths in the Atlantic, including 72 deaths in the mid-Atlantic and northeastern United States (Blake et

al., 2013) making it the deadliest hurricane to strike the United States outside of the south since 1972. This storm was also estimated to have generated nearly $50 billion in damages, ranking it as the sixth-costliest (when adjusted for inflation) hurricane to strike the United States since 1990. Hurricane Isaac was the only other hurricane to make landfall in the United States in 2012 when it became a Category 1 hurricane mere hours before making landfall in southeastern Louisiana (Berg, 2013). Hurricane Isaac produced a maximum storm surge of 11 ft. above normal tide which caused extensive flooding in southeastern Louisiana, Alabama, and Mississippi, and was responsible for 5 deaths in the United States, an additional 29 deaths in the Caribbean, and $2.4 billion in damages in the United States.

6.2 Community Impacts from 2010 Deepwater Horizon/BP Oil Spill

On April 20, 2010, an explosion and subsequent fire damaged the Deepwater Horizon MC252 oil rig, which capsized and sank approximately 50 miles southeast of Venice, Louisiana. Oil flowed for 86 days into the Gulf of Mexico from a damaged well head on the sea floor. In response to the Deepwater Horizon MC252 oil spill, NMFS issued a series of emergency rules (75 FR 24822, May 6, 2010; 75 FR 26679, May 12, 2010; 75 FR 27217, May 14, 2010) closing a portion of the Gulf of Mexico exclusive economic zone (EEZ) to all fishing and analyzed the environmental impacts of these closures in an Environmental Assessment. Between May and November 2010, NMFS closed additional portions of the Gulf of Mexico to fishing. The maximum closure was implemented on June 2, 2010, when fishing was prohibited in approximately 37 percent of the Gulf of Mexico EEZ. Significant portions of state territorial waters in Alabama (40%), Florida (2%), Louisiana (55%), and Mississippi (95%) were closed to fishing (Upton, 2011). After November 15, 2010, approximately 0.4 percent (1,041 square miles) of the federal fishing area was kept closed immediately around the Deepwater Horizon wellhead through April 19, 2011, when the final oil spill closure area was lifted (NOAA 2011c).

Socioeconomic impacts from the oil spill on HMS communities include losses in HMS revenue and negative psychological impacts. One study (Sumaila et al, 2012) estimated loss in commercial pelagic fish revenue, which includes HMS species, at $35-58 million over the next seven years. The study also estimated that Gulf of Mexico recreational fisheries could lose between 11,000-18,000 jobs, and have an overall economic loss between $2.5-4.2 billion (Sumaila et al, 2012). Residents in Florida and Alabama in communities where oil reached their shores that experienced income loss due to the oil spill exhibited significantly higher levels of depression, anxiety, anger, and fatigue than residents that did not experience oil spill related income loss (Grattan et al, 2011). These residents who suffered income losses were also more likely to cope with the loss by giving up (behavioral disengagement) and other avoidance strategies (Grattan et al, 2011). NMFS is continuing to evaluate the impacts of the Deepwater Horizon Spill on HMS stocks and fishermen. For more information see: http://www.noaa.gov/deepwaterhorizon/index.html and http://sero.nmfs.noaa.gov/deepwater_horizon/index.html.

6.3 Social Indicators of Fishing Community Vulnerability and Resilience

This section presents social indicators of vulnerability and resilience developed by Jepsen and Colburn (2013) for 25 communities selected for having a greater than average number of HMS permits associated with them. Jepsen and Colburn (2013) developed a series of indices

using social indicator variables that could assess a coastal community's vulnerability or resilience to potential economic disruptions such as those resulting from drastic changes in fisheries quotas and seasons, or natural and anthropogenic disasters. Indices and index scores were developed using factor analyses of data from the United States Census, permit sales, landings reports, and recreational fishing effort estimates from the MRIP survey (Jepsen and Colburn, 2013). This section uses radar graphs to present four indices related to fishing dependence vulnerability (recreational and commercial fishing reliance and engagement indices, Figure 6.1 and Figure 6.2), two indices related to social vulnerability (personal disruption index and poverty index, Figure 6.3), and two related to gentrification vulnerability (retiree migration index and natural amenities index, Figure 6.4). Each index is scored so that higher values indicate increased community vulnerability to disruption with mean index scores standardized to zero. Communities with index scores greater than one standard deviation above the mean are considered to be the most vulnerable, and this threshold is illustrated on each figure with a black circular line (Jepsen and Colburn, 2013).

Fishing Reliance and Engagement Indices

Jepsen and Colburn (2013) developed two indices each to measure community reliance and engagement with recreational and commercial fishing, respectively. The recreational fishing engagement index was measured using MRIP estimates of the number of charter, private boat, and shore recreational fishing trips originating in each community. The recreational fishing reliance index was generated using the same fishing trip estimates adjusted to a per capita basis. In Figure 6.1, recreational fishing reliance and engagement index scores are presented for 25 HMS communities. The communities of Orange Beach, AL; Apalachicola, FL; Destin, FL; Grand Isle, LA; Venice, LA; Ocean City, MD; Atlantic Beach, NC; Barnegat Light, NJ; Cape May, NJ; and Montauk, NY all exceed the one standard deviation threshold for both recreational reliance and engagement indicating that each exhibits exceptionally high numbers of annual fishing trips both in absolute numbers and adjusted per capita. This suggests that each of these communities are highly vulnerable to economic disruption from potential declines in fishing participation be they due to seasonal fishing closures or disasters such as Super Storm Sandy or the Deepwater Horizon oil spill. Other communities such as Panama City, FL; Islamorada, FL; Pompano Beach, FL; Dulac, LA; Gloucester, MA; New Bedford, MA; Beaufort, NC; Morehead City, NC; Brielle, NJ; and Wakefield-Peacedale, RI all had scores in excess of the one standard deviation threshold on the recreational fishing engagement index, but not on the recreational fishing reliance index. This indicates these communities exhibit large absolute numbers of fishing trips annually, but only moderate numbers of trips on a per capita basis. This would indicate these communities are also economically vulnerable to declines in recreational fishing participation, but not as severely as other HMS communities.

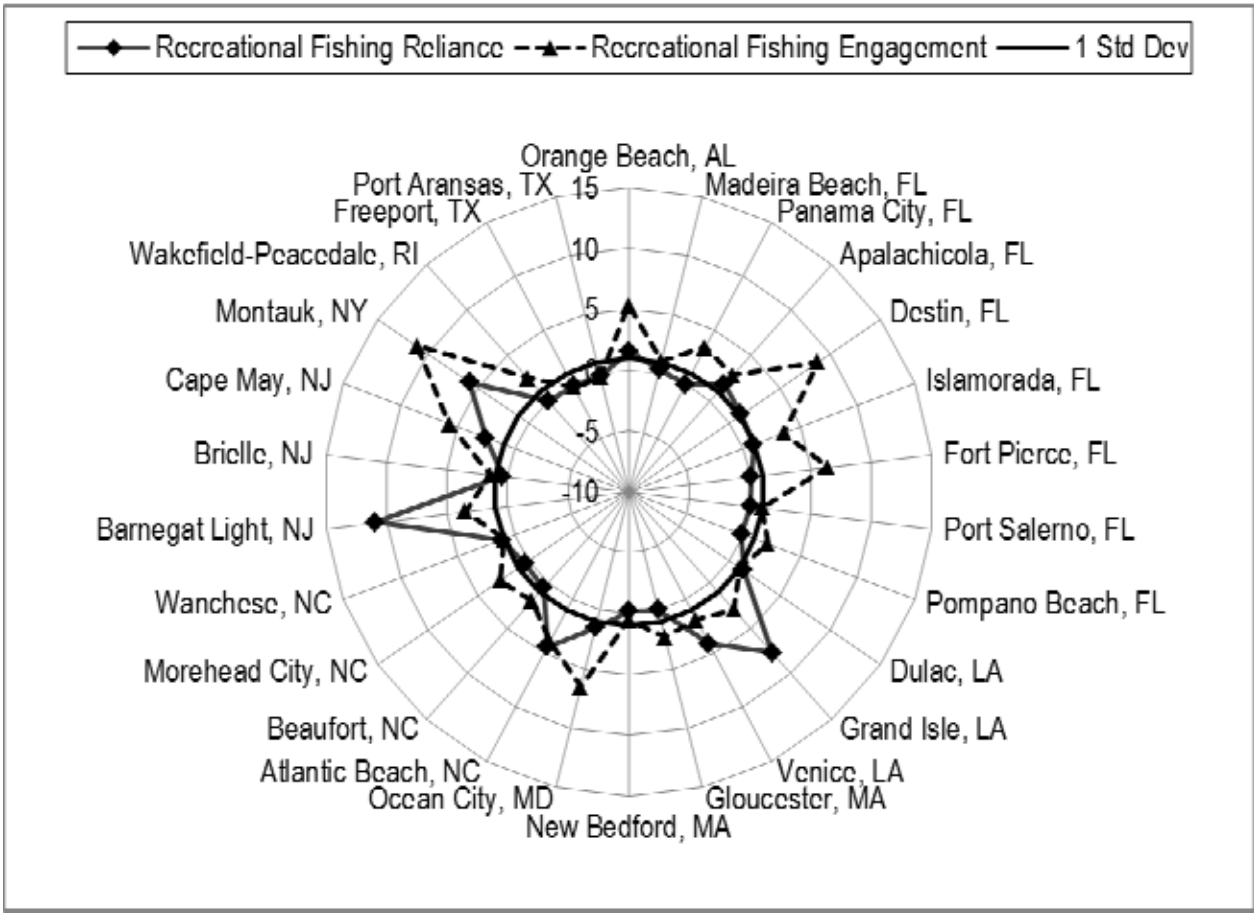

Figure 6.1 Recreational Fishing Engagement and Reliance Indices by HMS Community

Jepsen and Colburn (2013) also calculated indices measuring community reliance on and engagement with commercial fishing. Commercial fishing engagement was assessed based on pounds of landings, value of landings, number of commercial fishing permits sold, and number of dealers with landings. Commercial fishing reliance was assessed based on value of landings per capita; number of commercial permits per capita; dealers with landings per capita; and percentage of people employed in agriculture, forestry, and fishing. Figure 6.2 shows that Dulac, LA; Grand Isle, LA; Venice, LA; Gloucester, MA; New Bedford, MA; Beaufort, NC; Wanchese, NC; Barnegat, NJ; Cape May, NJ; and Montauk, NY all score above the one standard deviation threshold for both indices indicating they are all dependent upon commercial fishing. Several communities including Gloucester, MA; New Bedford, MA; Barnegat Light, NJ; and Cape May, NJ exhibited particularly high index scores on one of the two indices suggesting they are particularly dependent on commercial fishing.

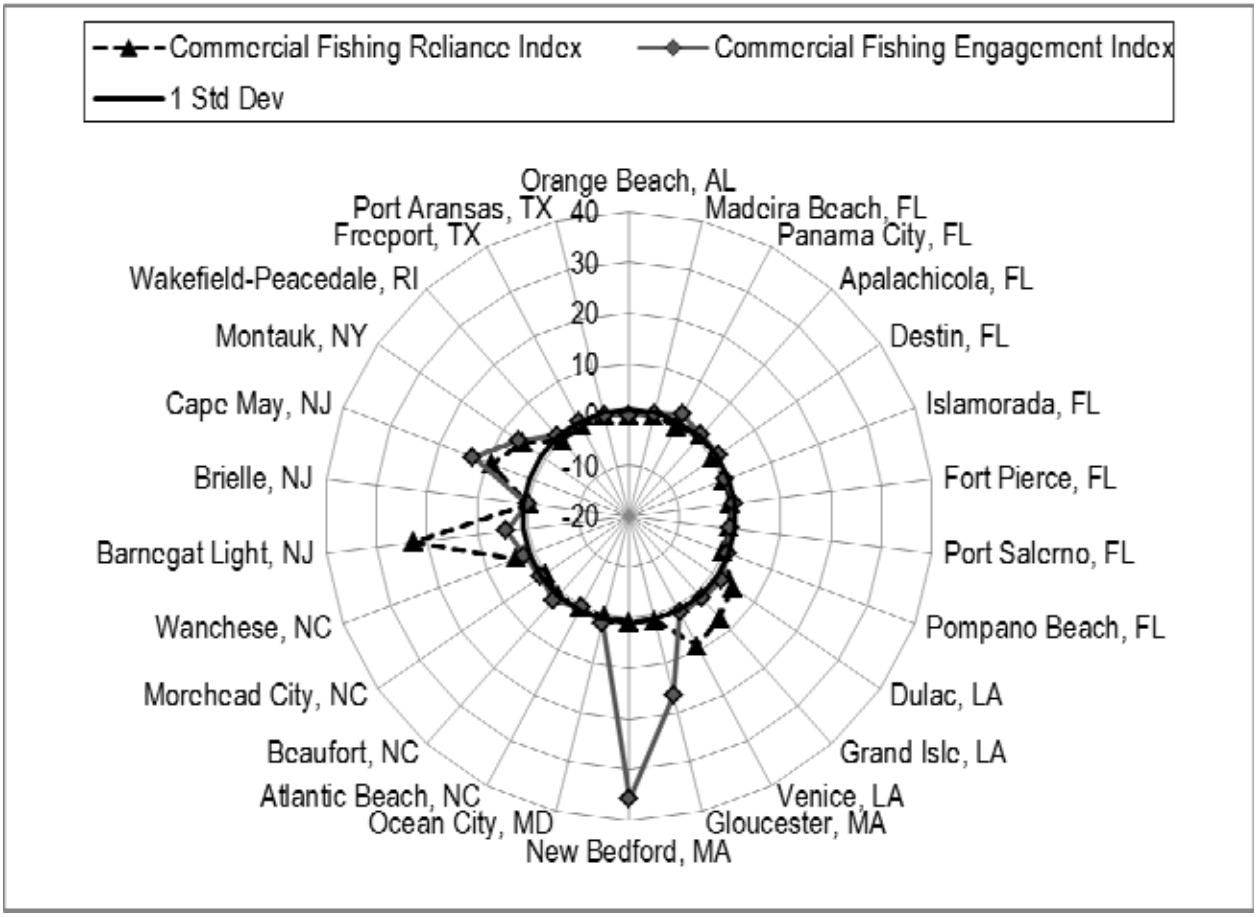

Figure 6.2 Commercial Fishing Engagement and Reliance Indices by HMS Community

Social Vulnerability Indices

Two indices of social vulnerability developed by Jepsen and Colburn (2013) are presented in this section. The personal disruption index includes the following community variables representing disruptive forces in family lives: percent unemployment, crime index, percent with no diploma, percent in poverty, and percent separated females. The poverty index includes several variables measuring poverty levels within different community social groups including: percent receiving government assistance, percent of families below the poverty line, percent over 65 in poverty, and percent under 18 in poverty. Figure 6.3 shows that the communities of Apalachicola, FL; Fort Pierce, FL; and New Bedford, MA each score above the one standard deviation threshold on both of the social vulnerability indices, while the communities of Dulac, LA; Venice, LA; and Freeport, TX each score above the threshold on one index. These scores suggest these communities would likely experience greater difficulty recovering from economic hardships caused by job losses in the recreational and commercial fishing sectors.

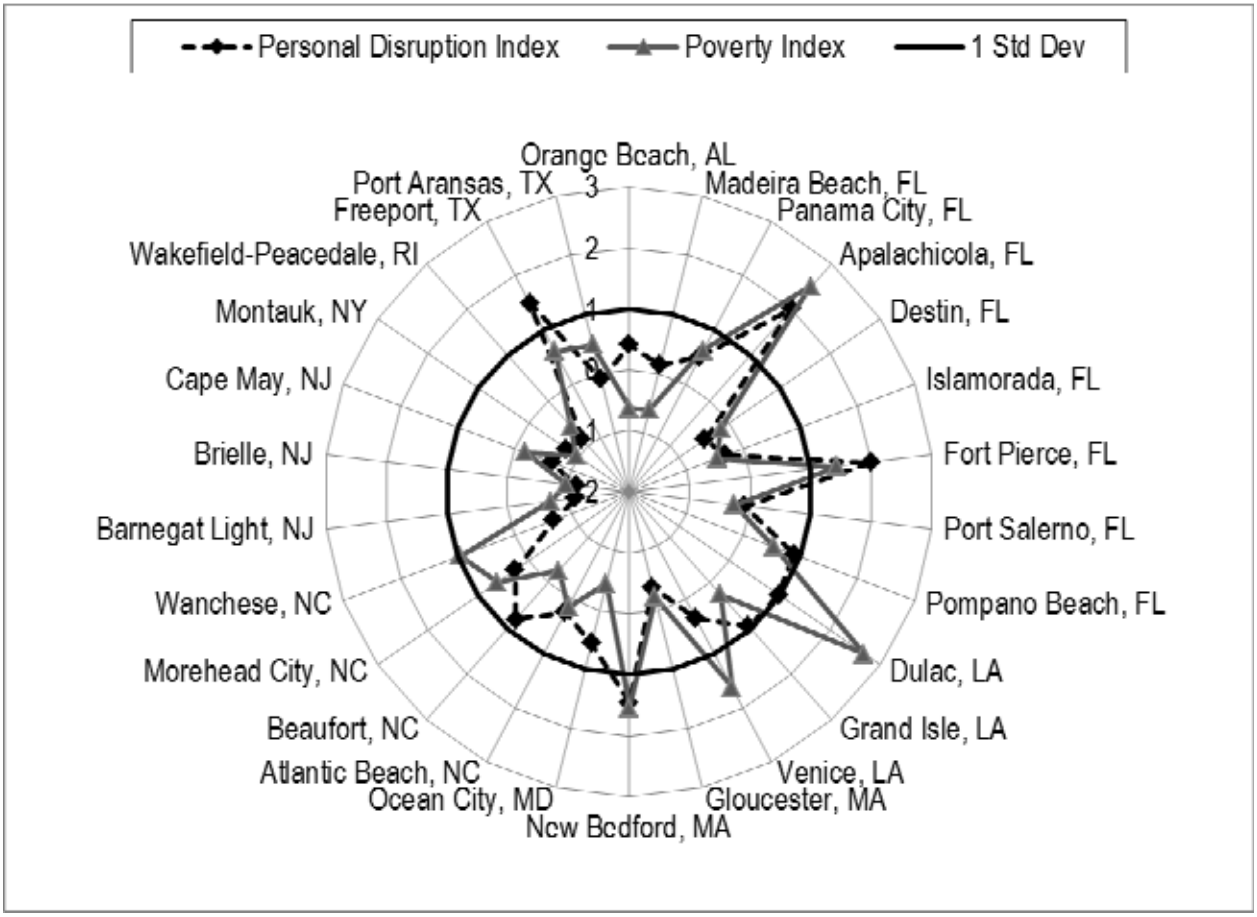

Figure 6.3 Social Vulnerability Indeces by HMS Community

Gentrification Indices of Vulnerability

Finally, this section includes two indices measuring community vulnerability to gentrification developed by Jepsen and Colburn (2013). Gentrification is a process whereby community structure changes as a result of an influx in higher income households, and the businesses that cater to them, to the point community social networks and power structures change, and traditional community families are threatened to be displaced (Jepsen and Colburn, 2013). The retiree migration index includes variables that measure the influx of retirees to a community and includes: households with one or more over 65, percent population receiving social security, percent receiving retirement income, and percent in labor force. The natural amenities index includes variables that represent community characteristics that can determine the areas attractiveness to emigrants which include: rental vacancy rate, percent homes vacant, boat launches per capita, and percent water cover. Figure 6.4 shows that the communities of Ocean City, MD; Barnegat Light, NJ; and Brielle, NJ all possess index scores in excess of the one standard deviation threshold for both indices indicating that these communities are likely seeing signs of gentrification. Additionally, the communities of Orange Beach, AL; Grand Isle, LA; Atlantic Beach, NC; Montauk, NY; and Port Aransas, TX each exceed the threshold for the natural amenities index, and are approaching the threshold for the retiree migration index suggesting the these communities are vulnerable to or in the early stages of gentrification.

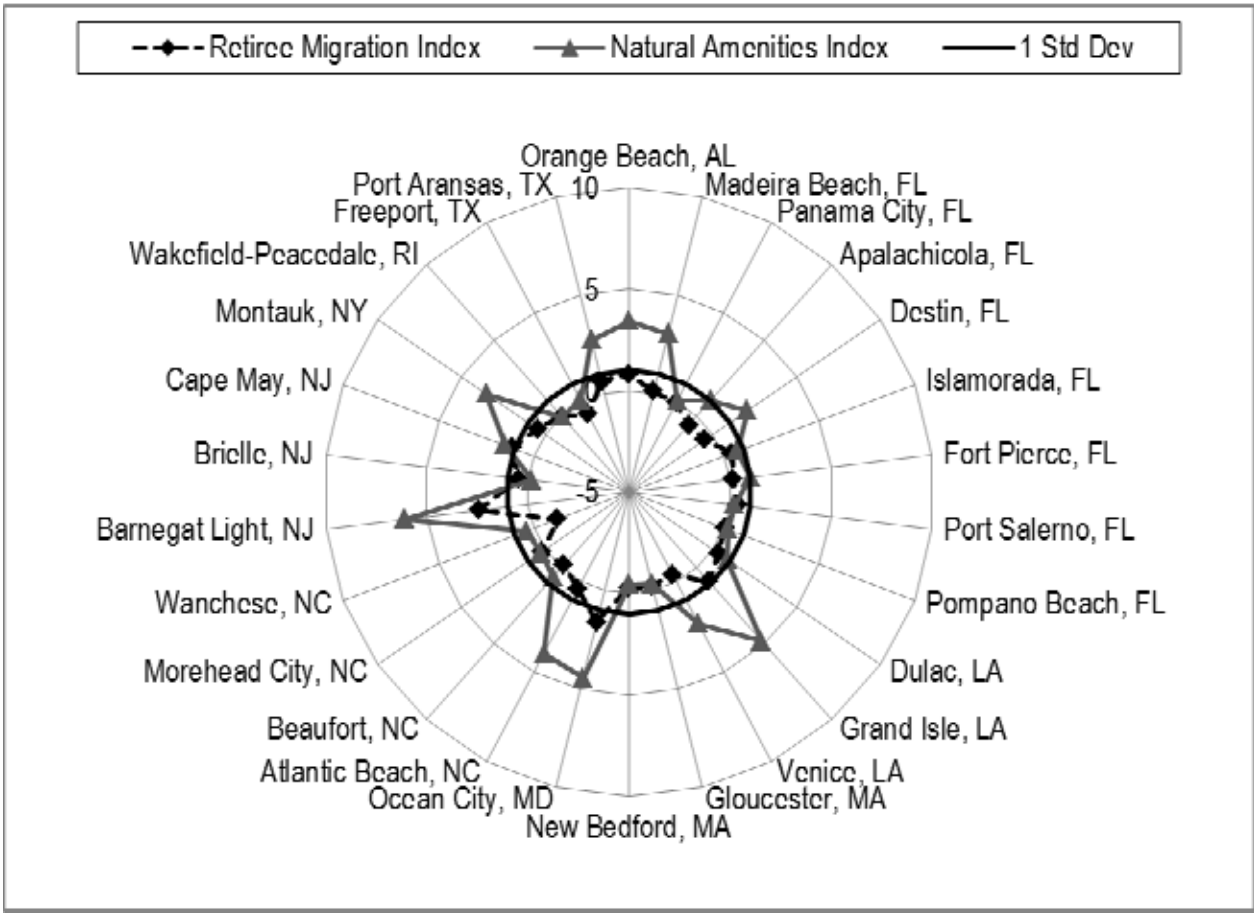

Figure 6.4 Gentrification Vulnerability Indices by HMS Community

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