

Satellite Beach, Florida Case Study. By: John Fergus, October, 2013

Satellite Beach spans a barrier island with the Atlantic Ocean to the east and the Banana River to the west. At its widest, the city is about one and one-half miles wide. The city's population of slightly over 10,000 resides on just under three square miles of land. The city's highest elevation is slightly over twenty feet (on coastal dunes), more than 85% of its territory is below ten feet, and about half of its territory is below six feet. As a result, Satellite Beach is particularly vulnerable to coastal hazards such as storm surge and shoreline erosion, the threat from which will increase with sea-level rise (SLR).

Recognizing the risks, in 2009 and 2010 the city used \$25,000 in federal grant funds to produce an accurate topographic map of the city, conduct a vulnerability assessment, and initiate a planning process to mitigate impacts. The resulting report, completed over a 1-year period, used the elevation data to estimate when areas of the community would flood. About 5% of the town would experience annual flooding at two feet of SLR, but doubling SLR to four feet increases the flooded area to 25%. SLR of six feet floods half the city. The report notes that the 2-foot "tipping point" at which developed areas experience flooding is forecast to occur by about 2050.

When discussing options for adaptation, the report notes that dikes, levees, and seawalls are impractical for protection against SLR because the barrier island's geology of sand overlying porous bedrock would allow water to flow under such structures. It also notes that relocation to higher ground is complicated by the 98% built-out city's low topography. The most likely response is accommodation through redevelopment at increased density on the small amount of relatively high ground in the City, with the expectation abandonment is sufficiently far in the future to recoup the cost of redevelopment.

In response to the report, the city's local planning agency, the Comprehensive Planning Advisory Board (CPAB), in mid-2010 prepared and submitted to City Council for their consideration a draft ordinance amending the City's comprehensive plan to include SLR. After Council took no action on the recommendation, the CPAB held a public hearing in early 2012 on a scaled-back version of the SLR provisions. That language was then revised in response to opposition by a group of residents expressing concern it threatened private property rights. Those results were submitted to Council. More than six months later Council declined to submit the SLR material to the state.

As a result of changed City Council composition, in November 2012 Council directed the CPAB to again review their recommended amendment language. The CPAB did so and City Council approved the revised language and transmitted it to the state land-use planning agency for approval. That agency's response commended Satellite Beach for "proposing designation of an Adaptation Action Area for the protection of its residents, prevention of property damage and for a reduction in flood insurance premiums." Satellite Beach City Council adopted the recommended amendments in August 2013 – without a unanimous vote after a small group

reiterated the claim the provisions present a threat to private property rights. Relevant language in the plan's Coastal Management/Conservation Element includes:

Objective 1.3

The City shall continue to limit use of public funds and discourage use of funds by other levels of government that subsidize new, private development or redevelopment in the Coastal High Hazard Area.

Policy 1.3.2 - The City shall coordinate with service providers to replace and mitigate damaged infrastructure within the Coastal High Hazard Area and other parts of the Adaptation Action Area consistent with other policies of the Comprehensive Plan. (Refer to Policy 1.12A.2 in which the Adaptation Area is established.)

Objective 1.4A

The City shall strive to reduce the exposure of human life and public and private property to natural hazards while reducing the cost of flood insurance.

Policy 1.4A.1 - The City shall initiate a public process to identify Adaptation Action Areas (AAAs) in accordance with Sections 163.3164(1) and 163.3177(6)(g)10 Florida Statutes. The purpose of the AAAs is to increase grant and other funding opportunities and identify creative solutions to achieve the following goals:

- Protect the health, safety and welfare of residents,
- Prevent damage to public and private property, and
- Reduce National Flood Insurance Program premiums to property owners.

Policy 1.4C.3 - The City shall encourage population concentrations away from known or predicted coastal high hazard areas consistent with the goals, objectives and policies of the Future Land Use Element in the Satellite Beach Comprehensive Plan. This policy is not intended to prohibit or discourage maintenance or replacement of existing development within the CHHA.

Objective 1.12A

Development and redevelopment within the City shall be permitted only when consistent with sound planning practices that shall protect life and property from the effects of coastal erosion, flooding, sea level rise, or damage to environmental systems.

Policy 1.12A.1 – The City of Satellite Beach designates the Coastal High Hazard Area as “the area defined by the SLOSH model to be inundated from a Category 1 Hurricane”.

Policy 1.12A.2 – The City of Satellite Beach designates the Adaptation Action Area (AAA) as that area which includes the CHHA and other areas of the City as

may be identified by the City Council in the future as being subject to coastal erosion, flooding, sea level rise, or damage to environmental systems.

The CPAB will now initiate a public process to identify Adaptation Action Areas in accordance with Policy 1.4A.1.