

Key West - Adaptation Successes

Timeline of Adaptation and Sustainability:

- 1821: Whole island sold for \$2,000
- 1830's : Richest City per capita in the United States.
- 1846: Oldest Tidal Gauge in the Western Hemisphere installed (measures 4"/50 years) (regularly since 1913)
 - East Martello, West Martello and Fort Zach and Fort Jefferson constructed (45-66) for Civil War
- 1887: Gas Light electricity arrived – Key West was largest City in Florida at 18,000
- 1912: Flaglers Railroad made its first journey
- 1938: Railroad converted for cars
- Pre-1940: All buildings and houses were built with cisterns because we were not connected to a water source.
- Pre-1940: Many buildings and houses were built with reclaimed/repurposed materials with architectural styles that maximized air flow and minimized the heat from direct sunlight
- Pre-1940: All houses were on highest land
- 1960: First Beach Erosion Control Project along 3,000 feet of South Roosevelt Blvd, 4' high and 100' wide.
- 1967: Higgs Beach gets a Seawall to stop erosion of sand.
- Pre 1970: First still operational stormwater gravity recharge well built along 1100 block of Margaret Street.
- 1975: FEMA Flood maps in effect. Must build above flood.
- 1988: Volunteer citizens begin first recycling program at drop off area.
- 1989: Stormwater Comprehensive Planning began, identifying drainage structures throughout the island.
- 1990: City of Key West adopts recycling program and starts curbside service.
- 1994: Run off Study Report leads to 20 stormwater gravity wells to address 8 worst flooding areas.
- 1995: Oldest Canopy research: 21% Canopy. 38% impervious.
- 1997: First one-way "duckbill" tidal control valves installed, negating 10 flooding events annually.
- 1999: City hires first Bike Ped Coordinator
- 2000: Water Quality Improvement Program white paper.
- 2001: Long Range Stormwater Utility Plan: Created 7 additional flood management zones.
- 2003: Stormwater Utility Fund created
- 2003: First pump assist injection wells installed
- 2007: Signed onto Mayors Climate Protection Act.
- 2007: Wastewater system wins first place in the Florida First Place in the Advanced Secondary Treatment category.
- 2008: City Commission accepts Greenhouse Gas Emissions Baseline and enacts 15% reduction goal.
- 2008: City supports Florida's Green Certification standards for all new Public buildings, effective in 2010.
- 2009: Key West completes Climate Action Plan.
- 2009: Both City Marinas become certified at FDEP Clean Marinas.
- 2011: Mapped via GPS, the location and topography of all storm drains.
- 2011: Lighting retrofits: Caroline parking garage, park lights
- 2012: Key West hires first Sustainability Coordinator.
- 2012: Key West becomes official City partner to the Southeast Florida Regional Climate Compact
- 2012: 52 Sustainability items become part of the Comprehensive Plan.
- 2012: Pilot LED street lighting project with Keys Energy.
- 2012: HARC passes revisions to its' guidelines, allowing solar energy in Historic District.
- 2013: LED lights installed along Duval Street and Bight

- 2014: Building Permit Allocation System passed, requiring basic green certification, cisterns and BFE 1.5 for all new residential buildings.
- 2015: Canopy Study says 30% canopy, 45% impervious.
- 2015: Hosted Southeast Florida Regional Climate Compact's Leadership Summit
- 2015: Height Referendum allows residences to raise above zoned height limit to get out flood zone up to BFE+4
- 2015: Participated in Compact's Resilient Redesign II, imagining 2' of sea level rise.
- 2016: Letter of acceptance into Community Rating System, expecting to get a Class 7.
- 2017: New City Hall, built to LEED Platinum certification and incorporating 3,800 kW of solar energy.
- 2017: Duval Loop!
- 2018: Canopy Study: 28% canopy, only 7% loss. 20% growth in imperviousness since '95 = 465 football fields

ADAPTATION TALKING POINTS:

- **The residents of Key West have always adapted to their circumstances:** From the very beginning, when we had no water, we built cisterns; when we had no building materials, we repurposed shipwrecks; we built on the highest land and maximized air flow and minimized heat induction.
- **We just didn't call it Climate Change adaptation:** We installed the first one-way tidal valves over 20 years ago, saving businesses on lower Duval from 5 flood events per year. We put in 20 stormwater gravity wells in 1994.
- **We've enacted ground breaking new policies:**
 - Comprehensive Plan and Land Development Ordinances to standards above state and federal building rules.
 - New homes must be built 1.5' above BFE, incorporate a cistern and meet minimum green certifications.
 - Changed our building heights ordinances to alleviate space issues in the residential zones.
- **Our residents are reaping the benefits:** Because of all of these changes, we were accepted into the FEMA CRS program with a Class 7 rating, saving our residents 15% on their flood insurance.
- **We've got plans for the future:** Continue to increase our resiliency by:
 - Increasing Stormwater work: FEMA grants for \$5M for drainage relief.
 - 30 more one-way tidal valves
 - Patricia & Ashby, Dennis & Venetia, Harris & 10th.
 - Helping residents with on-grade Concrete homes:
 - Creating a pilot Residential Dry Floodproofing project with FEMA
 - Updating Land Development Regulations to increase our CRS rating.
 - Increasing stormwater retention capabilities
 - Instituting Adaptation Action Areas
 - Increasing Canopy, Decreasing Imperviousness.
 - Reduces heat islands
 - Absorbs water faster.
 - Decreasing dependence on water and energy from mainland
 - PACE solar incentives
 - Greywater Reuse