



8.

GREENKEYS! Focus Area Recommendations & Priorities

The six (6) main Focus Areas of GreenKeys! are:



Using the results of the STAR assessment, County staff and the Team prioritized remaining local actions and outcome level efforts that are most applicable or practical to the County and in greatest alignment with future County goals for increasing sustainability. Only those local actions and outcomes most applicable to the County were prioritized and are therefore depicted below.

These recommendations reflect local actions and/or outcome level efforts within the STAR framework that have yet to be implemented by the County as well as specific recommendations stemming from the data collection and modeling efforts and implementation described in Section 6. Where appropriate, the recommendations also reflect linkages with the County's previous MCAP.

Monroe County Government Operations

BY THE NUMBERS

80

county buildings

161

employees

311

miles of roads

21

parks and beaches

25

bridges

7

public boat ramps

757

county vehicles

A. Government Operations Focus Area



Government Operations

Government Operations include actions that Monroe County can take to increase the sustainability and resiliency of County operations, from energy and water conservation techniques to green product purchasing and resource reduction efforts. It includes actions and initiatives specifically targeted at renovating and upgrading existing County facilities and infrastructure, as well as policies and procedures guiding future County efforts.

Government Operations also includes efforts to evaluate and plan for climate change and sea level rise, which will impact both County infrastructure and decision-making processes into the future. Note that Chapter 255 of the Florida Statutes requires that newly constructed and renovated public buildings be designed and constructed to be energy and water efficient in accordance with a sustainable building rating or national model green building code.²⁶

Sustainable government operations are those that reflect efficient and resilient operations. These include operations that are cost-effective and typically have a longer useful life. Not only is improving the sustainability of government operations important to the County economically, it is equally important for the County to lead by example and demonstrate the benefits of sustainability improvements to both residents and Florida Keys visitors.



Monroe County, FL

PHOTO SOURCE: GreenKeys! Project Team

NEW STOCK ISLAND FIRESTATION Achieves First Ever Green Building Coalition Silver Level Certification

Fire Station #8 on Stock Island was awarded the Florida Green Commercial Building designation by the Florida Green Building Coalition (“FGBC”) after successfully meeting the Green Commercial Building Certification program sustainability standards.

The project achieved 168 points, earning Silver level certification and making it the highest scoring Statewide FGBC certified commercial project to date. It is designed to be 42% more energy efficient than required by the Florida Building Code and will rely upon renewable energy through green power purchase agreements for 75% of its power needs.

To conserve water, the toilets, faucets, and showerheads are low-flow rated. The site also used all Florida Friendly plants and a rainwater cistern collection system to deliver 100% of the irrigation needs for the landscaping, thus negating the use of valuable potable water.

To protect building occupants, all paints, stains, adhesives, and sealants used were rated low Volatile Organic Compound (“VOC”), cabinets and insulation were free of harmful urea formaldehyde, and healthy flooring was used in 80% of the building. Sixty-one percent of the materials used contained recycled content, and many can be recycled at the end of their useful life.



Stock Island Fire Station #8
Left, Fire Station crew
Above left, LED lighting in the front office

PHOTO SOURCE: GreenKeys! Project Team



This Government Operations assessment included:

- ➔ Digitization of 1,316 structures in Monroe County, including 386 County-owned
- ➔ Elevation Certificate records for 35 County-owned structures
- ➔ 9 wastewater treatment plants
- ➔ Digitization of 34 parcels containing electrical utility infrastructure
- ➔ Analyzed critical water supply infrastructure, including storage tanks, system valves, control valves, cathodic detectors
- ➔ Evaluation of 942.5 miles of roads to determine flood risk to nuisance flooding and sea level rise



Nuisance Flooding, Key Largo, FL

PHOTO SOURCE: Stephanie Russo

As part of the GreenKeys! planning process, the Team evaluated the most critical County infrastructure to determine the most appropriate recommendations for resiliency.

Results of the vulnerability assessments conducted as part of this project revealed impacts of varying degrees to much of the County’s infrastructure at either 2030 or 2060 depending on the sea level rise scenario modeled (See complete assessment results in Section 6(f) of this report. Given these impacts, the time is now for the County to begin planning for and addressing identified vulnerabilities in the County’s

operations. This includes not only efforts to address specific facilities and infrastructure, but also efforts to reduce the County’s carbon footprint and help offset and minimize anticipated climate change impacts.

Within this Focus Area, several overall goals were identified to help the County address vulnerabilities identified as part of this GreenKeys! planning process and become more sustainable in its operations over the long-term. The identified goals include those listed at top right. Specific recommendations the County can implement to meet these goals are provided in Table 9.

TABLE KEY

Short Term Recommendations in Light Blue
Medium Term Recommendations in Light Yellow
Long Term Recommendations in Light Pink



TABLE 8. Government Operations Goals

- 1. Develop better data and monitoring to increase the resilience of County infrastructure to sea level rise**
- 2. Develop specific adaptation strategies and increase resilience for County facilities with risk to sea level rise**
- 3. Increase energy efficiency in County operations**
- 4. Reduce GHG emissions and expand alternative energy usage County-wide**
- 5. Expand efforts to reduce GHG impacts from County fleets**
- 6. Strengthen water conservation efforts in County operations**
- 7. Continue planning for and implementing solid waste reduction efforts in County operations**
- 8. Increase efforts to promote sustainability in County operations**

TABLE 9. Government Operations Recommendations

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 1: Incorporate sustainability into ongoing education and arts programs in the County			
GO 1.1 Develop site level assessments that characterize resistance of above ground structures and associated electrical components to damage from extreme event flooding.			
GO 1.2 Develop and maintain recording protocols and, as necessary, engineering assessments to assess resilience of below-grade pipes and pump to increased saltwater incursion associated with sea level rise.		M-3.1	
GO 1.3 Analyze available infrastructure and sustainability rating systems (e.g. Envision, Infrastructure Voluntary Evaluation Sustainability Tool ("INVEST") or other design-related systems that consider sustainability and resiliency factors to optimize planning for infrastructure, transportation, facilities and assets.			
GO 1.4 Develop more accurate elevation data (LIDAR) County-wide.		M-2.1	WS-11
GO 1.5 Update vulnerability assessments on Monroe County buildings based upon GreenKeys! modeling data and updated LIDAR data.			
GO 1.6 Develop a public education campaign to inform residents about energy and water efficiency and future flood risk and potential for environmental change.		E-1.1, E-1.2	
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 9. Government Operations Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
GO 1.7 Support Fair Insurance Rates in Monroe ("FIRM") in building partnerships with engineering companies willing to provide discounted elevation certificates to promote better elevation data.			
GO 1.8 Create a database of all elevation data for County and utility facilities and assets.			
GO 1.9 Create detailed site investigations to better resolve the extreme event flood risks of all critical infrastructure within defined special flood hazard areas, with near-term prioritization of such investigations recommended for all critical infrastructure with LIDAR elevation estimates below 6.89' above MHHW.			
GO 1.10 Enhance monitoring of County buildings and create a database for flood risk to detect potential access and structural issues associated with increased tidal flooding exposure.		M-3.1	
GO 1.11 Coordinate with utilities to complete large-scale digitization of Elevation Certificates that contain specific information about the siting and elevation of equipment to develop comprehensive information about the scale of the risk, and to inform development of appropriate policy options for preventing and mitigating future risks.		M-2.1, M-2.2	WS-11
GO 1.12 Begin implementing results from studies and analyses conducted in earlier years.			
Goal 2: Develop specific adaptation strategies and increase resilience for County facilities with risk to sea level rise			
GO 2.1 Address sea level rise and climate change resilience in annual County budgeting process.			
GO 2.2 Change Sustainability Director position title to Resiliency Director.			
GO 2.3 Update annual legislative package to include sustainability and sea level rise practices.			
GO 2.4 For the West Martello Tower, which shows potential exposure to first floor nuisance flooding by 2060, consultation with historic preservation specialists in Monroe County and FEMA guidelines for retrofit of historic structures..			
GO 2.5 For the Monroe County Animal Shelter in Key West, which shows access concerns and first floor flooding under the 2060 scenario, consider potential relocation to a more elevated site as part of any future plans to renovate the Animal Shelter facilities..			
GO 2.6 Perform further analysis with improved elevation data for the Bayshore Manor assisted living retirement home.			
GO 2.7 Work with the Florida Keys Aqueduct Authority to ensure that siting and design of any new wastewater facilities include resilience to future sea level rise as a primary engineering consideration.		W-2.1	
GO 2.8 Require that significant maintenance, upgrade, or expansion of any existing wastewater facilities, including Bay Point Wastewater Treatment Plant, consider stressors from sea level rise within the life-cycle design framework.		W-2.1	
GO 2.9 Conduct site-specific analyses of particularly vulnerable wastewater infrastructure that include survey quality elevation data of sensitive components and engineering assessments of potential floodwaters to determine the present and future vulnerability to extreme flood events.			
GO 2.10 For the Marathon electric substation, which shows vulnerability to an extreme storm surge by 2060 under a high sea level rise scenario, coordinate with Florida Keys Electric Cooperative Association to determine true risk exposure and alternatives to reduce that risk.			

* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink.

** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.

TABLE 9. Government Operations Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
GO 2.11 For the Roth Building (50 High Point Road), Radio Transmission Shop (88770 U.S. Highway 1) and County Offices (MM 88.5, U.S. Highway 1), which show potential risk to an extreme flooding event by 2060, take into account both the rate of sea level rise over the next two decades and the overall lifecycle of the buildings in making flood adaptation decisions to reduce risk.			
GO 2.12 For Clarence Higgs Beach, which shows risk of current or future flooding from a Wilma-sized event, incorporate appropriate hazard mitigation design features into any retrofits or upgrade projects.			
GO 2.13 For East Martello Tower, which shows risk of current or future flooding from a Wilma-sized event, consider flood adaptation measures (more mid to long-term because of fort construction and historic nature).			
GO 2.14 For the Monroe County Sheriff’s Office Freeman substation structure on Cudjoe Key, which shows moderate risk concern, develop adaptation strategies as a likely priority for flood mitigation and emergency preparedness.			
Goal 3: Increase energy efficiency in County operations			
GO 3.1 Establish criteria and specifications that require energy efficiency in all new public construction, facility improvements, renovations or additions. These should go into bid and contract documents with designers, contractors, and engineers. These should include requirements for high efficiency HVAC equipment, efficient lighting, EnergyStar or similarly certified appliances, thermal resistance values (R-value and U-value) for insulation and windows, motor efficiency, controls and settings, and others.			
GO 3.2 Develop energy saving policies for County facilities and hire, assign or contract for a County-wide Energy Manager.			
GO 3.3 Track utility data through FacilityDude program to target and further reduce energy inefficiencies.			
GO 3.4 Start implementing an employee training program on energy efficiency, water conservation and sustainable office practices.	CE-5(7)	E-2.1, E-2.2	
GO 3.5 Promote energy usage reductions in County facilities. Provide education and outreach; create competitive programs to achieve energy reductions; and publish or post County utility bills for the public to view.			
GO 3.6 Increase lighting efficiency and promote retrofits for efficiency on County maintained and controlled roads.			SP-1, SP-2, EF-5
GO 3.7 Conduct next phase of energy auditing on County facilities and link upgrades to capital asset improvements. Install low-flow water conserving fixtures and energy saving features throughout County facilities.	CE-5(10) BE-2(8)	E-2.3, B-3.1	
Goal 4: Reduce GHG emissions and expand alternative energy usage County-wide.			
GO 4.1 Use baseline GHG emissions data moving forward for forecasting energy emissions reductions and for setting additional municipal and community reduction targets.			
GO 4.2 Establish an interim GHG target for 2030, consistent with the timeframe of the County’s latest Comprehensive Plan, for a 40% reduction by 2030 as compared to the 2012 baseline.			SP-2
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			



TABLE 9. Government Operations Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
GO 4.3 Adopt a target for energy use from renewable sources for County buildings and facilities such as 10% by 2025 and explore financing alternatives such as leasing. Conduct feasibility studies for alternative energy at County facilities. Partner with electric utilities for creative ways to deploy more solar. To monitor progress, develop a baseline for current renewable energy use.			SP-2
GO 4.4 Implement policies and programs to enhance electric vehicle infrastructure and make the Florida Keys “EV Ready.” This could include providing electric vehicle charging stations at community parking lots and/or working with vehicle manufacturers to install publicly accessible electric vehicle charging stations.	CE-2(8)	B-4.3, B-4.4	SP-2, EF-7
GO 4.5 Engage public works and infrastructure managers in voluntary GHG reporting. This could include making materials available online to assist managers in this reporting or creation of a one page fact sheet for inclusion in the Monroe County Personnel Policies and Procedures Manual (November 18, 2014).	CE-6(5)		
GO 4.6 Inventory GHG emissions for County and Community-wide sectors every three (3) years beginning in 2016.			
GO 4.7 Upgrade to solar lighting at County parks and beaches consistent with GO 4.3. Expand the use of solar panels in County parking lots to further reduce energy use in County operations.	CE-5(10)	E-2.3	EF-5
GO 4.8 Create a green business challenge for local businesses and recognize resource reduction.	EJ-2(9)	S-1.4, E-2.3	
Goal 5: Expand efforts to reduce GHG impacts from County fleet			
GO 5.1 Complete a “right size/right type” fleet analysis.		B-4.3	SP-19
GO 5.2 Advocate for incorporation of EVs on the state-approved list.		B-4.3	SP-19, EF-1 BE-2(8)
Goal 6: Strengthen water conservation efforts in County operations			
GO 6.1 Install low-flow water conserving fixtures throughout County facilities. Water-conserving fixtures may include faucet aerators, low-flow showerheads, waterless urinals, low-flush or dual-flush toilets, and irrigation equipment.	BE-2(8)	W-1.3	
GO 6.2 Develop and implement educational materials and a program for employees to ensure water efficiency in operations and maintenance of fleet and facilities. Partner with the FKAA to target reductions in the largest water use applications.		E-2.1, E-2.2	
GO 6.3 Partner with the Florida Keys Aqueduct Authority to promote water conservation through rebate and public education programs.			
Goal 7: Continue planning for and implementing solid waste reduction efforts in County operations			
GO 7.1 Improve County waste management policy with tangible goals and baseline to track accomplishments. Track County recycling rates separately from other recycling programs and establish goal for increases. Adopt policy that the County will also achieve a 75% diversion rate of its own solid waste stream. Implement incentives or enforce regulations to ensure progress towards the 75% community waste reduction target.	CE-7(5)	S-1.1, S-1.2	SP-2
GO 7.2 Create a policy and goal to increase material salvage for County-owned full and partial building demolitions.		S-1.2	SP-2
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

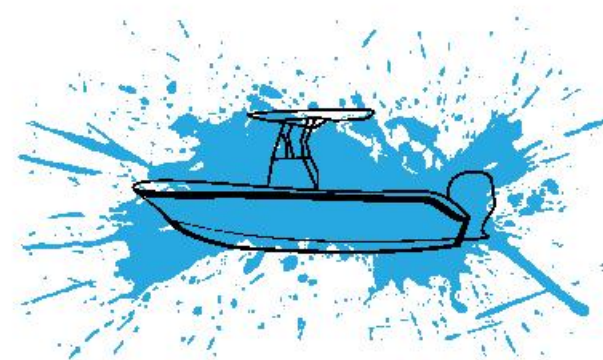
TABLE 9. Government Operations Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 8: Increase efforts to promote sustainability in County operations			
GO 8.1 Provide annual progress reports on the implementation of the GreenKeys! Sustainability Action Plan			
GO 8.2 Develop a policy and implement best practices to reduce pesticide and herbicide use in County operations.			SP-2
GO 8.3 Improve employee sustainability practices: <ul style="list-style-type: none"> • Conduct an internal employee survey to determine most effective and underutilized sustainability practices and modify policies to increase sustainable practices • Create a "top ten list" of energy, water and waste management efficient practices for County employees and include in the Monroe County Personnel Policies and Procedures document. • Create a monthly email blast to employees on successes and case studies for sustainable practices. 			
GO 8.4 Create and continually publish an internal and external Sustainability Newsletter for distribution.			
GO 8.5 Adopt a policy to facilitate and encourage web/telephone conferencing at meetings in lieu of in-person attendance where possible.			
GO 8.6 Create an Environmentally Preferable Purchasing ("EPP") program. Develop procurement specifications for materials reuse, reduced packaging, materials with recycled content, and other waste management strategies.	EJ-2(7)	S-3.2	
GO 8.7 Investigate re-certification of STAR.			
GO 8.8 Modify procurement policies in Monroe County's Environmentally Preferable Purchasing program as necessary to further incentivize vendors whose buildings, equipment, products, and services meet achievable sustainability targets.			
GO 8.9 Update or modify the goals and recommendations in the GreenKeys! Sustainability Action Plan every 3-5 years.			
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			



Monroe County Hybrid Vehicle

PHOTO SOURCE: Greenkeys! Project Team



Several recommended actions not yet implemented in this Government Operations Focus Area align with and expand upon existing MCAP recommendations. For example, short term energy efficiency upgrades and audits, as well as targeted efficiency improvements at specific County facilities satisfy the MCAP recommendation B-3.1 of increasing energy efficiency and promoting green construction practices. Similarly, expansion of the County's renewable energy fleet corresponds with MCAP recommendation B-4.3 to promote infrastructure and encourage the use of alternative fuels and alternative fuel vehicles. New requirements to include sea level rise resilience in the siting, design, maintenance and upgrade of wastewater treatment facilities corresponds with MCAP recommendation W-2.1 which encourages the protection of these plants. Increased digitization of elevation certificates also corresponds with MCAP recommendation M-2.2 which calls for the identification of critical structures to be affected by increased inundation from sea level rise, as well as recommendation M-2.1 to improve inundation mapping and modeling.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).

Monroe County Climate & Energy

BY THE NUMBERS

GHG

GHG reduction targets set

SLR

Planning for sea level rise
using Compact high and low
scenarios for 2030 and 2060

4

electric vehicle
charging stations

2

solar arrays (FKEC)1

2

solar projects (KES)

1

wind demonstration
project (KES)

B. Climate & Energy Focus Area



Climate & Energy

Monroe County has been committed to addressing energy and climate issues at the local level since the early 2000s. Beginning in 2005, the County started monitoring GHG emissions with the goal of reducing emissions from County operations and the community in the future. In its comprehensive MCAP, the County established a reduction target of 20% by 2020 as measured from a 2005 baseline inventory. Since establishing this target, the County has implemented several initiatives, including development of sustainable and green standards for new building codes and adoption of the Florida Green Building Coalition's Commercial Building Standard applicable to all County buildings in addition to the Florida Building Code as the standard to be used for construction of all public buildings. In June 2016, the County increased its GHG reduction goal to 40% reduction by 2030 as measured from a 2012 baseline.

The County has also taken substantial steps toward planning for climate change and sea level rise, steps that include joining the Compact in 2010 and conducting the GreenKeys! sea level rise modeling and vulnerability assessments discussed in GreenKeys!. In addition, the County has continued its commitment to increased resiliency in its long-range planning efforts by including a stand-alone Energy & Climate Element in the Comprehensive Plan update.

Also, within this Focus Area, several goals were identified to help the County continue on its path to increasing energy efficiency and independence from fossil fuels while mitigating climate change and sea level rise impacts. These goals are aimed at helping the County promote sustainability and ensuring that there is a clear path that the County's residents and business owners can take to work toward established GHG and waste reduction targets. The identified goals within this Focus Area are presented on the following page.

Given the objectives of this Focus Area and the goals identified for the County, the recommendations on the next page have been prioritized and are recommended for implementation in the County. These recommendations aim to continue the County's commitment to reducing climate change impacts and increasing resource efficiency to create a more sustainable, more resilient community.





Big Pine Key, FL

PHOTO SOURCE: GreenKeys! MindMixer participant Kim G.

TABLE KEY

Short Term Recommendations in Light Blue

Medium Term Recommendations in Light Yellow

Long Term Recommendations in Light Pink



TABLE 10. Climate & Energy Goals

- 1.** Continually develop better data to best plan for climate change and sea level rise
- 2.** Mitigate impacts from inundation and nuisance flooding to County roads and support efforts by FDOT to mitigate impacts on FDOT-managed roads within the County
- 3.** Increase efforts to educate residents about energy efficiency and climate resiliency
- 4.** Develop incentives to incentivize energy efficiency, water conservation, climate resiliency and waste reduction efforts
- 5.** Promote employee training and reporting on sustainability initiatives
- 6.** Support efforts to diversify the energy supply within the County
- 7.** Increase resource efficiency and reduce waste generated in the County

TABLE 11. Climate & Energy Recommendations

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
GOAL 1: Continually develop better data to best plan for climate change and sea level rise			
CE 1.1 Develop a geographic database to document nuisance flooding events.			M-3.1
CE 1.2 Ensure that future flood vulnerability assessments in Monroe County build upon the work in the GreenKeys! project and continue efforts to develop a more complete digital record of Elevation Certificates for homes, buildings and facilities. Use, integrate, and improve the Elevation Certificate record to promote higher confidence in flood risk assessments.			M-2.2
GOAL 2: Mitigate impacts from inundation and nuisance flooding to County roads and support efforts by FDOT to mitigate impacts on FDOT-managed roads within the County			
CE 2.1 Ensure that all new nuisance flooding data informs future road decisions. These data will also need to be considered for future road decisions. This will require coordination with FDOT for impacts to State Roads (U.S. Highway 1).		M-2.2	SP-15, SP-16
CE 2.2 Pilot project to conduct a Comprehensive Feasibility Study for Enhanced Stormwater and Tidewater Criteria (prioritizing areas) for near-term areas subject to inundation risk, including nuisance flooding (in two locations).			WS-3
CE 2.3 Develop a ranking process to identify the most vulnerable neighborhoods first. Develop criteria to establish levels of service each road gets subjected to based upon a tolerable level of nuisance flooding.		M-3.3	SP-2, SP-15, SP-16
CE 2.4 Establish mitigation as a priority in the near term including engineering interventions to keep tidal water from entering onto the road surface while maintaining stormwater drainage. Work with FDOT to develop site surveys of road bed elevation and, as appropriate, suggest engineering designs to raise portions of U.S. Highway 1 that currently show vulnerability to nuisance tidal flooding.			SP-15, SP-16
CE 2.5 Utilize the tidal flood vulnerability maps for roads as a guide for a public outreach campaign to develop a photographic record that documents the date, time, and severity of nuisance tidal flooding events.		M-2.2, M-3.1, E-1.1	

*Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink.
 **For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.



TABLE 11. Climate & Energy Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
GOAL 3: Increase efforts to educate residents about energy efficiency and climate resiliency.			
CE 3.1 Hold at least three (3) community workshops to discuss sea level rise with stakeholders.		E-1.1	SP-3, SP-4, WS-12, PO-1
CE 3.2 Build local government capacity to better understand local coastal hazard risks, and analyze the legal and policy factors that impact adaptation responses (NOAA grant). End products will include: • A participatory VCAPS assessment for Monroe County; • HAZUS damage valuations and visualizations for County; • Law and policy analysis of issues directly affecting local adaptation capabilities; • Regional analysis comparing how the state and local regulatory environment impacts resilience planning and adaptation.			SP-3, SP-4
CE 3.3 Complete Phase 2 of the NOAA grant creating digital record of Elevation Certificates for homes, buildings and facilities. Create a policy to ensure that the County uses, integrates, and improves the Elevation Certificate record to promote higher confidence in flood risk assessments.			
CE 3.4 Highlight available incentives for residents desiring to perform energy retrofits or renewable energy projects on homes or businesses.			PO-3
CE 3.5 Develop a “best practices” tool kit to educate residents on energy saving and resiliency techniques.		E-1.1	PO-3
GOAL 4: Develop incentives to incentivize energy efficiency, water conservation, climate resiliency and waste reduction efforts.			
CE 4.1 Enforce regulations (i.e. limiting development or redevelopment in particularly vulnerable areas) or offer incentives (i.e. points or permit fee reductions for elevating or floodproofing structures) to encourage residents/businesses to shift behavior to prepare for future climate change impacts.	CE-1(7)	P-1.3, B-3.1	SP-2, SP-10
CE 4.2 Create a list of incentives to encourage construction of energy and water efficient buildings, through including but not limited to linkages to the Rate of Growth Ordinance (“ROGO”) or other means.	CE-5(8)	E-2.3, E-2.4, B-3.1, W-1.2, W-1.3, W-1.4	SP-1, SP-2
GOAL 5: Promote employee training and reporting on sustainability initiatives.			
CE 5.1 Develop training programs for County buildings and facilities operators on energy and water efficiency techniques and train inspectors to enforce water/energy efficiency standards in adopted building codes.	CE-5(7) CE-6(6)	E-2.1	
GOAL 6: Increase resource efficiency and reduce waste generated in the County.			
CE 6.1 Adopt a plan (e.g green business plan) designed to improve the resource efficiency of the community’s businesses including manufacturing, automotive and marine repair.		CE-4(1)	
CE 6.2 Encourage specific product bans to significantly advance progress toward waste reduction goals.	CE-7(2)	S-3.1	SP-2
CE 6.3 Create or update policies for incentives reducing the generation of fats, oils, and grease and their beneficial reuse			SP-2
CE 6.4 Create financial incentives or industry-focused challenges to encourage companies to reduce the intensity of their resource consumption (e.g. Nebraska Energy Office’s Dollar & Energy Savings Loan, an external revolving loan fund that provides low-interest loans of up to \$750,000 for energy efficiency projects.	CE-4(8)	E-2.3, E-2.4	
* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.			
¹Vulnerability, Consequences, and Adaptation Planning Scenarios (“VCAPS”) builds on concepts of hazard management and vulnerability and uses participatory modeling techniques to organize and document dialogue and learning. ²HAZUS uses Geographic Information Systems (“GIS”) technology to estimate physical, economic and social impacts of disasters. It graphically illustrates the limits of identified high-risk locations.			

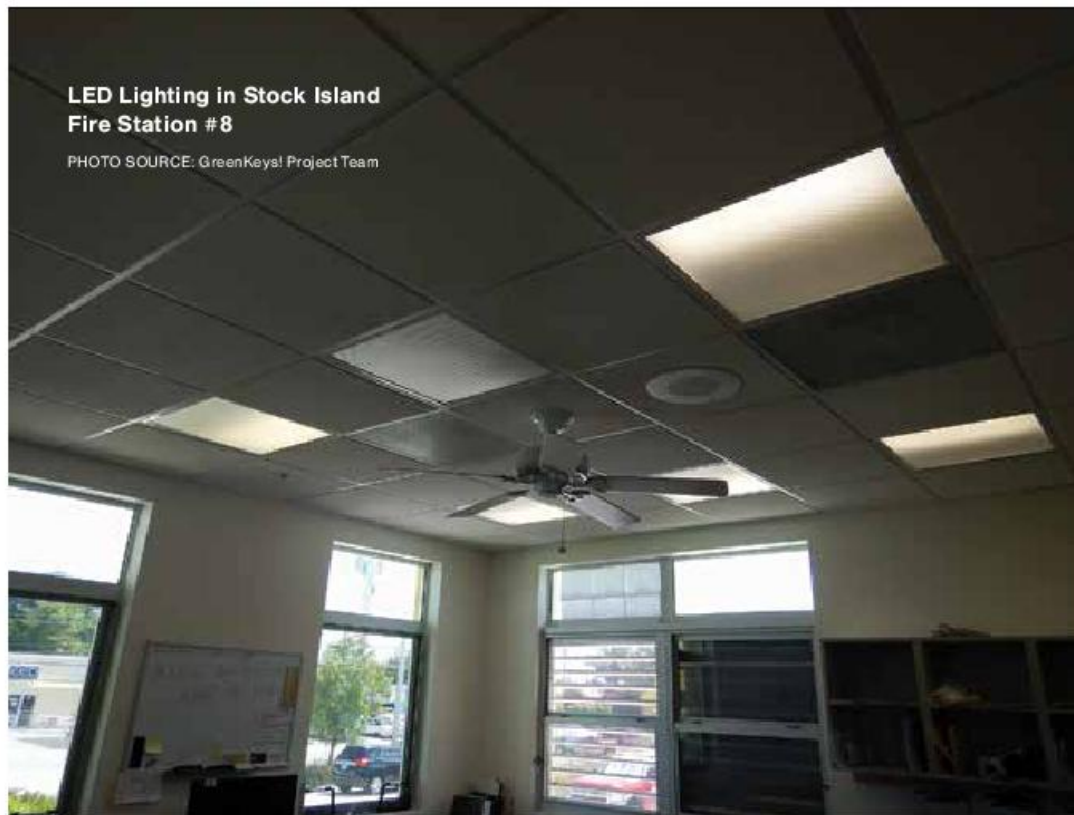
Several actions not yet implemented in this Focus Area align with, meet and expand existing MCAP recommendations. Developing a geographic database to document flooding events partially satisfies MCAP recommendation M-3.1 which calls for development of a monitoring program to evaluate and observe climate change impacts. Similarly, ensuring that future flood vulnerability assessments build on the work of GreenKeys! and using, and improving elevation certificates both help satisfy MCAP recommendation M-2.2, which calls for the use of improved inundation mapping to identify critical structures and roadway sections.

Enforcing regulations or offering incentives to encourage residents and businesses to shift behavior to prepare for future climate change impacts satisfies MCAP recommendations P-1.3 and B-3.1 which recommend climate adaptation and storm readiness policies and regulations. Programs and regulations to incentivize or require reduced energy and water consumption and train a green workforce could satisfy MCAP recommendations E-2.3 and E-2.4 which recommend enhancing the sustainability of existing businesses and enhancing the sustainable development of new business.

Adopting and enforcing incentives and regulations which encourage residents and business owners to work toward waste reduction targets corresponds with MCAP recommendations S-1.2 and S-2.2 that recommend phased in, zero waste programs and pay-as-you-throw residential waste programs. Similarly, product bans and participation in coalitions to meet waste reduction targets corresponds with MCAP recommendation S-3.1 that recommends lobbying the State of Florida to allow the local community to regulate specific items, like single-use plastic bags. Monroe County adopted

Resolution 102a-2015 in April 2015 supporting the initiatives by local governments in Florida to lessen the negative impacts of single-use plastic bags on the environment. This resolution also requested expansion of state legislation to include counties, in addition to municipalities, to allow regulation or ban of these bags.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).



**LED Lighting in Stock Island
Fire Station #8**

PHOTO SOURCE: GreenKeys! Project Team



Monroe County Natural Systems

BY THE NUMBERS

2,600

MARINE HABITAT – 2,600 square nautical miles of marine sanctuary (FKNMS)

over 234,000

MANGROVES – 234,000 acres in Monroe County

over 3 million

SEAGRASS BEDS – over 3 million acres in and adjacent to FKNMS

220 miles

CORAL REEFS – 220 miles of coral reef ecosystem

3

Marine Communities - three unique communities: mangroves, seagrass beds, reefs

5

Wetlands – five types totaling over 65,000 acres

2

Upland Vegetation – two communities: tropical hardwood hammocks and pinelands



C. Natural Systems Focus Area



Natural Systems

Natural systems within Monroe County are critical to both the current tourism economy and future resiliency of the County. Monroe County is world-renowned for its diverse marine and terrestrial habitats, which include an extensive living coral barrier reef system off the Atlantic coast, highly productive submerged seagrass and intertidal mangrove communities in Florida Bay, vast subtropical wetlands in Everglades National Park, and rare tropical upland vegetation communities found throughout the Florida Keys archipelago. These habitats are critical to a variety of endemic, endangered, threatened, and otherwise protected species, and also serve as the base of a regional ecosystem that sustains a number of commercially and recreationally important fisheries. As a result, there has been a long-term recognition that the health and sustainability of natural ecosystems is central to the economy, lifestyle, and overall heritage of the County.

The federal government controls a number of large conservation areas in or including portions of Monroe County. These include Everglades National Park, Big Cypress National Preserve, Key Deer National Wildlife Refuge, Crocodile Lake National Wildlife Refuge, Great White Heron National

Wildlife Refuge, and the Key West National Wildlife Refuge. Boca Chica Naval Air Station, although it is not primarily a conservation area, provides vital habitat and habitat protection for a number of protected species. Major state-owned conservation areas in Monroe County include John Pennekamp Coral Reef State Park, Dagny Johnson Key Largo Hammock Botanical State Park, Long Key State Park, Lignumvitae Key Botanical State Park, Curry Hammock State Park, Bahia Honda State Park, and the Florida Keys Wildlife and Environmental Area which includes portions of islands from the Saddlebunch Keys to Key Largo. A number of other smaller conservation tracts held by federal, state, county, municipal, and private entities are also found throughout Monroe County. Summed together, approximately 96 percent of Monroe County's land area is set aside for conservation purposes. Jurisdiction of many protected areas also extends into nearshore marine waters on both the Florida Bay and Atlantic sides of Monroe County, and joint federal and state management of all nearshore waters in the Florida Keys is encompassed under the auspices of Florida Keys National Marine Sanctuary ("FKNMS").

Although the natural habitats of Monroe County are among the most highly protected and strictly managed in Florida, there is great concern that various aspects of climate change pose a significant long-term peril to the future health and sustainability of these ecosystems. In fact, numerous scientific studies and previous assessments have noted that Monroe County's marine and terrestrial habitats are likely among the most vulnerable in the United States to climate change impacts.²⁷ Perhaps the most predictable of these projected impacts is

Young Key Deer Buck on Upper Sugarloaf Key

PHOTO SOURCE: MindMixer participant Midge J.



Monroe County Natural Habitat

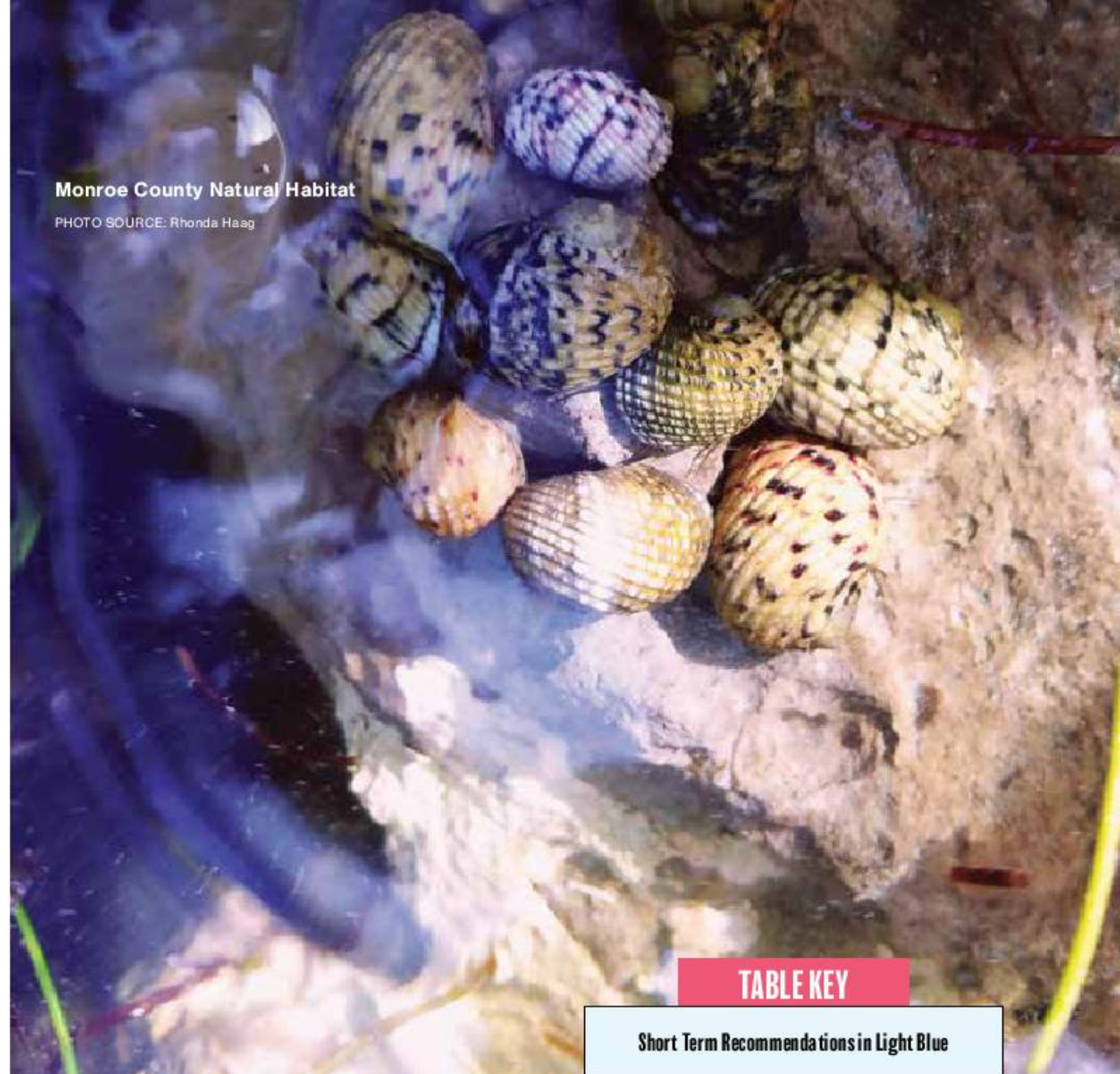
PHOTO SOURCE: Rhonda Haag



long-term disappearance of upland ecosystems and associated species that become inundated by rising seas.²⁸ However, there is also significant potential for large-scale changes in the composition and productivity of marine ecosystems due to the combined stressors of ocean acidification (as associated with increased atmospheric carbon dioxide), increased ocean temperatures, and rapid sea level rise.²⁹ Impacts of climate change on intertidal mangrove wetland communities are perhaps among the least predictable, as such communities could potentially decline or expand depending on multiple factors that include rate of sea level rise, changes in regional sedimentation patterns, and the future extent of human engineering within the intertidal zone.³⁰

Despite these risks, a recent study by NOAA in April 2015 found that coastal community resilience to storms, flooding, erosion and other threats can be strengthened when these communities are protected by natural infrastructure including marshes, reefs, and beaches. Resilience of coastal communities is also strengthened with hybrid approaches, like “living shorelines” which combine natural habitat and built infrastructure. Hybrid approaches often provide more cost-effective flood risk reduction options and alternatives for communities, especially when limited space precludes the use of natural coastal protection alone.

Within this Focus Area, several goals were identified to help the County continue on its path to conserving natural systems within its boundaries and to preserve these ecosystems and make the most beneficial use of their protective capacities to protect against sea level rise. The identified goals within this Focus Area are shown in Table 12 to the right.



Monroe County Natural Habitat

PHOTO SOURCE: Rhonda Haag

Given the objectives of this Focus Area and the goals identified for the County (above right), the following Recommendations have been prioritized and are recommended for implementation in the County. The Recommendations in this Focus Area are aimed at further protecting and conserving the valuable natural systems within Monroe County.

TABLE KEY

Short Term Recommendations in Light Blue
Medium Term Recommendations in Light Yellow
Long Term Recommendations in Light Pink



TABLE 12. Natural Systems Goals

- 1. Continue cooperative efforts that support natural systems restoration and conservation**
- 2. Build a better database of the most vulnerable natural systems within the County**
- 3. Strengthen protection of natural systems within the County**
- 4. Improve and increase incentives for residents to conserve and preserve natural systems**
- 5. Establish a framework for evaluating adaptation strategies**
- 6. Continue County efforts to control invasive species**

TABLE 13. Natural Systems Recommendations

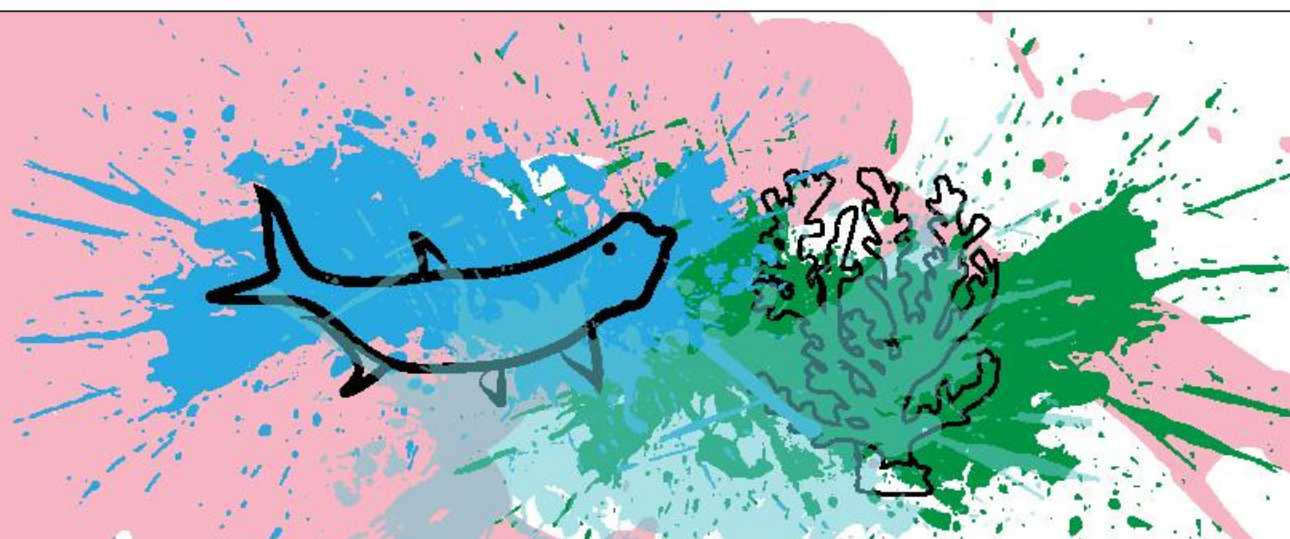
Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 1: Continue cooperative efforts that support natural systems restoration and conservation			
NS 1.1 Continue cooperation with federal, state, and private partners in support of coral reef restoration initiatives to support the implementation of strategies that may promote long-term recovery and resilience of the Florida Keys coral barrier reef system in the face of future climate change.		N-1.1	SP-13, NS-9
NS 1.2 Continue cooperation with federal, state, and private efforts to research, implement, and improve seagrass replanting efforts.		N-1.1	NS-9
NS 1.3 Cooperate with the U.S. Fish and Wildlife Service, FWC, and conservation organizations to monitor populations of endangered species, track habitat trends, and, as necessary, implement relocation experiments under conditions of drastic habitat loss for endangered species due to sea level rise.		N-1.1	
Goal 2: Build a better database of the most vulnerable natural systems within the County			
NS 2.1 Conduct a tree inventory and establish tree canopy goals County-wide to determine opportunities for increasing canopy on public and private lands for carbon sequestration benefits.	NS-4(10)		NS-14
NS 2.2 Calibrate the Sea Level Affecting Marshes ("SLAMM") Model results with historic land cover change and field observations and coordinate with land acquisitions.			
<p>*Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. **For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 13. Natural Systems Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
NS 2.3 Identify and map natural inundation buffers which could also provide sea level rise adaptation benefits.			SP-13
NS 2.4 Update requirements for ecological buffers and provide guidance on how to establish or adjust these buffers to accommodate sea level rise. Buffers should be designed, where site applicable, to provide “habitat migration corridors” that allow sensitive habitats and species to migrate inland or upland as sea level rises. To accommodate sea level rise, the amount of buffer required between development and coastal habitats may need to be increased.			SP-2
Goal 3: Strengthen protection of natural systems within the County			
NS 3.1 Continue supporting the implementation of traditional coral reef management actions as strategies for supporting the maintenance of functional coral reef systems under rapid climate change. Such actions should clearly include decreasing nutrient and sediment loads, continued restoration of apex predator populations, and creation of physical reef structures that may enhance recruitment of hard coral species.		N-3.3	NS-8, NS-9
NS 3.2 Maintain and enhance programs, like canal restoration, to improve water quality nearshore and offshore to reduce environmental stressors exacerbated by sea level rise and increasing ocean temperatures.			
NS 3.3 Increase the percentage of funding invested in green infrastructure.	NS-1(7)	N-3.1, N-3.2	
NS 3.4 Maintain natural habitat corridors in low-lying areas that allow for up-gradient colonization of tidal wetlands to promote future coverage of mangroves and other tidal wetland ecosystems.			SP-13, NS-5
NS 3.5 Include marine ecosystem mitigation under accelerated sea level rise as a possible overlay component in future land buying and conservation zoning within the County.			SP-2
NS 3.6 Increase efforts to protect and maintain natural habitats, especially “core areas” with the best chances of persistence during sea level rise.			SP-13, NS-5
Goal 4: Improve and increase incentives for residents to conserve and preserve natural systems			
NS 4.1 Create or enhance programs aimed at increasing tree canopy through active planting.			NS-14
NS 4.2 Provide incentives to residents and developers to protect critical watershed protection areas.		N-1.2	SP-2, SP-13
NS 4.3 Review land development regulations to better incentivize protecting natural resources on sites.			SP-2
NS 4.4 Pursue “blue carbon” payments for conserved and restored seagrass areas through international carbon mitigation markets that may begin emerging over the next decade. Such payments could serve as a possible revenue source for adaptive management and, as necessary, assisted migration/colonization of seagrass communities under accelerated climate change scenarios.			
<p>*Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. **For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 13. Natural Systems Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
NS 4.5 Pursue future revenue opportunities from “blue carbon” payments associated with conservation and assisted migration of local mangrove habitats. This revenue source could be used for adaptive management and, as necessary, assisted migration of local mangrove habitats.			
Goal 5: Establish a framework for evaluating adaptation strategies			
NS 5.1 Identify intact corridors for future tidal wetland migration corridors as a potential criterion for future land purchase and flood mitigation initiatives within Monroe County. For example, land acquisition priorities.		N-1.2, N-3.1	
NS 5.2 Incentivize “soft options” like living shorelines and mangrove restoration as an alternative to traditional bulkheads for near-term stabilization of eroding coastal areas. Require detailed evaluation of soft options in an alternatives analysis and require the use of soft protection where feasible. Incorporate sea level rise and storm surge into the siting and design of any soft protection projects.			
NS 5.3 Specify priority areas where shoreline protection structures should be removed and continue discouraging the use of hard protection unless no other feasible alternative is available.		N-2.1	SP-13, SP2
Goal 6: Continue County efforts to control invasive species			
NS 6.1 Continue invasive exotic species management.			NS-6
NS 6.2 Identify areas for habitat maintenance where the removal of exotics could improve the quality of that area to serve as a natural or soft protection option. Establish maintenance schedule that factors in benefits of managing habitats as a natural defense strategy against sea level rise impacts.			
NS 6.3 Establish and enforce regulations to control the use and sale of invasive species. This would expand the County’s existing regulations limiting invasive species in site restoration and landscaping.	NS-2(7)	B-1.1	
<p>*Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. **For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			





Boca Chica

PHOTO SOURCE: Rhonda Haag



Several actions not yet implemented in this Focus Area align with, and could satisfy, existing MCAP recommendations. Increasing the percentage of funding invested in green infrastructure satisfies MCAP recommendations N-3.1 and N-3.2 which recommend protecting, restoring and enhancing green infrastructure areas and continuing to prioritize purchasing natural lands for conservation purposes. Enforcing regulations to control the use and sale of invasive species corresponds directly with MCAP recommendation B-1.1 which recommends encouraging native flora planting and discouraging the spread of invasive species.

Creating incentives for residents and business owners to protect and restore critical watershed protection areas corresponds with MCAP recommendation N-1.2 which recommends protecting resources of concern. Similarly, continued cooperation with federal, state and private entities to research, implement and improve resilience of coral reefs and seagrass beds corresponds with MCAP recommendation N-1.1 which calls for coordination with state, regional and national strategic planning efforts to evaluate vulnerabilities in the natural environment to climate change impacts.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).

Boca Chica Habitat

PHOTO SOURCE: Rhonda Haag



Natural Systems

Monroe County Built Environment

BY THE NUMBERS

311

**PAVED ROADS – 311 miles
of paved roads
(unincorporated County)**

1,158

**NAMED STREETS
1,158 named roads**

25

**BRIDGES – 25 County-maintained
bridges spanning 1.26 miles**

73,422

**BUILDINGS – 52,935 homes
and 20,487 businesses in
Monroe County**



**Aerial view of Jewfish Bridge
with 18 mile stretch in the background
and Key Largo in the foreground**

PHOTO SOURCE: Greenkeys! MindMixer participant Kim G.

D. Built Environment Focus Area



Built Environment

Monroe County's Built Environment includes roads, public buildings, homes, and private buildings and the power supply. Note that specific County-owned facilities (buildings) are included in the Government Operations Focus Area discussed in Section 8(a) above. Monroe County's roadway network consists of the major thruway, U.S. Highway 1, and connector and local streets that provide access to abutting land uses and channel traffic towards U.S. Highway 1. Currently, there are 1,158 named streets in Monroe County totaling 311 miles of paved roadways in unincorporated Monroe County (not including FDOT-managed roadways).

Existing and planned bicycle trails for the Keys, including the Overseas Heritage Trail, account for well over 100 miles of trails. All plans by FDOT, both current and future, for U.S. Highway 1 include bike lanes. Additionally, all of the larger parks and Federal and State conservation areas have bike trails within their sites.

Two (2) utilities provide electric services in Monroe County. Florida Keys Electric Cooperative provides electric service to the Upper and Middle Keys from north Monroe County to the Seven Mile Bridge. Keys Energy Services provides electric service south of the Seven Mile Bridge to Key West. FKEC serves approximately 32,000 accounts, operates

six (6) substations, two (2) office facilities, and maintains 800-miles of power lines. FKEC also maintains a 138,000 kilo-volt transmission line that brings power from the mainland. FKEC purchases 100% of its energy needs from Florida Power & Light ("FPL"). KES serves more than 28,000 customers, maintaining over 338 miles of electrical lines in the Lower Keys.

Currently, there are 52,935 houses³¹ and 20,487 businesses³² in Monroe County. The County regulates development and its rate of growth through a rate of growth ordinance ("ROGO") adopted in 1992. The County's ROGO severely restricts new residential and commercial construction to a certain number of new units annually. The number of allocations available each year is determined at the state level and based on the progress the County has made toward achieving State-set goals such as a central wastewater system being available Keys wide. The total number of available allocations is split among three (3) areas of the County: 1) the Upper Keys, 2) the Lower Keys and 3) Big Pine and No Name Key planning area. Essentially, under ROGO, applicants compete against one another within the same sub-area for building permits. Applications for affordable housing are handled differently, with affordable housing applicants competing against all applicants for affordable housing permits Keys wide (no sub-areas). Allocations are awarded quarterly in each sub-area, except for Big Pine Key and No Name Key where allocations are awarded annually. In 2006, the County revised its ROGO system by implementing a tier system to establish a method of directing growth to acceptable areas while encouraging conservation in environmentally-sensitive areas.

From a land use perspective, it will become increasingly risky to develop in extremely low-elevation land areas where tidal flooding is common and storm surge is severe as sea level rise threats increase. Existing building codes and flood insurance requirements will not eliminate this risk. As sea level rise projections are approached and surpassed, policies and land development regulations will need to be periodically updated to ensure that existing risks are accounted for. Traditional controls, like land-use zoning, are one strategy to limit development in such areas, or create stricter or incentivize “above code” requirements for redevelopment such as higher freeboard standards. Vulnerability data from this planning process can also be used to identify areas where an overlay or adaptation action area may be established. Finally, for some of the built environment, retreat to other areas or higher ground may become a strategy that is utilized over time. This could become necessary as private and public buildings and other infrastructure, including roads, become more challenging to maintain as the environment continues to change. There are many public health and safety implications that must be addressed, which may result in the abandonment of certain infrastructure or negotiated levels of service. Issues could include loss of access to a property, reduced quality of access or loss of property value due to removal of an inter-related public or private asset. In some instances, the County may need to consider adoption of a “environmentally-constrained roads” or “natural forces” ordinance to redefine level of service requirements in areas where infrastructure maintenance is no longer possible or economically feasible. See Appendix H for a model ordinance.

There are several options, or adaptation strategies, that can be implemented to respond to sea level

Duval Street, Key West

PHOTO SOURCE: Greenkeys! Project Team



Jordan v. St. Johns County CASE STUDY

This issue involved a dispute among several private property owners challenging St. Johns County over their legal responsibility to maintain Old A1A, a coastal road inundated by storms and hurricanes. In 1979, the State deeded Old A1A to the County. By 2005, the County enacted a temporary residential building moratorium for properties along the roadway segment at issue (approximately 60). In response to the County's actions, a complaint was filed in 2005 against St. Johns County claiming generally that the County had deprived these landowners of access to their land.

A total of five claims were raised involving whether the County had a duty to maintain Old A1A and whether their failure to do so constituted a legal taking under the law. The case ultimately settled whereby the County and property owners came to agreement on levels of service for the road in the future, recognizing the environmental challenges impacting the quality of the road in the future.

The County adopted an Ordinance in 2012 to specifically address natural forces' degradation and damage to public roads and streets and other improved public rights-of-way used for travel and recreation. The law is far from settled on this issue, but lessons learned to date can, and should, be used to guide future Monroe County planning decisions especially in relation to "environmentally-compromised" infrastructure.

rise and increased storm surge. Options are broken into four (4) categories, including: 1) Avoid, 2) Accommodate, 3) Protect, and 4) Retreat.

Adaptation strategies focused on **Avoidance** limit development in particularly vulnerable areas, redirecting development to less vulnerable areas. Adaptation strategies that **Protect** use hard or soft structures to protect structures and prevent flood waters from reaching community assets. Hard structures could include seawalls or bulkheads, while soft structures could include geotextiles tubes and giant fabric sandbags designed to be replaced after storms. This strategy does not protect wetlands and beaches in front of these structures which are at risk of disappearing as they are pinched out between the rising water levels and the fortifying structures behind them. Adaptation strategies that **Accommodate** modify community assets to reduce the impact of flood waters from storm surge, but do not completely protect against sea level rise. Accommodation acknowledges long-term effects and that structures will become wet, but implements short-term actions to make structures more resilient, such as elevating structures or their critical systems. Last, **Retreat** involves relocating existing structures, people and land uses away from high-risk flood areas to new locations to eliminate the flooding risk, damage and loss. This adaptation strategy allows wetlands, beaches and natural coastal habitats to migrate to higher elevations naturally. Individuals and business owners affected by future sea level rise will need to make adaptation decisions about their own homes, land and businesses. A main goal of this planning process and the recommendations in this section is to assist individuals and business owners in making the best, most informed decisions for their own particular circumstances. Individuals and business owners

may choose to elevate or relocate structures further away from vulnerable areas. Alternatively, they may choose not to make any structural or relocation decisions based upon the anticipated consequences of sea level rise.

Within this Focus Area, several goals were identified to help the County prioritize its efforts. The identified goals within this Focus Area are shown in the Table 14 to the right.

Given the objectives of this Focus Area and the goals identified for the County, the Recommendations in Table 15 have been prioritized and are recommended for implementation in the County. The recommendations in this Focus Area are intended to address vulnerabilities to the current built environment, further reduce noise and light pollution County-wide, and improve alternate modes of transportation through community development patterns and livability and design characteristics.

TABLE KEY

Short Term Recommendations in Light Blue
Medium Term Recommendations in Light Yellow
Long Term Recommendations in Light Pink



TABLE 14. Built Environment Goals

- 1. Increase the resilience of structures and buildings within the County**
- 2. Continue making improvements to promote alternate modes of transportation within the County**
- 3. Strengthen regulation of noise and light pollution within the County**
- 4. Promote urban agriculture within the County**



TABLE 15. Built Environment Recommendations

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 1: Increase the resilience of structures and buildings within the County			
BE 1.1 Conduct additional study of a freeboard initiative to elevate and floodproof buildings within Monroe County.			WS-11
BE 1.2 Provide outreach on “demonstration” projects (e.g. Stock Island Fire Station and Bayshore Manor) to provide examples of benefits. Distribute information about GreenKeys! planning efforts at County events.			
BE 1.3 Ensure resiliency and energy efficiency design considerations are included in affordable housing projects.			
BE 1.4 Create a list of funding sources to finance energy-efficiency and resiliency upgrades in residences and businesses (e.g. Property Assessed Clean Energy (“PACE”) or other financing strategies).			
BE 1.5 Develop criteria for Adaptation Action Areas and adoption in Comprehensive Plan.		P-2.4	SP-3, SP-4
BE 1.6 Maintain and strengthen setback policies to account for sea level rise impacts.		B-2.1	SP-2
BE 1.7 Consider imposing use restrictions on development in areas most vulnerable to flooding.		B-2.1	SP-2, SP-10
* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself			

TABLE 15. Built Environment Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
BE 1.8 Adopt an ordinance to address “environmentally-challenging locations” and damage to public roads, streets, highways, bridges, sidewalks, curbs and curb ramps, crosswalks, bicycle ways, hiking and walking paths and trails, underpasses, overpasses, and other improved public rights-of-way used for travel and recreation or other appropriate infrastructure.			
BE 1.9 Establish triggers for retrofit of a structure impacted by changing site conditions such as when erosion is within a certain distance of the foundation; when monthly high tides are within a certain distance of the finished floor elevation; or when a setback decreases to a certain width. Consider these concepts in development/redevelopment principles: <ul style="list-style-type: none"> • Address sea level rise in “non-conforming” structure policies. • Address sea level rise in redevelopment or replacement of existing structures. • Use rolling easements in property development and redevelopment strategy. • Enhance Transfer of Development Rights program parameters to account for sea level rise impacts by directing growth to land outside of potentially vulnerable areas. 		B-2.1	SP-2, SP-10
BE 1.10 Incentivize available “resiliency” construction standards (e.g. Resilience STAR™, the Institute for Business and Home Safety’s FORTIFIED Home™, FORTIFIED Commercial, FORTIFIED Safer Business, FORTIFIED for Safer Living®, RELi or others) to determine which will be most appropriate for County regulations.			SP-2
BE 1.11 Enhance coordination with the development and real estate communities to provide information about projected sea level rise impacts and solutions from the GreenKeys! planning process. Schedule annual briefings with the predominant industry associations to increase communication.			
BE 1.12 Develop incentive program for developers and property owners who relocate structures landward, develop in less vulnerable tiers, conserve more open space along the shoreline, and/or preserve or restore natural flood buffers.			SP-2, SP-10
Goal 2: Continue making improvements to promote alternate modes of transportation within the County			
BE 2.1 Analyze pedestrian network to improve safety and continue increasing total mileage of bicycle lanes and shared use paths, including coordination with Oversea Heritage Trail.	BE-7(7)	B-4.2	SP-27
BE 2.2 Amend the land development regulations to require one out of three following elements for new parking lots over a certain threshold in the number of spaces: (a) 50 percent of the parking lot to be shaded by tree canopy, (b) solar photovoltaic panels, (c) or the use of cooling pavements or pavement coatings with albedos greater than 40 percent if trees and solar panels are impractical due to site considerations. Incorporate sustainable parking practices and design into land development regulations such as increasing stormwater infiltration where applicable, including bike parking, reducing heat island effects, and other strategies to reduce environmental impacts.			
BE 2.3 Develop a feasibility analysis for a public bike share program in more urbanized areas.	BE-7(9)	B-4.1, B-4.2	
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 15. Built Environment Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
BE 2.4 Establish a target to reduce per capita vehicle miles travelled. Create vibrant neighborhoods where a certain percentage of residents can easily walk or bicycle to meet all basic daily, non-work needs and have safe access to transit.			SP-26, SP-27
BE 2.5 Achieve recognition as a Bicycle Friendly Community or Walk Friendly Community.			
BE 2.6 Include transit incentives in affordable housing projects.			
BE 2.7 Develop a ride sharing program for Monroe County employees to identify potential carpool candidates.			
BE 2.8 Adopt a complete streets policy for County maintained and controlled roads. Complete Streets improvements support safe, efficient, and convenient mobility for all users (pedestrians, bicyclists, transit, motorists) regardless of age or ability.	BE-7(2)		SP-26
BE 2.9 Implement programs to improve pedestrian and bicycle safety (e.g. targeted speed and red light enforcement using radars or cameras in areas where frequent violations or collisions have occurred; targeted crosswalk right-of-way enforcement; targeted bicycle traffic law obedience enforcement; bicycle lane encroachment enforcement; or school zone enforcement).	BE-7(5)	B-4.2	SP-26
BE 2.10 Identify strategies to provide better public transportation options through improved connectivity, extended routes, expanded hours, increased reliability and more education of available services.			SP-27
Goal 3: Strengthen regulation of noise and light pollution within the County			
BE 3.1 Incorporate Dark Skies best practices into land development regulations to reduce light pollution and minimize bird strike hazards. This could include incorporation of Dark Sky Friendly Lighting into County infrastructure to further reduce light pollution within the County. Establish programs that eliminate existing sources of light pollution coming from County-owned entities.	BE-1(9)		
BE 3.2 Review code enforcement procedures to specifically track noise and light violations so that trends can be monitored to reduce these types of issues.	BE-1(6)		
Goal 4: Promote urban agriculture within the County			
BE 4.1 Analyze land development regulations and zoning requirements to determine how to allow and promote sustainable food system including local agriculture, farmers markets, community gardens, Farm-to-School programs, Dock-to-Dish programs, etc.	EAC-2(2) HS-4(2)	B-1.2	SP-17, AG-6
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself</p>			



Shaw Drive Flooding

PHOTO SOURCE: Kim Weatherly



Several actions not yet implemented in this Focus Area align with MCAP recommendations. Developing alternative transportation safety programs, increasing sidewalk miles, and supporting bike share programs correspond directly with MCAP recommendations B-4.1(3) and (4) which recommend the support of ride share programs and B-4.2 which recommends enhancement of bicycle, pedestrian, and motorcycle safety. Strengthened setback policies, use restrictions on development in areas most vulnerable to flooding and establishing retrofit triggers all correspond with MCAP recommendation B-2.1 which recommends development and implementation of adaptive planning and zoning policies, regulations and programs to ensure that appropriate land use, construction and redevelopment activities address the potential impacts of sea level rise.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).



Monroe County Health & Safety

BY THE NUMBERS

76,351

POPULATION:
76,351 residents

3 million

VISITORS:
Close to 3 million annually

69

HEALTH DEPARTMENT:
69 full-time employees with
4 clinics Keys-wide

4+40

HOSPITALS & CLINICS:
4 hospitals and over 40 public
and private clinics in the
Florida Keys

9

FIRE RESCUE:
9 stations Keys-wide and
1 of only 31 certified firefighting
training centers in Florida

11

SHERIFF STATIONS:
Sheriff's Office has 11
facilities Keys-wide and
546 employees

E. Health & Safety Focus Area



Health & Safety

Sustainable communities are those that achieve social health and resiliency. The social aspect focuses on the health of the resident population understanding that healthy communities are sustainable communities. Resiliency in this Focus area includes not only climate change resiliency, but also disaster management through emergency response and preparedness.

Monroe County's unique geography plays a major role in how goods and services, including health care and emergency services, are provided. The Florida Department of Health in Monroe County, Monroe County Social Services Department and Monroe County Department of Emergency Management all provide vital health and safety services throughout the County. The Florida Department of Health in Monroe County serves the residents of and visitors to the Florida Keys, maintaining clinics and community health service offices from Key West to Key Largo. The County's social services are offered primarily to assist disabled individuals, senior citizens, families with young children, the working poor and those individuals who are unable to be assisted with traditional support programs. Emergency Management services include both Fire and EMS throughout the County with a focus on emergency response and

preparedness. Emergency response and evacuation is especially critical in Monroe County due to influxes in the tourist population during certain times of year and the presence of only one (1) main route of ingress and egress into the Florida Keys.

From a resiliency and disaster management standpoint, the County collaborates with many local municipalities for disaster management planning for both natural and man-made hazards, including hurricanes and flooding. Such planning efforts are conducted to reduce harm to humans and property by utilizing long-term preventative and collaborative approaches to avoid emergency incidents and minimize their impacts. As part of state planning efforts for natural disaster mitigation and preparedness, the County prepared and updates its Local Mitigation Strategy ("LMS"). The 2010 LMS for Monroe County and its Municipalities³⁹ is one of the County's critical steps to improve resiliency to natural hazards. The LMS anticipates damage and disruption that could result from a hurricane or other disaster, and then determines how best to eliminate or at least reduce the expected damage. The County's LMS was prepared in accordance with FEMA and Florida Division of Emergency Management ("FDEM") requirements. The LMS serves several purposes, including strategies for long-term resilience to natural hazards through actions that reduce exposure of people and property, and in doing so, LMS projects are eligible for certain state and federal grants. The LMS was recently updated, with final LMS approval due by December 6, 2015.

The health of Monroe County residents is fundamental to sustainability, yet it's health status is profoundly influenced by factors outside the traditional healthcare system. The social, economic,



and physical conditions in which people live affect choices regarding behaviors that ultimately affect health outcomes. The knowledge and means to access healthy food, physical activity opportunities, safe housing, education, income, and transportation options, and avoid toxic exposure all contribute to an individual's overall health. Healthy communities tend to be more sustainable communities. Active lifestyles promote sustainability by reducing the health costs borne by all, supporting the local economy through increased recreational tourism, increased property values near parks and trails, and reducing air pollution and GHG emissions through active transportation.

Climate change and sea level rise will also have impacts on the health of Monroe County residents. The Centers for Disease Control and Prevention ("CDC") and the National Environmental Health Association ("NEHA") have identified several health impacts specifically related to climate change, including: 1) heat impacts, 2) vector borne diseases, 3) extreme weather events, 4) air quality, and 5) waterborne diseases.

The impacts to human health from heat stress include exacerbated chronic conditions like respiratory and cardiovascular disease. It is estimated that during the next 5-25 years, Florida will likely see as many as 1,840 additional deaths per year due to extreme heat. The elderly and young children are most vulnerable to heat-related health risks. Additionally, as temperature rises past human comfort levels, labor productivity will decline, particularly in "high-risk" industries involving outdoor work (which is prevalent in the Keys). Because of this risk, it is important for the County to fully understand the climate risks and become a model

of climate risk mitigation and resilience. Existing and new vector borne diseases may prevail in new environments as the natural barriers of inhospitable environments to the vectors of such diseases are diminished in a warming climate. The County's existing partnership with the Florida Keys Mosquito Control District, the entity charged with controlling mosquito populations in the Keys to minimize the spread of mosquito-borne diseases, could become increasingly critical as the climate warms. Stronger storms, more frequent floods, hurricanes, and tropical storms have numerous immediate to long-term physical and emotional health impacts, including injury, drowning, death from structural collapses, infectious and chronic disease, displacement, and socioeconomic disruption. Even air quality impacts may occur, causing heightened levels of allergies and respiratory disease as ground-level pollutants increase. Finally, pathogens and pollutants from runoff and flooding have the potential to enter water supplies, while increased temperatures will support pathogen growth, and concentration of these agents under drought conditions will increase the threat of waterborne disease.

Monroe County is responding and preparing for these health effects through a number of collaborative efforts with several entities, including: Building Resilience Against Climate Effects, the SE FL Climate Change Compact, Health Impact Assessment Public Health leaders, the Marshall Foundation, Early Learning Miami, Florida International University, the University of Florida's Extension Service, the South Florida Regional Planning Council and many other local partners.³⁴ Engaging residents in conversations about health impacts and weather is the starting point for creating improved resilience over the long term.

Within this Focus Area, several goals were identified to help the County increase the health and wellness of its population and address public health and safety issues implicated by climate change and sea level rise. The five (5) identified goals in this Focus Area are shown in Table 16 to the right.

This Focus Area recognizes that the development of healthy, safe and resilient communities requires proactive efforts to prevent disease, injury and premature death. There are many ways to accomplish this, like fortifying protective factors and reducing risk factors that undermine healthy outcomes. Given the objectives of this Focus Area and the goals identified for the County, the following Recommendations in Table 17 have been prioritized and are recommended for implementation in the County.

TABLE KEY

Short Term Recommendations in Light Blue
Medium Term Recommendations in Light Yellow
Long Term Recommendations in Light Pink



TABLE 16. Health & Safety Goals

- 1. Ensure that sea level rise and climate change is being considered in health and safety and emergency preparedness and response planning**
- 2. Increase efforts to consume local food, including seafood**
- 3. Incorporate active living into County planning and capital improvement projects**
- 4. Promote wellness and healthy living among residents throughout the County**
- 5. Continue efforts to reduce the use and impacts of toxic chemicals throughout the County**



TABLE 17. Health and Safety Recommendations

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 1: Ensure that sea level rise and climate change is being considered in health and safety and emergency preparedness and response planning			
HS 1.1 Incorporate future sea level rise impacts into emergency management plans including but not limited to the Local Mitigation Strategy and its projects. Ensure that post-disaster redevelopment planning considers sea level rise risks.			
HS 1.2 Discuss emergency prevention and response, including nuisance flooding and sea level rise, with County residents at the neighborhood level.			HS 1.3
HS 1.3 Analyze health issues caused by extreme heat days and associated poor air quality, especially for populations most vulnerable to these impacts by improving the preparation for and response to heat by health, community service, public safety and emergency response staff and services.			
HS 1.4 Partner with Mosquito control agencies to develop better elevation data.			
HS 1.5 Partner with Mosquito Control agencies to identify risk areas from vector populations by managing habitat and by working with the community to reduce health risks.			
HS 1.6 Ensure that climate change and sea level rise information is available to all groups and in multiple languages.			
HS 1.7 Work with local animal services/rescue/control organizations to ensure pet safety health issues in the face of sea level rise.			
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 17. Health and Safety Recommendations *Continued*

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
HS 1.8 Incorporate future sea level rise impacts into the 2020 Local Mitigation Strategy Update.			SP-2, RR-3
Goal 2: Increase efforts to consume local food, including seafood			
HS 2.1 Support school district participation in Florida's Farm to School program that connects in-state growers with local schools.			
HS 2.2 Identify appropriate spaces in County Parks and partner with School District to provide opportunities for community gardens. HS-4(2)	HS-4(2)		
HS 2.3 Expand Community Supported Agriculture ("CSA") programs throughout the County to promote local agricultural products (e.g. Dock-to-Dish and Annie's garden).		B-1.2	
HS 2.4 Encourage the sale of locally-caught fish by charter boat captains and allow sale of locally-caught fish at the docks and/or to local restaurants.			
Goal 3: Incorporate active living into County planning and capital improvement projects			
HS 3.1 Improve infrastructure for increased physical activity and design routes that are integrated into the regional park system. Design parks to maximize space for physical activity.			
HS 3.2 Create guidelines to encourage incorporation of active building design in new buildings. Active building design is a process of consciously incorporating building design features that encourage physical activity (e.g. bicycle storage, highly visible stairways, and showers and locker rooms).	HS-1(3)	P-2.2, B-4.2	
HS 3.3 Adopt a "health in all policies" statement or policy commitment expressing the County's clear commitment to consider community health impacts of local decisions and take policy action to improve public health. This commitment can extend to land use, design, transportation, and other aspects of the built environment that impact the ability for residents to walk or bicycle to destinations.	HS-3(10) HS-2(3)		
HS 3.4 Evaluate current policies and regulations to identify appropriate places to include wellness, active living and active building design concepts.	HS-1(1)	P-2.2	
Goal 4: Promote wellness and healthy living among residents throughout the County			
HS 4.1 Encourage worksite wellness programs that provide physical activity and weight loss programs at work.			
Goal 5: Continue efforts to reduce the use and impacts of toxic chemicals throughout the County			
HS 5.1 Identify resources to provide disposal options for toxic materials, such as household hazardous waste.			
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

TABLE 17. Health and Safety Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
HS 5.2 Develop informational resources on how to properly dispose of unused medicine. Coordinate with health care facilities to offer and promote collection sites or services for unused medicines.			
HS 5.3 Create a healthy hazardous product initiative that includes: <ul style="list-style-type: none"> • Educating residents about proper use and disposal of hazardous products, and making information about more sustainable household products available. • Hosting green cleaning workshops and awareness programs. 			
* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.			

Several actions not yet implemented in this goal area align with, and could satisfy, existing MCAP recommendations. These include incorporating active living/transportation in the Comprehensive Plan, encouraging active building design in new construction, and improving the walkability of the Keys through increased bicycle and pedestrian pathways which directly correspond with MCAP recommendations P-2.2 and B-4.2 which recommend advancing livable communities and enhancing bicycle/pedestrian safety and encouraging alternative modes of transportation, respectively. Additionally, the adoption of zoning or land development regulations permitting farmers markets and community gardens satisfies MCAP recommendation B-1.2 which recommends encouraging both farmers markets and community gardens within the County.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).



Yellowtail Snapper caught in Monroe County

PHOTO SOURCE: GreenKeys! Project Team





Monroe County Education, Arts, & Community

BY THE NUMBERS

20

SCHOOLS:
Over 20 public, charter
and private school campuses
through the Florida Keys

88%

EDUCATION:
88% of County residents
have high school diplomas;
29.6% college degrees

1 of 300+

ARTS:
One of over 300 Public Art
programs in the U.S

F. Education, Arts, & Community; Economy & Jobs; and Equity & Empowerment Focus Area



The Education, Arts & Community portion of this Focus Area promotes an educated, cohesive, and socially connected community. Monroe County established an Art In Public Places Committee in 2001 with the purpose of enriching culture and benefitting the citizens and visitors of the County by placing art in public places. The Committee administers the purchase and installation of artwork under a one (1) percent for art program in any new major County construction or renovation.

The Florida Keys Council of the Arts serves as staff to this committee and is the main source of information on arts and culture in the Florida Keys. Art in public places projects featuring the art of local artists have been completed at the following locations: 1) The Roth Building on Plantation Key (2003), 2) Fire Stations in North Key Largo and Tavernier (2007), 3) Freeman Justice Center in Key West and Big Pine Park Community Center (2008), 4) Murray E.



“The Art in Public Places Committee administers the purchase and installation of artwork under a 1 percent for art program in any new major County construction or renovation.”

Nelson Government & Cultural Center in Key Largo, Key West International Airport and Big Pine Key Fire Station (2009), and 5) Conch Key and Stock Island Fire Stations (2014). Upcoming projects include Bernstein Park, Marathon Court House renovations, Freeman Justice Center lobby expansion and Freeman Justice Center Drug Court renovations.

The Economy & Jobs portion of this Focus Area promotes equitably shared prosperity and access to quality jobs. Tourism is the largest industry in the Florida Keys and a major factor in the Monroe County economy, contributing roughly 60 percent of the local economy and 44 percent of the local income. Additionally, the tourism industry – including hotels, guesthouses, restaurants, and attractions – accounts for nearly 55 percent of the total workforce in the County. Most workers in Monroe County are employed in one of five areas: accommodation and food service, retail trade, public administration, health care and social assistance or educational services. The County has one of the lowest unemployment rates in the State of Florida.

Many communities are discovering that energy efficient operation and the use and promotion of



Monroe County Economy & Jobs

BY THE NUMBERS

EMPLOYMENT:

Most employed in accommodation and food service, retail trade, public administration, healthcare and social assistance or educational services

\$53,821

MEDIAN INCOME

\$2.23 billion

TOURISM:

Contributes \$2.23 billion to local economy and \$870 million to local income

environmentally-responsible products can drive local economic activity in emerging and expanding green industries which also contribute to a community's overall level of sustainability. Sustainable business models minimize impacts to the environment while maximizing profit simultaneously. In the private sector, energy and water cost savings can be converted to profits or diverted to other business investments. For the public sector, these savings represent a more efficient use of taxpayer dollars and provide an opportunity to lead by example. In addition, growing and strengthening local businesses and commerce within a community contributes to the economic sustainability and resilience of that community.

The Equity & Empowerment portion of this Focus Area promotes equity, inclusion, and access to opportunity for all residents. As of 2010, the population of Monroe County was distributed as follows: 89.5% White, 5.7% African American, 0.4% Native American/Alaska Native, 1.1% Asian, 0.1% Native Hawaiian/Pacific Islander, 1.4% Other Race and 1.8% Two or More Races. Equity and empowerment are critical components of sustainability. Studies have shown that environmental degradation intensifies inequality in human development and vice versa. Environmental sustainability is most easily achieved by addressing health, education, income, and gender disparities together with the need for action on energy production and environmental protection. Fairer flows of public investment; more democratic, inclusive and accountable institutions; coordinated implementation and monitoring systems; and climate resilient strategies all contribute to achieving equitable and sustainable development.



Within this Focus Area, several goals were identified to help the County incorporate sustainability into all aspects of its economy. The identified goals within this Focus Area are depicted in Table 18 to the right. Given the objectives of this Focus Area and the goals identified for the County, the Recommendations in Table 19 have been prioritized and are recommended for implementation in the County.

TABLE KEY

Short Term Recommendations in Light Blue
Medium Term Recommendations in Light Yellow
Long Term Recommendations in Light Pink



TABLE 18. Education, Arts & Community; Economy & Jobs; and Equity Empowerment Goals

- 1. Incorporate sustainability into ongoing education and arts programs in the County**
- 2. Encourage a balanced local economy that is protective of all sectors of the County's population**
- 3. Promote sustainability in all sectors of the County's economy**

TABLE 19. Education, Arts & Community; Economy & Jobs; and Equity & Empowerment Recommendations

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCAP Recommendation
Goal 1: Incorporate sustainability into ongoing education and arts programs in the County			
M 1.1 Continue to promote arts, cultural, entertainment, and historic preservation amenities to residents and local, national and international audiences. Create a County-wide "art and design week" that coordinates with existing arts events to promote local arts and culture and attract artists and innovators from art, design, architecture, fashion, and related fields.			
M 1.2 Encourage sustainable practices in Monroe County's Art in Public Places Program.			
M 1.3 Use County libraries as a platform to promote environmental and social engagement.			
M 1.4 Encourage and partner with municipalities to expand "arts districts" and events to promote them.			
M 1.5 Continue to attract and sponsor major arts, design, music and cultural events as a way of bringing tourists into the County.			
M 1.6 Build on the County's success in its commitment to public art to create opportunities along prominent streets and in public spaces. Take residents' preferences into account and use local artists where possible to build neighborhood pride as well as identity to reinforce their uniqueness, image, and branding, and attract additional visitors.			

* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink.
 ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.



TABLE 19. Education, Arts & Community; Economy & Jobs; and Equity & Empowerment Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding BCAP Recommendation
M 1.7 Target artists and the creative industries to bring economic and community development to neighborhoods and districts by increasing the connections between the arts and cultural sector and other sectors of the economy and providing information about locally available resources and assets.			
M 1.8 Require art, cultural, and educational organizations to establish recommended sustainability policies and practices as a condition for the receipt of public funds or services.			
M 1.9 Develop a special "Arts Pass" and/or "Event Pass" that residents and visitors can purchase for a reduced rate for certain County-wide events to supplement existing special ticket price initiatives (e.g. Historic Tourist Discounts).			
M 1.10 Develop an "arts, culture, and innovation" policy or plan clearly defining County's role based on: <ul style="list-style-type: none"> • A survey of the location of arts amenities throughout the County. • Ensure Plan aligns with County's economic and community development approach including the economic, environmental, and social impact of arts, design, and cultural industry in County. • Highlighting the community's existing cultural assets by increasing their presence on the street and in highly visible public forums. • Establishing priorities for public art and design projects, events, and locations for the next fifteen years. • Encouraging streetscape and public spaces that promote cultural and arts projects throughout the County. 			
Goal 2: Encourage a balanced local economy that is protective of all sectors of the County's population			
M 2.1 Encourage diverse community involvement in County government. Post vacancies and announcements regarding governmental boards in public locations.	EAC-5(3)		
M 2.2 Adopt policies or regulations that increase overall market demand for green buildings and associated materials, renewable energy products or infrastructure, and recyclable products.	EJ-2(2)	S-2.5	SP-2
M 2.3 Provide outreach to increase green and resilient construction practices for retrofits and encourage sustainable business practices and new economic opportunities.		E-2.4	SP-2
M 2.4 Address impacts of climate change and sea level rise on disadvantaged social groups, values and symbolic places. Target an annual community workshop aimed at underserved and underrepresented populations on sea level rise and resilience.			PO-1
* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.			

TABLE 19. Education, Arts & Community; Economy & Jobs; and Equity & Empowerment Recommendations Continued

Recommendation	STAR Identifier	Corresponding MCAP Recommendation	Corresponding RCA P Recommendation
Goal 3: Promote sustainability in all sectors of the County's economy			
M 3.1 Develop and maintain a Sustainability Handbook for business owners on the County's GreenKeys! website,		E-2.3, E-2.4	PO-3
M 3.2 Encourage sustainable business practices such as recycling and use of local and sustainably-grown products. Hold at least one annual briefing with the predominant Chambers of Commerce to discuss opportunities for enhancing sustainability-related incentives and initiatives.		E-2.3, E-2.4	
M 3.3 Create a web-based clearinghouse for best management practices, local data, tools, and tracking for the business community.		E-2.4	PO-3
M 3.4 Promote local agricultural programs (e.g. bees).			
M 3.5 Work with Florida Keys Community College to expand or create a green jobs program for new opportunities in green industries and trades such as green buildings and energy management.-	EJ-6(9)	E-2.1	
M 3.6 Create or support promotional campaigns to bank locally, buy locally, or buy from small and independent businesses/retailers.	EJ-3(4)		
<p>* Short-term (1-3 yrs.) recommendations in light blue, medium-term (3-5 yrs.) recommendations in light yellow, and long-term (>5 yrs.) recommendations in light pink. ** For long-term recommendations, the County is not required to wait on implementation if the opportunity for earlier implementation presents itself.</p>			

Several actions not yet implemented in this Focus Area align with, and could satisfy, existing MCAP recommendations. Adopting policies or regulations that increase overall market demand for green buildings, renewable energy products and recyclable products would satisfy MCAP recommendation S 2.5 which recommends greater use of recycled building materials. Developing a Sustainability Handbook and encouraging sustainable business practices would satisfy MCAP recommendations E-2.3 and E-2.4 which recommend enhancing the sustainability of existing businesses and enhancing

the sustainable development of new businesses coming into the County.

The Implementation Matrix in Appendix G provides a timeline and method for implementing each recommendation, as well as potential funding sources available to offset the costs associated with each (where available).

