

CITY OF PENSACOLA
CLIMATE MITIGATION & ADAPTATION TASK FORCE
Thursday, April 5, 2018 ~ 3:30 p.m.
HAGLER/MASON Conference Room
2nd Floor, City Hall

AGENDA

1. Call to Order/Welcome/Quorum
2. Approval of Minutes—February 1, 2018 (Note: March 1, 2018 meeting was canceled)
3. Content of Draft Report Discussion
 - Discussion of revisions and refinement of report: Dr. Haris Alibašić
 - Review of each section
4. Design of Final Report
 - Request relevant photos, graphics, and references
5. Timeline
 - Project dates for draft completion, stakeholders review, and final report
 - Task Force Meeting on May 3, 2018: Public Health—Dr. Christopher Uejio, lead investigator for the Florida Building Resilience Against Climate (BRACE) program
6. Announcements
7. Public Forum
8. Adjourn

**The next meeting of the Climate Mitigation and Adaptation Task Force:
Thursday, May 3, 2018, 3:30 p.m.**

The City of Pensacola adheres to the Americans with Disabilities Act and will make reasonable accommodations for access to City services, programs and activities. Please call 435-1606 or TDD 435-1666 for further information. Requests must be made at least 48 hours in advance of the event in order to allow the City time to provide the requested services.

MINUTES OF THE CLIMATE MITIGATION AND ADAPTATION TASK FORCE
February 1, 2018
3:30 p.m.

Members Present: Elaine Sargent, Chair, Laurie Murphy, Vice Chair, Cynthia Cannon, Carrie Stevenson, Mark Gibson, Tim Haag (arrived late)

Members Absent: Dr. Wade Jeffrey, Christy Johnson, Peggi Smith, Dr. Haris Alabašić

Others Present: See Attached sign-in sheet

Staff: Council Executive Don Kraher, Elaine Mager, Sonja Gaines

1. Call to Order/Welcome/Quorum: The meeting was called to order by Chair Sargent. A voting quorum was not present at the beginning of the meeting.

2. Approval of Minutes—January 4, 2018

Following draft report discussion, and once a voting quorum was present, **motion to approve the minutes of the January 4, 2018 meeting was made by Member Haag, seconded by Member Cannon. The motion passed unanimously (Member Gibson non-voting member).**

3. Draft Report Discussion:

Chair Sargent opened discussion on the draft report, referring to an email from Christian Wagley concerning comments he submitted on the draft report, clarifying “encouraging higher density development”. Also, she contacted Dr. Lanza with the Escambia County Health Department and he is unable to attend the March meeting. His office referred her to the Florida Department of Health and to UWF. Public Health is important. It is one of the categories that the Task Force did not have a lot of knowledge on, nor a guest speaker come to make a presentation.

Member Cannon suggested having a guest speaker from the health industry as well as the insurance industry address the task force at the same time to fill in some of the gaps in the draft report. Those are two areas that are not represented on the Task Force. She also inquired about the status of Dr. Wade Jeffrey as a member of the Task Force and suggested that possibly, since he’s been unable to attend the Task Force meetings, that consideration be given to making him an “**advisor**” to the Task Force rather than a member. That way members of the Task Force could contact him directly without a violation of the sunshine. She suggested that pending issues be placed on the agenda so that they could be addressed.

With regard to fine tuning the draft report, the Task Force **agreed to have Dr. Alabašić fine tune and wordsmith the document and Chair Sargent would combine and provide the graphic design features for the document and hopefully be presented at the March meeting.**

Member Stevenson’s comments on Page 13, **#2 and #3 could be put under education listed on Page 10. On #1, it could possibly go under Planning and Resiliency as a bullet or under Built Environment.** It is primarily a watershed issue, focusing on water quality.

Vice Chair Murphy indicated that most of the items she added on page 12 and 13 could be listed under Built Environment or Transportation. **Evaluating and re-evaluating coastal land use goes under Built Environment; traffic studies, drainage and sedimentation due to climate**

MINUTES OF THE CLIMATE MITIGATION AND ADAPTATION TASK FORCE

February 1, 2018

Page 2

change impacts could go under Transportation. Traffic studies are looking at what roads are going to be doing in the future, or how does climate change impact the roads today, do we need to build more roads, change where we have transportation. **Utility locations...can go under utilities.** Concerned about where lift stations are going if they are near shallow ground water tables, that creates a problem with dewatering and other environmental impacts as a result of dewatering. **Limiting public expenditures...can go under Built Environment.** Even though the Task Force is going to be discussing density, if there is a high impact zone right now, and know where the flooding happens, there is no way to build there and be sustainable. There will be a lot of issues to public health and insurance it goes back to planning and development and the built environment. **Stormwater parks/ponds with no maintenance** needs to be addressed. If a stormwater pond is put in, if it is a retention pond, need to look at where it is located, who are the residents around the area, if there are going to be impacts because the ponds are not maintained and backup. The ponds don't get dredged or cleaned, are a health hazard, mosquito pool and an environmental flood hazard. Since this issue hits a number of categories in the report, **Vice Chair Murphy indicated that she would go back and put in the best category for the Task Force to review and edit. Getting the public involved in updating stormwater master plans is very important and is a part of the NPDES permitting process.**

Building permits being issued... talks about density and that is a big topic on the table. Need to look at providing density in buildings that are vacant and already there or take away vegetation that is crucial to stormwater management. Pensacola has the highest rainfall in Florida but the lowest recharge rate. There is a lot of impervious pavement and stormwater runoff. The focus has been on managing stormwater rather than trying to reuse it. Need to look at planning more green stormwater infrastructure and how that can be a partner with the graywater system that is in place.

Member Stevenson indicated that in some of the density information, there is mention of more use of infill and encouraging the abandoned sites to be reused. Vice Chair Murphy indicated that density could be a lopsided system, depending on who is designing it, especially in urban planning. There should be affordable housing included. There isn't a cookie cutter solution to it.

Natural water impacts, Vice Chair Murphy thought that Member Stevenson could address that with regard to looking at water quality impacts in the S.W.I.M. plan, addressing future climate changes and impacts to the S.W.I.M. plan. That may be something that needs to be added to the plan.

Develop a Pensacola Bay Shoreline District... There is an Escambia Bay Shoreline District, why no Pensacola Bay Shoreline District. Maybe that is something that needs to be developed to talk about impacts.

Green Incentives... Green incentives are important even with urban planning and density. There should be green incentives because developers need every space to sell. Maybe do some sort of incentive to put green spaces and courtyards in their projects to help reduce stormwater and flooding impacts.

MINUTES OF THE CLIMATE MITIGATION AND ADAPTATION TASK FORCE
February 1, 2018
Page 3

Hazardous materials...perhaps Member Gibson could expand on the impacts on hazardous waste on climate change.

Reducing development density...there is a problem with developers trying to fill in high flood areas and putting a building on it. It is a recipe for disaster.

Re-establishment of diverse forests...The tree canopy has been reduced significantly over the last 20 years. Escambia County has a great tree canopy study. The significant urban development and design has just clear cut property. That has a significant toll on flooding and stormwater. Discussion occurred on various programs and apps used by other communities to encourage tree benefits and conservation efforts. It could be part of the **educational component**. **May need to add a line as to why it is important and to encourage planting of native or indigenous species and could be added under Policy 1.5 where it talks about the tree ordinance, etc.** Member Gibson pointed out that a lot of the larger cities like New York, Washington, and other cities have an Urban Forestry Centralized Management Program where all of the trees on their city right-of-ways or property are GPSed or catalogued for a maintenance program that are marked species, crown spaced, aged so that the crown spread could be plotted. Trees do buffer winds during hurricanes and they take the brunt. May want to include a recommendation **that the City staff or hire or maintain a section that oversees an urban forestry landscape program.** Member Cannon suggested that possibly the City and County could share such a program. Other states such as Alabama, Mississippi, Georgia have County foresters who work with city governments to promote urban forestry and management within the city. Florida doesn't do that. Member Haag suggested to incorporate language **that if the City doesn't have the resources to pursue on their own to coordinate with the County.** Connecting other resources in the community could also be incorporated.

Involve private sector...Look at involving an economist to study impacts of climate change, hurricanes, tornados, drought, flooding. Insurance companies have a lot of studies that they do. That can be a hot button for the government. Climate change needs to be incorporated into the government offices.

Other consideration needs to be given to repaving roads, removal of asphalt, to allow for proper drainage, removal of dead trees, perhaps starting a savings account to help remove dead trees, or have an incentive for a tree company to donate their service for removal. Look at runoff potential in roads and parking lots, reusing stormwater for natural irrigation instead of trying to manage it.

Member Haag indicated that the recent repaving of roads did involve some milling of the roadway. There is coordination between every entity that uses the right-of-way, especially for utility relocation considerations.

Member Gibson stated that perhaps a recommendation could be **to do a more critical review of the paving projects for stormwater and runoff. Contract management and oversight that is not enforcing some of the things needs to be reinforced.**

MINUTES OF THE CLIMATE MITIGATION AND ADAPTATION TASK FORCE

February 1, 2018

Page 4

4. Announcements:

Member Stevenson distributed a flyer announcing the Gulf of Mexico Climate and Resilience Community of Practice request for Letter of Intent for Climate Adaptation Projects from Coastal communities from Texas, Florida, Louisiana, Alabama and Mississippi. (attached)

Member Haag reported on a workshop he recently attended in collaboration throughout the Southeast United States focused on the interconnection between forests and water resources. Based on that workshop, there was interest expressed in developing a workshop for the Western panhandle and he's in the process of working on details and dates, utilizing the Central Wastewater Reclamation Facility as a host facility. ECUA owns 2100 acres up there, most of which was owned by International Paper previously. It is in forest resources that is managed by ECUA, with the intent of developing a well field up there and at the same time, reestablishing the long leaf eco-system. Information will be shared, once it is finalized.

5. Public Forum:

Christian Wagley announced the next CivicCon guest speaker on February 12, 2018 would be Tom Murphy with the Urban Land Institute and former Mayor of Pittsburgh to talk about public/private partnerships. The only public hearing in Florida on off-shore drilling is on February 8 at 3 p.m. in Tallahassee. March 8 is the end of the public comment period on the 5 Year Plan for Off Shore Oil and Gas Drilling. February 22 is Chasing Coral at the Downtown Library and February 24, there will be an event at Waterboyz on 9th Avenue called Shore Stories.

He reviewed the email he sent to members of the Task Force. (attached) There are opportunities to create more compact, more dense use places that provide benefits for a more walkable, urban space. There are a variety of tools to deal with gentrification, inclusionary housing ordinances, affordable housing programs, create community land trusts, and non profits. More dense, compact, walkable type development addresses many issues brought up by the Task Force. The Task Force needs to look at all aspects of Urban Density Design and make sure that the public has a chance to give their input.

Member Cannon brought up discussion of Task Force Membership and lack of attendance by Member Smith and Member Jeffrey and suggested that they be removed from the Task Force as Members; however utilizing Dr. Wade Jeffrey as an advisor to the Task Force for his review and consultation on the final document. Task Force asked that the Council Executive send a letter to Dr. Jeffrey, since he is unable to attend. Would like him to provide input on the final draft report. There would be no value to adding anyone else to the committee, since the Task Force is this far along in developing their report. **Member Alabašić has been tasked with editing and making the document a single voice and Chair Sargent with taking the document and packaging it in one of her publishing programs so that it looks nice.**

6. Adjourn:

There being no further business to come before the Task Force, the meeting was adjourned at 5:20 p.m.

City of Pensacola Climate Mitigation and Adaptation Task Force Meeting
 Thursday, February 1, 2018
 Hagler/Mason Conference Room, 2nd Floor
 City Hall, 222 West Main Street
 3:30 P.M.

PLEASE SIGN IN

NAME (Please Print)	Agenda Item	Telephone Number	Address
Erin Kadian		316-7188	3610 Forest Glen Dr
Nen Richards		232-5625	abcnrr@yahoo.com
Beverly Perry			bjperry@gmail.com
Ryan Bounan		337-499-8293	1642 Eagle St
Kathy Smith		850-530-3369	3746 Mc Nemer Ct 6B
Christian Nagley		850-687-9968	801 E. Larua St. 32501

Elaine Mager

From: Elaine Sargent <elainemsargent@gmail.com>
Sent: Friday, February 02, 2018 5:53 AM
To: Elaine Mager
Subject: Fwd: comments to Climate Task Force

Christian Wagley's email to Task Force members, discussed during February 1 meeting

----- Forwarded message -----

From: Christian Wagley <christianwagley@gmail.com>
Date: Thu, Feb 1, 2018 at 8:33 AM
Subject: comments to Climate Task Force
To: Elaine Sargent <elainemsargent@gmail.com>, Cynthia Cannon <CynthiaC@santarosa.fl.gov>, Laurie Murphy <laurie@emeraldcoastkeeper.org>, tim haag <tim.haag@ecua.fl.gov>, Haris Alibasic <halibasic@uwf.edu>, Carrie T Stevenson <ctsteven@ufl.edu>, Christy Johnson <Christy.Johnson@dot.state.fl.us>

Dear Members of Climate Task Force:

Last month I submitted comments on your draft report to your chairperson--Elaine Sargent. Elaine mentioned to me later that there were questions about one of those comments that arose during the meeting. As a follow-up, I want to offer additional backup information that further documents the comments I submitted.

The comment I submitted is:

Under "Planning for resiliency and climate change adaptation", add: "use a watershed-level rather than site-level approach to stormwater and flooding"; add "encourage higher density development where appropriate as an urban stormwater best management practice (more compact development patterns generate less stormwater runoff overall than low density development)"

One of the greatest misconceptions among the public about development patterns is that higher-density development is more detrimental to the environment than low-density, suburban-style development that has been the prevailing pattern since World War II. Research consistently shows that those living in more dense, walkable locations use less energy, water, resources, and land. This pattern of development is consistently promoted as one of the best solutions to climate change.

In using less land, more compact development also generates less stormwater runoff that contributes to surface water pollution and flooding. The general public and even many planners often view stormwater issues at only the site level rather than the watershed level, which is now widely-recognized as a mistaken approach.

That's because what looks good at the site level—developing at lower densities that use only part of a site—is actually far worse overall when viewed at the watershed level. Low density development spreads impervious surfaces over larger land areas, in large part because the only way to serve it is through the automobile. This leads to more roads and parking lots and the use of more land, which can clearly be seen when taking a watershed-level view.

A couple of simple and well-documented reports/studies come to mind that help to further explain this issue. They are:

1. *Protecting Water Resources with Higher Density*

Development (<https://www.epa.gov/smartgrowth/protecting-water-resources-higher-density-development>)

In this report:

"EPA modeled scenarios of different densities at three scales and at three different time-series build-out examples to examine whether lower-density development is always better for water quality. EPA examined stormwater runoff from different development densities at the one-acre, lot, and watershed levels to determine the differences among scenarios. This analysis demonstrated:

Higher-density scenarios generate less stormwater runoff per house at all scales and at all time-series build-out examples.

For the same amount of development, higher-density development produces less runoff and less impervious cover than low-density development."

EPA went on to say: "Increasing development densities is one strategy communities can use to minimize regional water quality impacts."

2. In the 2009 report ***IS DENSER GREENER? AN EVALUATION OF HIGHER DENSITY DEVELOPMENT AS AN URBAN STORMWATER-QUALITY BEST MANAGEMENT PRACTICE*** (Journal of the American Water Resources Association)

(www.researchgate.net/publication/227523491_Is_Denser_Greener_An_Evaluation_of_Higher_Density_Development_as_an_Urban_Stormwater-Quality_Best_Management_Practice1), researchers found that higher densities help to reduce contamination from runoff:

"The model showed that a simple doubling of standard suburban densities [to 8 dwelling units per acre (DUA) from about 3 to 5 DUA] in most cases could do more to reduce contaminant loadings associated with urban growth than many traditional stormwater best management practices (BMPs), and that higher densities such as those associated with transit-oriented development could outperform almost all traditional BMPs, in terms of reduced loadings per a constant population. Because higher density is associated with vibrant urban life, building a better city may be the best BMP to mitigate the water quality damage that will accompany the massive urban growth expected for the next several decades."

Additionally, on the issue of urban flood control and prevention, leaving some low-lying and vulnerable areas undeveloped and or improved as flood control or stormwater retention facilities that double as public parks, is a very effective technique. The City's Admiral Mason Park is a good example of this.

In making this land off-limits for buildings, it makes it even more important to utilize remaining lands more efficiently through more compact development. More compact development also allows for more efficient delivery of services to include flood control, as it is more cost-effective for local governments to provide services to a more compact area. Finally, all of this points-out the advantages of the watershed approach, so that stormwater and flood control facilities can be planned for the most effective placement—which may not be on individual development sites but rather offsite and in public spaces elsewhere in a watershed.

Any statement in your recommendations that supports or encourages more low-density development or does not encourage a holistic, watershed approach will be contrary to efforts to reduce energy use and greenhouse gas emissions as well as manage stormwater runoff and flooding. In fact, the scientific evidence strongly supports more compact urban development as a vital tool in addressing climate change from the standpoint of both adaptation and mitigation. In that light, I hope that you will support compact development patterns and a watershed approach in your final recommendations.

Thank you for considering my comments, and for your service. I hope to be able to attend at least part of today's meeting, and so I look forward to seeing you there.

Christian Wagley

850-687-9968



Gulf of Mexico Climate and Resilience Community of Practice Request for Letter of Intent: Climate Adaptation Projects

Deadline for Submission: March 2, 2018 at 4:00pm central time

The Mississippi-Alabama Sea Grant Consortium in collaboration with NOAA's Office for Coastal Management and the Gulf of Mexico Climate and Resilience Community of Practice (CoP) are seeking coastal communities to participate in climate adaptation projects that will serve as local examples for other Gulf communities. These collaborative projects will involve financial assistance through a small grant award. Interested communities should submit a Letter of Intent detailing the need for incorporating climate considerations into their existing planning frameworks and their interest in implementing a project to reduce risk to coastal climate stressors.

Purpose of Funding Opportunity:

The purpose of the available funds is to assist a community in their effort to plan for sea level rise and climate change. Applicants who apply for the funds will demonstrate their ongoing commitment to environmental action by working with the Gulf of Mexico Climate and Resilience CoP on a short-term demonstration project or outreach activity. The local government will then report its findings from the project with a brief presentation at next year's Climate and Resilience CoP Annual Meeting (2019). Project leaders should be prepared to discuss their LOI application

and how it relates to community needs at any time during this review period. A meeting or conference call may be arranged if the review panel has additional questions for the applicant.

Objectives:

1. Identify a climate adaptation challenge the community is facing;
2. Describe a project (e.g., public outreach, demonstration project, climate adaptation planning, etc.) that addresses the climate adaptation challenge and can be implemented within the 1-year time frame of this opportunity;
3. Share results of the project at the 2019 Climate and Resilience Community of Practice Annual Meeting and identify lessons learned that are transferable to other communities in the region. Results should be specific, including a brief description of deliverables, how the results are relevant, and how the project will increase resilience.

Desired Criteria for Community Recipient:

- demonstrates knowledge of climate vulnerabilities in their community and desire to take action
- engages local community members with climate information/resources
- promotes climate awareness and education through their work in the community

Eligibility: Gulf coastal communities in Texas, Florida, Louisiana, Alabama, and Mississippi (as indicated on the attached map) are eligible to apply. This includes local governments, county/parish governments, municipalities, tribes, and regional councils/commissions.

Funding Amount and Duration: Total funding available for this competition is \$30,000 with the expectation of funding one award. The selected climate adaptation project is expected to be completed within 12 months.

Projects will be viewed favorably if they have:

- Strong support from city/county officials and/or other relevant boards and commissions within the community (including an official Letter of Support)
- Willingness to participate in the Gulf of Mexico Climate and Resilience Community of Practice
- Strong leveraging of resources and/or provide in-kind match (i.e. non-federal funds, staff work hours, facilities provided, travel support, equipment provided, or supplies provided)

Letter of Intent (LOI)

A letter declaring your interest and willingness to participate in a cooperative project is required for this competition in order to be eligible to receive funds. The purpose of the Letter of Intent (LOI) process is to inform the review team of the interest and commitment of potential participating communities.

Submission materials (one-inch margins, single spaced, 12 point font):

1. Cover page (1 page)
 - Project title
 - Name, title, affiliation and contact information for people submitting the LOI (include full name, title, address, telephone number, fax number and email address)
2. Letter Body (up to 3 pages)
 - Project details (background, rationale, study area, methodology, brief timeline)
 1. Provide a brief summary of the project idea and how it relates to future climate considerations (sea level rise, storm surge inundation, heavy rainfall events, etc.) and existing city environmental initiatives.
 2. Identify potential experienced staff who could dedicate time to working on the project.
 3. Describe the vulnerability of the community to climate associated risks and why this project would help address those vulnerabilities.
 - Demonstrated success in implementing hazard mitigation practices
 - List any existing partnerships that could assist in the project
3. Letters of Commitment/Support (optional)
 - Local City Council, Planning Commission, Mayor, or other government official detailing their support of to the project and how it will add value to existing efforts
4. Budget Summary (1 page)
 - Include major categories such as salary, travel, supplies, or contractual costs

Contacts:

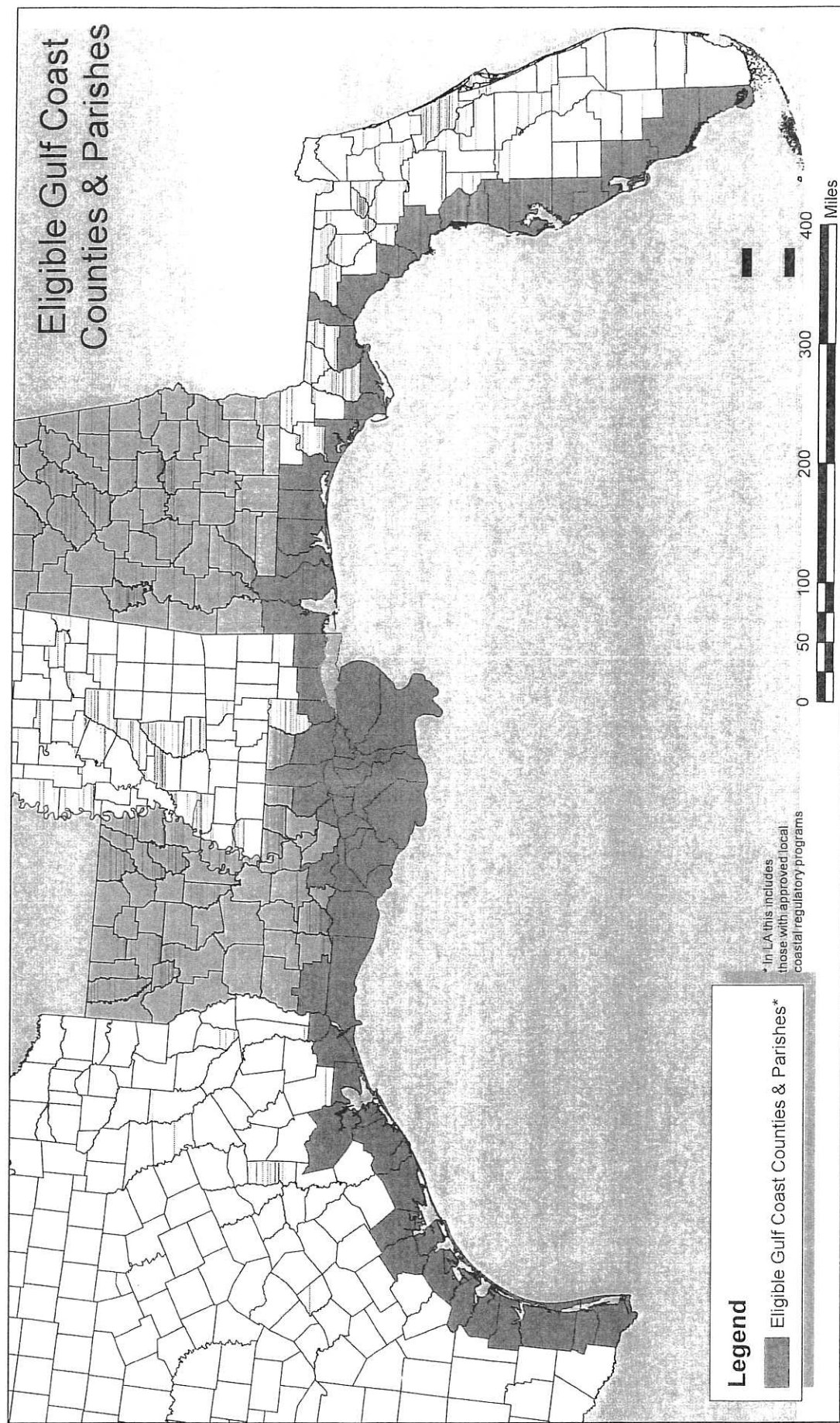
Submission Questions	Loretta Leist, Mississippi-Alabama Sea Grant, Research Coordinator	loretta.leist@usm.edu 228-818-8835
Technical Questions	Tracie Sempier, Gulf of Mexico Coastal Storms Outreach Coordinator	tracie.sempier@usm.edu 228-818-8829

Letter submission: Letters of Intent are due by 4:00 p.m. Central Time on March 2, 2018. Letters must be submitted as e-mail attachments to Loretta Leist (loretta.leist@usm.edu) in MS Word or WordPerfect format. An additional copy may be provided in Adobe PDF.

Notification: Applicants will be notified of the project team's decision on or before March 30, 2018.

Evaluation: Letters of Support will be evaluated by a review team with representatives from each of the five Gulf states that are also active members of the Climate & Resilience Community of Practice. Reviewers will be looking for projects that follow the submission guidelines, show strong involvement by the local/county/parish government, and can be showcased as an example of best practices for other Gulf communities.

FIGURE 1: Eligibility- Local governments, county/parish governments, municipalities, tribes, and regional councils/commissions must fall within the shaded green areas.



DRAFT Report
Climate Mitigation and Adaptation Task Force
City of Pensacola

Task Force Members:

Elaine Sargent, Chairman, 350 Pensacola
Laurie Murphy, Vice Chairman, Emerald Coastkeeper
Dr. Haris Alibašić, University of West Florida
Cynthia Cannon, AICP, Santa Rosa County
Carrie Stevenson, Escambia County
Christy Johnson, AICP, FDOT
Tim Haag, Emerald Coast Utilities Authority
Dr. Wade Jeffrey, University of West Florida, **Advisor**
Mark Gibson – Installation Environmental Program Director, NAS Pensacola

Revised 1-25-2018

Revised 2-8-2018

Revised 2-25-2018 (HA)

Table of Contents

- I. Task Force Goals and Objectives
- II. The Climate Change Threats to Northwest Florida and the City of Pensacola
 - Outlined in Florida Department of Economic Opportunity report “Coastal Vulnerability Assessment: Escambia County, Florida” dated July 23, 2016.
- III. A Blueprint for Addressing Climate Change at the Municipal Level
 - 1) Planning for Energy Efficiency and Climate Change Mitigation
 - 2) Planning for Resilience and Climate Change Adaptation
- IV. Areas of Emphasis for Climate Preparedness—Comprehensive Plan Climate Mitigation and Adaptation Element
 - i. Greenhouse Gas Emissions Reduction Goals
 - ii. Transportation
 - iii. Built Environment
 - iv. Emergency Planning
 - v. Public Utilities
 - vi. Public Health
 - vii. Education (more likely Outreach and Economic Development)
- V. Task Force Findings and Recommendations

Task Force Goals and Objectives

The goals and objectives of the Climate Change Task Force shall include, and are not limited to:

- Advance adaptation and mitigation strategies to enhance the city's (region's) resilience and preparedness for withstanding the likely adverse effects of climate change, including flooding resulting from heavy precipitation, rising sea levels, intense hurricanes, heat waves, and other extreme weather events;
- Promote a program of education, incentives, and public outreach to encourage city (region) residents, business owners, governments, and organizations to participate in the Climate Adaptation and Mitigation Plan;
- Generate suggestions to obtain federal and state grants, investments in energy efficiency and other financial resources to offset program costs. Measures may include the initiatives to conserve energy and reduce greenhouse gas (GHG) emissions within government operations and incentives for homeowners, businesses and organizations to save energy, reduce costs and decrease Greenhouse Gas emissions.

II. The Climate Change Threats to Northwest Florida and the City of Pensacola

See attachment: Florida Department of Economic Opportunity report "Coastal Vulnerability Assessment: Escambia County, Florida" dated July 23, 2016

III. A Blueprint for Addressing Climate Change at the Municipal Level

Local governments are typically the first responders when an extreme weather event affects their communities. Coastal communities in particular have long dealt with the aftermath of disastrous hurricanes and flood, with devastating consequences to local economies. Continuing the efforts to be better prepared to proactively address these events will result in a highly resilient community.

1) Planning for Energy Efficiency and Climate Change Mitigation

GHG emissions have undeviatingly been affecting the climate. The reduction of GHG emissions can decrease the extent of climate change. Remaining at the status quo or increasing the GHG emissions will escalate changes in climate. Climate change mitigation refers to the actions to decrease GHG emissions to reduce the ultimate magnitude of climate change. Some of these actions also have the potential to contribute to cost savings, green jobs, and local economic development. The City of Pensacola and surrounding area can take actions to assess energy use and GHG emissions to achieve the carbon footprint reductions. See the recommendations below for providing a "*blueprint*" for moving forward:

- Adopt a pledge to reduce the GHG emissions and join programs that provide planning tools such as: The Northwest Florida Clean Cities Coalition, Transformative Actions Program (TAP), Be Ready Alliance Coordinating for Emergencies (BRACE), USGS Sea-level Rise Simulation and Inundation Models, USGS Wetland Change Models, USGS Surface Elevation and Shoreline Erosion Models, and the Gulf TREE through Northern Gulf of Mexico Sentinel Site Cooperative.

- Recommend to the mayor to join the Mayors Climate Protection Agreement similar to other cities in Florida. Joining the Climate Protection Agreement will support a mitigation initiative to reduce future impacts of climate change through pledge reductions in GHG emissions.
- The City of Pensacola and other cities should commit to meet a 100% Renewable energy target by 2025.
- Support and encourage energy efficiency efforts, including the *Energy Star* labeling program and LEED.
- Encourage the start of a special adaptation action area group similar to the Southeast Florida Regional Compact. This group could be called the Northwest Florida Regional Compact and would study the outcome of adaptation strategies.
- Complete an inventory of GHG emissions and prepare a climate adaption plan, as have many municipalities and counties around the state. For example, Broward County completed a “Broward’s Climate Change Action Plan” (see attached) that was developed by the Broward County Climate Change Task Force in 2010. Adopt the GHG emission reduction targets.
- Incorporate language about climate change in updated comprehensive plans, and pass local laws or codes that uphold those values. For example, the City of Punta Gorda Adaptation Plan includes a vision about steps needed to become a more climate change resilient community.
- Include the following sectors: transportation, water resources/utilities, natural resources, agriculture, and disaster risk as part of the planning process.
- Reduce GHG emissions from municipal operations, including increasing energy efficiency and conservation measures. In addition to reducing negative environmental impact, these efforts would provide for cost avoidance and savings.
- Install or purchase renewable energy, such as installing solar panels or purchasing renewable power on municipal buildings. Other Florida Communities pursuing include: Gainesville, Sarasota, Miami, Tampa.
- Educate the public about the changing climate, and involve and engage local citizens and volunteers in the processes of adaptation and mitigation. Challenge and/or incentivize residents to reduce their energy consumption.
- Support regional and state wide policies to promote and develop renewable energy systems, net-metering, and installation of solar and geothermal projects.

2) Planning for Resilience and Climate Change Adaptation

The City of Pensacola has the opportunity and responsibility to start planning to ensure the community is resilient to climate change. The first course of action is to better understand what changes are likely at the local (and regional) level and to continue to make sure to prepare for these changes. Climate change adaptation refers to the actions organizations adopt to reduce the impacts of the climate changes that either already occurred or will inevitably occur. Resilience is the capacity of communities and organizations to withstand stress and catastrophe, and to recover and adapt successfully in the face of threats or disaster. Below are some of the initiatives that the City of Pensacola can undertake to increase the community's resilience to climate change impacts:

- Develop the emergency management plans and FEMA all-hazard mitigation plans that include climate change projections and adaptation strategies, and participate in the National Flood Insurance Program as well as FEMA's Community Rating System (CRS). The City of Pensacola is currently ranked 7 out of 10 on the FEMA CRS scale, resulting in a 15% annual discount in flood insurance for all insured properties. Surrounding communities have reached levels 5 (Pensacola Beach, Santa Rosa County) and 6 (Escambia County). The City should continue making concerted effort to improve the CRS rating. Acting on the suggestions made in this report would contribute significantly to improving this rating.
- Consider current sea level rise (SLR) projections to inventory and map municipal infrastructure that may be vulnerable to climate change, and make plans and budget to replace, move or harden infrastructure over time.
- Utilize local authority to protect open space, wetlands, and riparian buffers to increase resilience to extreme weather events.
- Become an active participant in the newly funded and created Pensacola and Perdido Bay Estuary Program; encourage the climate resilience action in addition to water quality improvement.
- Incorporate Better Site Design, Low Impact Development (LID), and Green Infrastructure principles into local codes and planning decisions to increase resilience of streams, bayous and floodplains to heavy precipitation events. Protect the riparian (natural shoreline) zones of these water bodies and incentivize restoration of living shorelines instead of hardening (wooden and concrete seawalls). Utilize Escambia County's LID Reference Manual and create incentives for its use within the City and region. <https://myescambia.com/our-services/natural-resources-management/water-quality-land-management/low-impact-design>.
- Use a watershed-level rather than site-level approach to stormwater and flooding.
- Encourage higher density development where appropriate as an urban stormwater best management practice. More compact development patterns generate less stormwater runoff overall than low density development.

IV. Areas of Emphasis for Climate Preparedness—Comprehensive Plan Climate Mitigation and Adaptation Element

CLIMATE MITIGATION AND ADAPTATION

Goal: Achieve a sustainable, climate resilient community by promoting energy efficiency and greenhouse gas reduction strategies; protecting and adapting public infrastructure, services, natural systems and resources from climate change impacts; and continuing to coordinate and communicate locally and regionally to monitor and address the changing needs and conditions of the community.

Specific Greenhouse Gas Emissions Reduction Goals

Objective: Mitigate the causes of climate change while providing clean energy solutions and a more energy efficient way of life for visitors and residents.

Policy Recommendations:

- The City of Pensacola shall mitigate its contribution to global climate change by reducing the government operations greenhouse gas emissions to X% below 2016 levels by 2020, and city-wide greenhouse gas emissions to 17% below 2005 levels by 2025 and 82% below 2010 levels by 2050. The City will continue to regularly monitor and track the progress of programs and initiatives that contribute to the final reaching of these goals.
- The City of Pensacola shall encourage research for increasing the proportion of electricity generated by alternative and renewable energy sources within the City, such as solar, wind, geothermal and ocean energy technologies.
- The City of Pensacola should plan for and facilitate the development of infrastructure that provides public access to alternative fuels and electric vehicle charging stations by 2020.

Actions should include:

- Preparing for deployment and optimal distribution of a regional system;
- Negotiating inter-local agreements with County, State, and private entities to share existing and proposed infrastructure; and
- Developing expedited permitting processes for individual installation of alternative fuel and electric vehicle charging infrastructure (including City-owned parking lots and buildings).

Transportation

Objective: Advance transportation and land-use choices that: reduce fossil fuel use and vehicle miles traveled; improve the mobility of people, goods, and services; provide a diverse, efficient and equitable choice of transportation options; and increase the City's resilience to the impacts of climate change.

Policy Recommendations:

- The City of Pensacola shall continue to encourage mixed land uses which promote functional, walkable mixed-use development designs and projects by providing flexibility in development review for these projects, revising the zoning and land development codes to support such projects, and promoting the adoption of land development codes that support and establish sustainable development patterns, especially in areas identified as high risk to sea level rise. Encourage the reduction of any development in flood zones,

areas of social vulnerability, near wetlands and the coastal regions. Property damage (built and environmental) and environmental justice issues create economic losses. Reduce future development in established areas of inundation until traffic and infrastructure (roads, stormwater) studies and cost-benefit analysis of such designs have been completed based on traffic/runoff. Preserve and grow mixed-use and dense development neighborhoods in low hazard (non-historically flooded) areas, making essential services and businesses accessible through multimodal means of transportation.

- The City of Pensacola shall continue to seek to diversify fuel options for public transit and fleet vehicles, expand infrastructure for charging electric and hybrid electric vehicles and incentivize parking for alternative fuel vehicles. Adopt a policy that discourages expansion of roadways that add more lanes to grow capacity. Focus on the maintenance and the improvements of “vital streets” of existing roads where appropriate. Evaluate the adoption of a complete streets concept, looking at street design from a pedestrian/biking perspective as well as the importance of traffic calming. Any new road project would need to meet the following criterion before approval: Roadway will serve as a connector between areas to reduce driving miles, consequently decreasing carbon footprint and emissions.

Built Environment

Objective: Improve the climate resilience and energy-efficiency of new and existing buildings and public infrastructure, and develop adaptation strategies for areas vulnerable to climate change-related impacts. **Policy and Initiative Recommendations:**

The City of Pensacola shall encourage a greener, more efficient and climate resilient construction practices locally by:

- Building all new construction of county-owned city or public facilities to Leadership in Energy and Environmental Design™ (LEED) standards;
- Utilizing national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices, as developed by The Sustainable Sites Initiative™ (SITES™);
- Reevaluating the base finish floor elevation standards concerning projected sea level rise scenarios and flooding potential;
- Seeking ways to install solar panel demonstration projects on City building
- Energy STAR rated appliances and HVAC equipment within City building Incorporating building design specifications that increase resistance to impacts from more intense storm events.
- Encourage all building/construction personnel have NPDES training and erosion/sediment control training.
- Encourage all designs to produce stormwater drainage impact study.

- **Develop permeable/green incentives**

Policy Recommendations:

The City of Pensacola should work cooperatively to review and re-evaluate current zoning codes, regulations and policies according to sustainable community development practices, such as those outlined in the criteria recommended by the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) certification, or by application of a national rating system for local governments, such as the STAR Community Index TM (STAR), and NPDES for the stormwater drainage regulations.

- Identify areas of frequent "nuisance flooding" and create a public database for future reference, which will dis-incentivize construction in historically and newly flooded area
- Create an Inland Flooding Adaptation Action Area
- Create a mechanism for transfer of ownership for properties in high hazard areas to create green space and mitigate flood risks.
- Limiting public expenditures in coastal high hazard areas
- Reduce development density in high flood zones/coastal high hazard areas.

Policy Recommendation: The City of Pensacola shall continue to review policies and promote programs which advance greenhouse gas reduction and energy conservation strategies; promote compact, transit-oriented, pedestrian-friendly development; further green construction practices and the design of climate-sensitive and energy efficient buildings; encourage cluster development in order to retain or create native vegetative communities; and address the resilience and survivability of buildings and infrastructure to rising sea levels, tropical storms, storm surge, and other climate change impacts, **thoroughly evaluate and re-evaluate coastal land use.**

Policy Recommendation: The City of Pensacola shall evaluate the costs and benefits of adaptation alternatives in the location and design of new infrastructure as well as the fortification or retrofit of existing infrastructure.

Policy Recommendation: Assess and quantify the multiple environmental, social, and economic benefits of green infrastructure, as trees, forests, wetlands, and waterways provide natural protection and increase resilience by improving air quality, providing shade, reducing heat, storing surface water and filtering stormwater runoff. Furthermore, conservation and expansion of green infrastructure decisions should include measurements of meeting the Greenhouse Gas mitigation targets, public health, and safety goals, and climate change adaptation priorities.

- Utilize the City Tree Ordinance fund to maximize the benefits of trees throughout the community to absorb carbon dioxide, provide passive cooling for buildings, and provide shade for more walkable streets.
- The City of Pensacola shall continue to maintain annual certification as a Tree City USA Community in partnership with the Florida Forest Service and the Arbor Day Foundation. Tree City USA designation demonstrates the commitment of the city in protecting, conserving, and managing trees on the city-

owned property to ensure that the benefits of healthy, native, urban forests and trees are fully utilized.

- The City of Pensacola to partner with other area organizations by joining the Six Rivers Cooperative Invasive Species Management Area (CISMA) as a partner-member. The Six Rivers CISMA Partnership is comprised of local, private, and public partners who work together to control invasive species in the NW Florida region. The City of Pensacola has many wetlands and stormwater areas that are predominantly comprised of invasive species. Controlling these species followed by the establishment of native species will improve the effectiveness of stormwater management in wetlands.

Emergency Planning

Objective: Ensure exceptional planning and coordinated emergency preparedness and post-disaster management in the context of climate change.

Policy and Initiative Recommendations:

- The City of Pensacola shall coordinate with Escambia County and regional planning agencies to ensure adequate planning and response for emergency management in the context of climate change by maximizing the resilience and self-sufficiency of, and provide access to, public structures, schools, hospitals and other shelters and critical facilities.
- The City of Pensacola shall develop plans and monitor programs to address the impacts of climate change on households and individuals especially vulnerable to health risks attributable to or exacerbated by rising temperatures, to include low-income families and the elderly.
- The City of Pensacola shall continue to communicate and collaboratively plan with other local, regional, state and federal agencies on emergency preparedness and disaster management strategies. This includes incorporating climate change impacts into updates of local mitigation plans, water management plans, shelter placement and capacity, review of significant traffic ways and evacuation routes, and cost analysis of post-disaster redevelopment strategies.
- The City of Pensacola shall work to encourage dialogue between residents, businesses, insurance companies and other stakeholders, through public education campaigns and workshops to increase understanding regarding the potential impacts of climate change on our coastal communities and evaluate the shared costs of action or inaction in human, ecological and financial terms.
- The City of Pensacola shall work with the Florida Division of Emergency Management and other agencies to incorporate sea level rise and increasing storm surge impacts into the remapping of potential hazard areas in coastal zones by 2020. Revised hazard area designations should better reflect the risks to communities associated with climate change and allow reevaluation of suitability for development or redevelopment in these areas.

- The City of Pensacola shall cooperatively develop model codes and policies to encourage post-hazard redevelopment in areas with less vulnerability to storm surge, inundation, flooding, sea level rise and other impacts of climate change, and incentivize locally appropriate mitigation and adaptation strategies.

Public Utilities

Objective: Ensure the resilience of existing water resources, water, and wastewater infrastructure to the impacts of climate variability and change to protect future water quality and quantity, and minimize the potential for flood damage and water shortages, while improving the energy efficiency of utilities and reducing water-related carbon emissions and climate impacts. Policy Recommendations:

- The City of Pensacola shall, by 2020, coordinate with local service providers to ensure that water and wastewater service planning and policy development considers methods for reducing utilities' "carbon footprint", including the best management practices recommended in American Waterworks Association Florida Vision 2030, which have been recognized by utilities as appropriate utility responses to climate change. Also, additional means of reducing demand for traditional energy sources at the water and wastewater treatment facilities, such as through the production of energy through cogeneration systems, should be explored.
- The City of Pensacola shall develop, implement and coordinate regional water conservation initiatives, in partnership with water and wastewater utilities, as part of long-term water supply planning, and seek the continued support of the Northwest Florida Water Management District and other agencies.
- The City of Pensacola shall support recurring and continued development of local integrated models and continuous data collection, to help predict and track the impacts of sea level rise on groundwater levels, saltwater intrusion, and drainage infrastructure through enhanced development and application of local aquifer and hydraulic models and the use of down-scaled climate models.
- The City of Pensacola shall work in coordination with local utilities to maintain and advance infrastructure protection, **utility location**, and adaptation through infiltration and inflow program development to reduce the flow of groundwater and stormwater to wastewater collection and treatment facilities.
- The City of Pensacola shall work with utility services to investigate the feasibility of relocating above-ground utilities underground in areas vulnerable to high winds and frequent power disruption due to storms.

Public Health-Pending input needed by Dr. Lanza

Biological indicators; insects, migration, algal blooms, etc.

Health indicators; mosquito/vector-borne illnesses.

Heat impacts; water resources, wildfires, livestock, health.

Education

Objective: Increase opportunities in the community to learn about climate change, participate in decision-making, engage in a green economy, utilize green infrastructure, study health impacts and reduce population vulnerability.

Green Jobs/Economic Resilience [THIS SECTION DOES NOT BELONG HERE UNLESS THE SECTION IS CALLED EDUCATION AND ECONOMIC DEVELOPMENT]

Policy recommendations:

- The City of Pensacola shall encourage the development of “green” industry and business which diversify the local economy and contribute benefits towards a sustainable future.
- The City of Pensacola shall continue to develop plans and programs in coordination with local municipalities, power companies, and private partners to reduce greenhouse gas emissions and create “green” job opportunities throughout the community, by
 - Expanding the market for energy efficient products and services;
 - Supporting alternative and renewable energy production through innovative financing; and
 - Promoting and incentivizing energy conservation retrofits.
- The City of Pensacola shall seek to strengthen the local economy by promoting green economic growth and green-collar work training programs in order to: create resilience; reduce reliance on fossil-fuel-based economies; provide a positive focus for economic development; advance the use of sustainable materials, technologies and services; and encourage local jobs in sustainable businesses which offer a living wage and make it possible for regional climate change goals to be met.
- The City of Pensacola should review codes and regulations to enable and encourage eco-industrial development and business practices in line with the concept of the circular economy. Specifically, businesses models and land development patterns should be supported which promote by-product exchanges (so that one company’s waste stream is another’s source of raw materials) as to more efficiently use resources (materials, water, energy) throughout society.

Public Education/Community Engagement/Research Partnerships

Policy Recommendations

- The City of Pensacola shall continue to engage stakeholders, regional, state and federal partners, academia, practitioners and climate scientists, in exchanging information, best practices and policy solutions, regarding local climate change impacts and mitigation and adaptation strategies.
- The City of Pensacola shall promote partnerships between local government agencies, universities, professionals and practitioners, to foster an environment for connecting scientific research and education with practical applications that will contribute to the resilience and adaptation within the built and natural environments to the impacts of climate change. **Work with the University of West Florida faculty to promote climate education events.**

- **Partner with IHMC and any other innovative construction projects to showcase the changes they incorporate in new construction to mitigate for flooding.**
- The City of Pensacola shall promote partnerships between local middle and high school career and academic academies to encourage student internships and learning opportunities to develop and educate local talent. <https://ecsd-fl.schoolloop.com/career>
 - Beulah Middle School Pre-Engineering/STEM
 - Escambia High Engineering Academy
 - Pine Forest High Home Builders Association of West Florida Green Construction Trades Academy
 - West Florida High School Academies of Civil Engineering & Architecture, Cox Telecommunications, and Gulf Power
 - Washington High School Marine Science Academy

V. Task Force Findings and Recommendation

- Incorporate a Climate Mitigation and Adaptation Element into the City's Comprehensive Plan (as opposed to updating each element of the Comp plan with climate adaptation & mitigation policies)
- Seek funding to develop a Climate Action Plan or Climate Resilience Plan (see attached Broward County plan),
- Conduct a Vulnerability Assessment and establish resilience strategies based on those findings, (Utilize existing FDEO Vulnerability Assessment of Escambia County which includes detail related to the City of Pensacola).
- Reestablish and fund the City of Pensacola Office of Sustainability (or some other program) to implement the Climate Action Plan and to provide an annual review and assessment of the Climate Adaptation Element and LDC Mitigation & Adaptation Policies,
- Engage the Environmental Advisory Board (or appropriate entity) to work with city council and city planning staff to ensure the city's Land Development Code addresses mitigation and adaptation policies

Seek grant opportunities to develop climate adaptation programming, g further

• **Key questions going forward: [THIS IS A CONFUSING SECTION. I DON'T BELIEVE IT BELONGS IN THE REPOR]**

- i. **What sections of the LDC are challenging to implement and enforce that would play a role in climate change, i.e., stormwater design and**

maintenance requirements for new commercial and residential developments? Is the silt fencing requirement imposed?

ii. Are rezonings/upzoning to higher densities in vulnerable areas a common occurrence or trend?

iii. Are variances to the LDC frequently approved by the City's Planning Board?

iv. Has the city identified neighborhoods that are at high risk for vulnerability?

v. If the City isn't going to work with the task force on this project or provide feedback, then that probably needs to be noted as a critical finding; politics will always play a role in climate change issues.

1. A focus on NPDES permit mandates, and the current City ordinances on land development code, tree and landscape codes and grant analytics.

e) Why build stormwater (parks) ponds when there is no pond maintenance Plans?

f) Is the public involved in updating stormwater master plans?

g) Why are building permits being issued that place an increased demand on Infrastructure and public facilities?

h) How can we plan for better stormwater infrastructure maintenance?

i) Coordinate with NFWMD and the S.W.I.M. plan to discuss natural water Impacts.

j) Develop a Pensacola Bay Shoreline District.

l) Stronger hazardous materials/toxic chemical requirements in sensitive zones.

n) Re-establishment of diverse forests

o) Involve private sector to discuss economic & vulnerability risks with the City.

For example World Business Council for Sustainable Development.

p) Assessment of long-term de minimis impacts

q) What about other infrastructures, such as bridge design?

r) Reduction of urban heat island effect. Less pavement, greener.

s) Aquifer replenishment plan-reduce anthropogenic irrigation.

t) Utilize natural buffers in coastal zones

u) Coordinate different sectors to work on a task force on all infrastructure.

v) Have dead trees and unsafe housing razed to keep roads and people safe?

w) Redesign roads to drain safely and design enough stormwater infrastructure to handle increased precipitation based on the Rational Method $Q=CIA$

Addendum

Community Concerns and Priorities

Develop Task Force priorities, for example, clean energy solutions, to start discussion with the community.

Gather community feedback on the task force's proposed climate change policies and establish priorities based on that feedback.

Create and implement a community-wide survey (see Satellite Beach report) and prioritize action areas based on resident feedback.

Create a page on City website dedicated to climate resilience information