



***STAKEHOLDER WORKSHOPS 1-6***

***November 2019***

***STRATEGIC POLICY PLAN FOR  
FLORIDA'S OCEANS AND COASTS***

***FACILITATOR SUMMARY***

*Workshops facilitated and report prepared by  
The FCRC Consensus Center  
The Florida State University*

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## EXECUTIVE SUMMARY

In November of 2019, the Steering Committee of the Strategic Policy Plan for Florida's Oceans and Coasts convened a series of six stakeholder workshops around the state of Florida (Panama City, Jacksonville, Ft. Lauderdale, Miami, Sarasota and Cape Canaveral) to:

- Review the process for developing a Strategic Policy Plan for Florida's Oceans & Coasts
- Suggest refinements to the guiding vision for the plan
- Identify actions needed to address the issues facing Florida's oceans and coasts
- Review opportunities for continuing involvement in development of the plan

All workshops were facilitated and followed the same sequence of discussions. Two formats were used. Workshops with fewer than 20 participants were conducted as focus groups -- participants sat in a circle or around a table to discuss questions posed by the facilitators. In the more heavily attended workshops (30-65 participants), facilitated table discussions focused on getting as much input as possible from the broad range of perspectives in the room.

All workshops began with welcoming comments from FOA Board or Steering Committee members, and an overview of the background and process for developing the Strategic Plan. Initial comments and questions about the development of the plan included:

- Who is this for? What happens after the plan is developed?
- How will this plan be implemented? What actions should be taken and by whom?
- What is the legislature going to do with this?
- One year is too tight a timeline for developing a plan for the whole state.
- How is the public being engaged? We need public support.

The facilitators provided an overview of the draft Vision Statement. The following is a summary of the suggestions and reactions from workshop participants to the draft statement:

- The time frame of ten years is not realistic. Also, define "healthy"?
- Need a broader range of actors than just government to get the work done.
- Mention the full range of systems and habitats critical to coasts and oceans.
- Tie in the importance to the economy. It is about economic sustainability.
- Talk about the ecological value of oceans and coasts, and their intrinsic value.
- Need educational component to involve people, especially the younger generations.
- Mention the interface between oceans, coasts and land, and sustainable development.
- Address multicultural, ethnic and economic diversity.
- Include the concept of continued planning and implementation to anticipate changes.

After review and refinement of the key issues, facilitators asked participants to discuss what actions should be taken to address the issues of most interest to them. The following is a high level summary of the actions and ideas offered by the participants at all six workshops:

### Common Themes

The following high-level themes that occurred in all of the workshops. These themes can inform the goals and strategies of the plan.

- Consider and emphasize economic *and* natural values. Florida’s oceans and coasts are vital to its quality of life and to its economy, in addition to having intrinsic value. It is foundational to the health of oceans and coasts ecosystems, and economic value.
- Water quality is both a short term and a long-term priority. A significant proportion of discussion at all workshops was dedicated to water quality. Suggestions included a state-wide system to gather and make accessible water quality data that is currently being collected, and a number of ways to provide additional/creative resources for septic-to-sewer conversions, and septic systems upgrades.
- Coordinated and distributed effort. No one entity has the resources to address all aspects of the problem. Prospects for success improve if the efforts of all stakeholders are supported and coordinated. Coordination should be effective across all levels of government, within levels of government, and with NGOs and the private sector.
- Social justice should be considered in all decisions taken. Issues such as septic systems conversion or upgrades, community relocation and clean drinking water can disproportionately burden low-income or historically disadvantaged communities. Mitigating disproportionate impacts will be important in making all decisions
- Flexibility and Adaptive Management. These two concepts are related but distinct. Flexibility refers to the need for planning and implementation to be responsive to rapidly changing conditions. Adaptive management refers to the need to assess the effectiveness of management actions as they are implemented, and to adapt the management strategy as indicated by the assessment.
- Importance of public awareness and understanding. The need for education to build greater public awareness and understanding of the issues was highlighted as crucial.
- Participants at all workshops suggested that the following be given additional prominence on the preliminary list of issues reviewed at the workshops (many participants suggested them as additional boldface issues for the list):
  - Growth and development;
  - Sufficient and sufficiently resilient infrastructure; and
  - Reduction of greenhouse gas emissions in Florida.

### **Common Suggestions for Actions**

Participants made a version the following suggestions at all or almost all workshops. In most cases, participants suggested multiple specific actions related to each higher-level suggestion.

#### ***Water Quality and Harmful Algal Blooms***

- Coordinate current local and state water quality data collection efforts, support needed data collection where it is not currently conducted, and make the information available on-line in as close to real time as possible. Participants suggested a number of water quality parameters and testing regimens, as well as coordination mechanisms.
- Provide additional funding and support for septic system upgrades, septic-to-sewer conversions, and water treatment upgrades.

- Effectively address non-point sources of pollution, including atmospheric deposition.
- Include consideration of the effects of harmful algal blooms on ecosystems.
- Include consideration of water quantity, not just quality.
- Include consideration of marine trash and debris.

### ***Habitats and Fisheries***

- Address restoration all coastal and near-coast ocean habitats. Include consideration of associated species.
- Assess (and regularly update the assessment) the health of oceans and coasts habitats. Make the assessments easily available.
- Address the effect of inland waters in oceans and coasts issues.
- Address the effects of growth and development as they affect oceans and coasts habitats.
- Consider calling out and planning for specific, geographic areas (ecosystems) – e.g. the Everglades, the Indian River Lagoon, etc.
- Manage fisheries for intrinsic, natural as well as economic values.
- Support additional mapping of subsurface areas.

### ***Climate Change***

- Adopt greenhouse gas neutrality and clean energy strategies.
- Ensure that resiliency is adequately considered in all coastal infrastructure projects.
- Address ecosystem resiliency, not just infrastructure resiliency.
- Ensure that social equity is considered in all resiliency planning.
- Begin planning for relocation where necessary.
- Continue research to understand the implications of climate change for Florida.
- Ensure that all levels of government as well as the private sector are engaged in resiliency planning. Especially promote and support local efforts.
- Innovate when developing solutions.

### ***Public and Political Ownership, Finance and Implementation***

- Inform everyone about oceans and coasts issues, especially newcomers to the state and communities that may have limited access to information about these issues. Support formal and informal education on these issues. Include materials K-12 curricula.
- Consider social equity and the relationship of communities to the natural resources in all decisions.
- Increase enforcement.
- Use multiple sources of funding and other resources.
- Leadership must emphasize the importance of these issues.

### **Implications for the Strategic Policy Plan**

The common themes above not translate directly into goals and objectives. They do, however, suggest an approach to developing goals and objectives that builds on the on-going efforts of all actors, public and private, coordinates their actions, and provides additional resources, and that emphasizes social equity and community awareness, engagement and values. Importantly, it is an approach that emphasizes that the economic, social and natural values of Florida’s oceans and coasts are inextricably intertwined. The common suggestions provide a focus for strategies, and menus of specific actions consider in the action planning sections of the document.

## BACKGROUND

In November of 2019, the Steering Committee of the Strategic Policy Plan for Florida's Oceans and Coasts convened a series of six stakeholder meetings at locations around the state of Florida. The objectives of the workshops were to:

- Review the process for developing a Strategic Policy Plan for Florida's Oceans and Coasts
- Suggest refinements to the guiding vision for the plan
- Identify actions needed to address the issues facing Florida's oceans and coasts
- Review opportunities for continuing involvement in development of the plan

A list of participants for each workshop is included in Appendix A. The general sequence of discussions used for all meeting is presented below. (Please note that this sequence differs in some details from the agenda included in the meeting materials packet.) Modifications of this sequence at specific meetings are noted in the corresponding sections of this report.

6:00 Welcome and Introductions  
Agenda Review  
Overview of the Strategic Policy Plan for Florida's Oceans and Coasts

### Vision

- Review draft vision and offer initial reactions and comments

### Issues and Actions

- Review issues list, identify missing issues if appropriate, and suggest additional detail
- Development of potential actions for each issue area  
Table discussions (workshops with more than twenty participants)  
*What action should be taken to address the issues of most interest to you?*  
*Which of these should be the highest priorities?*

### Word-Cloud (concluding activity)

- *Think about your own hopes for Florida's Oceans and Coasts in the year 2030.*
- *What one word or term best describes what you see?*

### Next Steps

- Plans and data
- How to stay involved
- Workshop evaluation

8:00 Adjourn

## **WORKSHOP DATES AND LOCATIONS**

The date and location for each of the six workshops are listed below. All workshops took place between 6 p.m. and 8 p.m.

- Gulf Coast State College – November 5, 2019  
Student Union East (SUE) 232  
5230 West Hwy 98, Panama City, FL 32401
- Jacksonville University – November 6, 2019  
Marine Science Research Institute Rooms 243/244  
2800 University Blvd., N., Jacksonville, FL 32211
- Marine Industries Association of South Florida – November 13, 2019  
221 SW 3rd Avenue, Fort Lauderdale, FL 33312
- Miami Dade College, Eduardo J. Padron Campus – November 14, 2019  
Earth Ethics Institute, Multi-purpose Room  
627 SW 27th Ave, Miami, FL 33135
- Mote Marine Laboratory – November 19, 2009  
Keating Education Building, New Pass Room  
1599 Ken Thompson Pkwy, Sarasota, FL 34236
- Port Canaveral – November 20, 2019  
Exploration Tower, 4th Floor Conference Room  
670 Dave Nisbett Drive, Cape Canaveral, FL 32920

## **FOCUS GROUP AND LARGE GROUP FORMATS**

All workshops were facilitated by the FCRC Consensus Center, and notes taken during the discussions. Although all of the workshops followed the same sequence of discussions, two different formats were used for those discussions.

Workshops with fewer than 20 participants were conducted as focus groups. Participants sat in a circle or around a table and discussed the questions posed by the facilitators. They often explored potential implementation needs or actions in detail, with the emphasis on topic and question driven by the background of the participants.

In the more heavily attended workshops (20-65 participants), the facilitators used table discussions to get as much input as possible from the broad range of perspectives represented in the room. While the vision, issues, and concluding priorities discussions were conducted in the full group, participants generated implementation ideas and determined their individual priorities at table discussions, using the process outlined in the meeting packet. The meeting materials packet is included as Appendix B of this report.

All workshops began with welcoming comments from FOA Board or Steering Committee members, and an overview of the background and process for developing the Strategic Plan for Florida's Oceans and Coasts.

## **ANALYSIS**

### **OVERVIEW OF WORKSHOP PARTICIPATION**

Participation varied significantly by location: from six participants in Panama City to 62 in Port Canaveral. Factors affecting turnout included the availability of advance notice, the ability of host organizations to promote the workshop, and the state of public discussion of oceans and coasts issues in the workshop region. Most participants in the workshops had some familiarity with oceans and coasts issues. Many were highly active in oceans and coasts issues, professionally or personally. A total of approximately 170 stakeholders participated in the workshops.

The Panama City workshop was the first in the series and was advertised one week before the workshop date (a circumstance dictated largely by the ambitious project timeline). The workshops in Miami and Sarasota had between 30 and 55 participants, and benefitted both from greater advance notice and from host organizations able to promote them. The Port Canaveral workshop, the last of the series, had 62 participants and benefited from four weeks of advance notice, active promotion by the host organization and from the recent completion of the update to the Indian River Lagoon National Estuary Program (IRLNEP) Comprehensive Conservation Management Plan. The public process conducted by the IRLNEP in preparation for that update may have encouraged the participation of a larger core group of active stakeholders sensitized to the importance of a potential state-wide oceans and coasts plan.

### **VARIATION BY STAKEHOLDER MIX**

The affiliations of stakeholders – state agency, local government, environmental group, other NGO, private citizen and resident, or private sector -- varied significantly by workshop. The mix of stakeholders at each workshop significantly influenced the mix of issues they addressed, and the nature of the actions they suggested. The resulting differences in issue emphasis from workshop to workshop were relative rather than absolute. The differences in emphasis across workshops meant that a broader range of issues received sustained attention than might have been the case with a more uniform mix of stakeholders across workshops.

#### ***Panama City***

Most of the Panama City workshop participants were state agency representatives, one was a county Restore Act director, and one a private sector representative active in state oceans and coasts issues. As a result, discussion at that workshop focused almost exclusively on issues related to statewide agency action and interagency coordination.

#### ***Jacksonville and Fort Lauderdale***

The largest percentage of stakeholders at the Jacksonville and Fort Lauderdale workshops were local government representatives. This resulted in a greater focus than at some of the other workshops on issues related to local government programs and local resiliency to climate change.

#### ***Miami***

A larger percentage of participants at the Miami workshop than at other workshops were representatives of non-environmental NGOs, private sector organizations, or simply members of the public. This resulted in a relatively larger emphasis on the relationship of natural resources to communities, and the impacts of climate change on communities, and social equity.

### ***Sarasota***

The Sarasota workshop was attended by a varied range of stakeholders, including a larger percentage than other workshops of educators and students. Areas of focus during this workshop included informal education strategies and strategies for aggregating and disseminating water quality and ecosystem health data, and the variety of habitats to be addressed.

### ***Port Canaveral***

Most participants at the Port Canaveral workshop were active members of environmental NGOs. A number of elected officials and their representatives also participated. The discussion focused to a greater degree than at other workshops on local and state policy regarding water quality and harmful algal blooms.

## **VARIATION BY REGION**

The variation in stakeholder mix among the workshops makes it difficult to generalize about regional differences in issue concerns and priorities. Differences in workshop input were more closely related to stakeholder mix than to workshop locations.

Nonetheless, many issues and suggestions were raised and emphasized at all of the workshops, allowing for the conclusion that these are common across regions of the state as well as across stakeholder groups. In addition, the team presented a preliminary list of issues for review and refinement at all of the meetings. Participants at all workshops affirmed and further detailed the issues on the list.

## **COMMON THEMES**

The following high-level themes that occurred in all of the workshops. These themes can inform the goals and strategies of the plan.

- Always consider economic and natural values in the plan. Florida's oceans and coasts are vital to its quality of life and to its economy, in addition to having intrinsic value.
- Water quality is both a short term and a long-term priority. It is foundational to the health of oceans and coasts ecosystems, and economic value. A significant proportion of discussion at all workshops was dedicated to water quality.
- Coordinated and distributed effort. No one entity has the resources to address all aspects of the problem. Prospects for success improve if the efforts of all stakeholders can be supported and coordinated. Coordination should be effective across all levels of government, and among agencies and local governments.
- Social justice should be considered in all decisions taken. Issues such as septic systems conversion or upgrades, community relocation and clean drinking water can disproportionately burden low-income or historically disadvantaged communities. Identifying and mitigating these disproportionate impacts will be important in making all decisions
- Flexibility and Adaptive Management. These two concepts are related but distinct. Flexibility refers to the need for planning and implementation to be responsive to rapidly

changing conditions. Adaptive management refers to the need to assess the effectiveness of management actions as they are implemented, and to adapt the management strategy as indicated by the assessment.

- Importance of public awareness and understanding. The need for education to build greater public and legislative awareness and understanding of the issues was highlighted as crucial in all workshops.
- Participants at all workshops suggested that the following be given additional prominence on the preliminary list of issues reviewed at the workshops (many participants suggested them as additional boldface issues for the list):
  - Growth and development;
  - Sufficient and sufficiently resilient infrastructure; and
  - Reduction of greenhouse gas emissions in Florida.

## **COMMON SUGGESTIONS**

Participants made a version the following suggestions at all or almost all workshops. In most cases, participants suggested multiple specific actions related to each higher-level suggestion.

### **Water Quality and Harmful Algal Blooms**

- Coordinate current local and state water quality data collection efforts, support needed data collection where it is not currently conducted, and make the information available on-line in as close to real time as possible. Participants suggested a number of water quality parameters and testing regimens, as well as coordination mechanisms.
- Provide additional funding (including dedicated funding) and support for septic system upgrades, septic-to-sewer conversions, and water treatment upgrades.
- Effectively address non-point sources of pollution, including atmospheric deposition.
- Include consideration of the effects of harmful algal blooms on ecosystems, not just people.
- Include consideration of water quantity, not just quality.
- Include consideration of marine trash and debris.

### **Habitats and Fisheries**

- Address all coastal and near-coast ocean habitats. Include consideration of associated species.
- Assess (and regularly update the assessment) the health of oceans and coasts habitats. Make the assessments easily available.
- Address the effect of inland waters in oceans and coasts issues.
- Address the effects of growth and development as they affect oceans and coasts habitats.
- Consider calling out and planning for specific, geographic areas (ecosystems) – e.g. the Everglades, the Indian River Lagoon, etc.
- Manage fisheries for intrinsic, natural as well as economic values.

### **Climate Change**

- Adopt greenhouse gas neutrality and clean energy strategies, not just resiliency strategies.
- Ensure that resiliency is adequately considered in all coastal infrastructure projects.
- Address ecosystem resiliency, not just infrastructure resiliency.

- Ensure that social equity is considered in all resiliency planning.
- Begin planning for relocation where necessary.
- Continue research to understand the implications of climate change for Florida.
- Ensure that all levels of government as well as the private sector are engaged in resiliency planning.
- Innovate when developing solutions.

### **Public and Political Ownership, Finance and Implementation**

- Inform and educate everyone (including the legislature) about oceans and coasts issues, especially newcomers to the state and communities that may have limited access to information about these issues. Support formal and informal education on these issues. Include materials K-12 curricula.
- Consider social equity and the relationship of communities to the natural resources in all decisions.
- Increase enforcement.
- Use multiple sources of dedicated funding and other resources.
- Leadership must emphasize the importance of these issues.

### **IMPLICATIONS FOR THE STRATEGIC POLICY PLAN**

The common themes above not translate directly into goals and objectives. They do, however, suggest an approach to developing goals and objectives that builds on the on-going efforts of all actors, public and private, coordinates their actions, and provides additional resources. It is also an approach that emphasizes social equity and community awareness, engagement and values. Importantly, it is an approach that emphasizes that the economic, social and natural values of Florida’s oceans and coasts are inextricably intertwined. The Steering Committee and support team will work to ensure that the plan goals reflect this approach.

The common suggestions provide a focus for strategies, and menus of specific actions consider in the action planning sections of the document.

### **WORKSHOP COMMENTS**

This section of the summary presents the comments offered at each workshop as reflected in the notes, and also on post-its and note cards if table discussions were used. Notes have been lightly edited for clarity.

#### **PANAMA CITY**

This workshop involved the fewest participants (6), and was conducted in a focus group format. Participants had an extensive depth of experience with oceans and coasts planning, and represented a range of agencies – Florida Fish and Wildlife Commission (FWC), the Florida Department of Environmental Protection (DEP), the Florida Department of Agriculture and Consumer Services (DACS), the Bay County Resiliency Office -- and the private sector. As a result, discussion focused to a great degree on regulatory aspects of the issues, and on interagency coordination in the implementation of the plan.

To start discussion, participants answered the question: “What should the plan address?” rather than the more focused questions on the agenda. As discussion progressed, they also focused on

how to promote effective interagency coordination in support of the drafting and implementation of the plan.

- The strategic plan should call for planning an “off-shore activities growth management plan” for the Gulf of Mexico. That plan should address “what can go where” -- anything that has to be dropped to the bottom of the ocean. Are we going to let the eastern Gulf turn out like the western Gulf?
- The strategic plan has to be a combination of economic plan and environmental plan. It should call for a “what happens where” plan.
- Look at what happens in the Keys whenever a new marine protected area is proposed. The reaction is huge. This would have to have buy-in to have a useful outcome. People need to be aware of what is at stake. Take a geographic approach – address issues area by area.
- Think about National Estuary Programs (NEPs). They don’t provide additional protection, but they do provide a forum. There should be something similar at the state-wide level.
- The plan has to address social vulnerability, social justice. That must be considered in every decision.
- The septic system issue ties to social equity. We need a statewide, coordinated strategy. There are lots of components to the issue. DEP is doing work on this; Basin Management and Action Plans (BMAPs) are in place. Recognize that some processes are in place and addressing this issue. Support what is place now and support coordination and additional effort.
- The plan should address and involve the Department of Defense (DOD) and military installations. They already have some involvement. I believe DOD has resiliency plans for Florida installations.
- Involve large landowners that have influence over coastal issues. Get their participation -- reach out specifically to them.
- Scale and nesting of activities needs to be considered as part of coordinating.
- Some coordination happens naturally, and some is a challenge. For example, the Florida Wildlife Commission (FWC) and the Florida Department of Environmental Protection (DEP) frequently coordinate on a range of issues they both deal with. But FWC doesn’t really talk to the Florida Department of Transportation (FDOT) and the Division of Economic Opportunity (DEO) much. There is good coordination at the policy level between agencies that are close in subject matter.
- FDOT really needs to be a part of this. Years ago they talked a lot about resiliency. More recently, however, the projections and timeframes they use for resiliency planning, when they do it at all, are inadequate. They plan new projects or major renovations for centimeters rather than feet of sea level rise over the life span of the improvement.
- The coordination effort needs to be driven by the people who are involved, and willing. The relevant agencies should get together at certain times to ask where we are, and whether we want to make a recommendation. “Do we want to do that?” If so, over what timeframe and who would participate?

- We do have a disconnect. We need to be trying to get the right people at the table.
- There should be an on-going inter-agency Advisory Committee to help with implementation of the plan and future coordination.

## **JACKSONVILLE**

This workshop involved 13 participants and was conducted in a focus group format. Participants included a number of local government representatives, as well as some state agency representatives, members of the public, and researchers. While the participants did not form discussion groups, they did focus on specific issues for portions of the discussion. Those issues are noted in the subheadings.

### ***Initial Comments and Questions***

- It is difficult to be comprehensive and holistic while giving the legislature a target.
- We've been discussing this approach for many years, and appreciate the legislature's support.
- I worked with the Energy Committee of the Commission for a Sustainable South Florida under Chiles. I also served on the Clean Fuels Advisory board but it ran into a wall.
- Does this replace or build on the 1999 plan? Who is this for? (It is meant to provide guidance to the legislature.)
- Remember that this is policy for 67 counties. We here in Duval are looking at the charter review by March. If you want something in the charter (since we are unique among the 67 counties) that timeframe will be important.
- This is a statewide effort. It is not county specific. The Duval charter review and this effort are two separate things.

### ***Vision Statement Comments***

- What about a goal like reducing non-point-source pollution or zero emissions?
- Mention the ecological value of oceans and coasts as well as their value for tourism, etc.
- The time frame jumps out at me. Is it realistic?
- It is not realistic in ten years. It will take a while for the oceans to recover.
- It reads as though it is only improving. It does not mention the stressors. The fact is there is a lot of work to be done now and in the future.
- Integrate planning in ten years? We need to be implementing, not planning in ten years. We need a shorter time frame to set planning in place in order to begin implementing.
- We need an urgency to the vision. Time is an issue. The situation needs to change soon.
- The second paragraph is government-oriented and the third is broader. I would like to see academia and science cited as part of the solutions. And it will take more than just government to get the work done.
- Need to recognize NGOs and the non-profit sector. We need a broader range of actors than just government.
- This is bigger than a technology issue. It is about economic sustainability. It is critical for the legislature to understand that. It is not about short-term profits.
- Don't see mangroves or wetlands in here. They should be.
- "Coast" means the beach to many. But the range of systems critical to coasts and oceans is much broader.
- Mention ecological services. And, we also need to tie in the importance to the economy.

- It is about economic sustainability.

***Issues List – Suggested Additional Issues or Detail***

- Expand “freshwater discharges to tide” to include discharges into any waterway, since it all makes its way to the ocean.
- Add to issues under the water quality the need to update the Best Management Practices (BMPs) for waterways.
- How many people in Florida rely on water quality? Social equity needs to be a factor in all of the decision making.
- Is it implicit that water quality includes quantity? It needs to be explicit.
- Add BMPs – our best management practices have failed miserably. We need mandatory guidelines.
- Add riverine areas under Habitats.
- I do not see here the ability to adjust to the domino effect. The plan should explicitly address the need and ability to adjust to rapidly changing circumstances and environmental impacts. It needs to be more than just adaptive management. We need provisions to ensure agility in the plan itself.
- We are not talking about the right metrics in the public conversation.
- Any idea where metrics come in?
- There are energy costs to purifying stormwater, etc. We need to offset carbon costs. I don’t see those related costs in here.
- Most of the key metrics have been developed. We also had an energy commission under Crist that provided a lot of information.
- Social data has been collected too.
- This is an opportunity to produce new jobs and new corners of the economy.
- Water quality and land use are closely tied together.
- Developers are already trying to account for rising waters. They are responding to FEMA regulations and insurance requirements.
- I don’t want buildings on stilts because that means you are building in the wrong place.
- What level of specificity on actions are you asking for?
- Steering Committee needs to distill out a list that the legislature can address -- not just a long honey-do list.
- We need more monitoring and better design of stormwater ponds and facilities.
- Beach renourishment impacts water quality.
- We need metrics of success. What is a healthy percentage of tree canopy for example? We need to talk to the legislature in terms they will respond to.
- Increasing population compounds all of these issues.
- We have to expand monitoring.
- There is a clause in the state constitution to the effect that you “shall not degrade” Outstanding Florida Waters, but the legislature never passed a law to implement the clause. The plan should recommend that.
- We also do not have adequate monitoring of outstanding waters, especially the septic tank impacts.
- Representative Mayfield is from Vero Beach and thus her concern with blue green algal bloom.
- There should be guaranteed funding for maintaining and expanding monitoring.
- What about an interstate agency to manage water? Would that help with the Florida/Georgia dispute about the Apalachicola delta?
- Is there an example of interstate coordination regarding air sheds?

- We are actually working on regulation for low impact development in Northeast Florida and Southeast Georgia through respective regional planning councils.
- South Atlantic coordination on adaptability and resiliency.
- Should include more funding and staffing for agencies that have to implement actions – dedicated funding.
- Also need to discuss desalinization.

### ***Climate Change – Potential Actions***

- DEP looks at key measures of air quality but doesn't look at carbon dioxide. We need a comprehensive, multi-variable approach.
- Air pollution impacts water quality.
- The plan should promote vulnerability assessments at the local and county levels. These are currently done piecemeal. You can harden, elevate or retreat. Develop a statewide tool kit that can be adapted to assess local impacts.
- NOAA offers a good training and assessment tool.
- Low income areas are particularly under threat.
- We need more money for this. FEMA money is hard to get and too limited. We need a state contribution.
- Are proposed new toll roads addressing climate change? Are they addressing hurricane evacuation? We should look at the non-point source impacts of new roads.
- The transportation authority in Northeast Florida is looking at ecological and population impacts.
- This set of issues looks at water. I do not see other climate change consequences such as tornados, flooding, heat, fires. Strategies are different to respond to those.
- What about risk insurance – what is our risk management approach?
- Low income areas are the most vulnerable to climate impacts.
- Is there a state push for water reuse or recycling? Consider a tax on tourist businesses for water use or incentivize gray water use with subsidies.
- First bullet ought to be “stop making things worse.” Continued development increases evacuation dangers.
- Need to stay within our groundwater availability for our needs.

### ***Habitats – Potential Actions***

- I do not see the Endangered Species Act here.
- Reservoirs for the state and counties for water supply.
- The University of Central Florida and Orlando are looking at photovoltaics.
- Regarding ecological restoration, you need to address shore-bird nesting areas. We need to separate those from the high-use recreational areas. Identify which species need more attention.
- The state needs a goal for managed retreat and should include habitat retreat too.
- Need to talk about alternative energy to meet our needs.
- Need a renewal portfolio standard (RPS).
- Gulf stream itself could be a source for future energy. Look at coastal energy resources.
- Capture the concept of the lasting impacts on habitats, and the irreversibility of those impacts. If we don't act, the consequences will be X (in terms of externalities).
- Need regional sediment (spoils) management. The Army Corps sees it as a resource for habitat management, but funds are too limited to implement.
- What about impact fees? Need an environmental impact fee.

- University of Florida and University of South Florida students pay a few dollars into a green fund. That is a good example of creative funding.
- “Invest in something meaningful with bonds.” Look for creative research funding tools.
- I do not see land use planning and its importance. Promote creative planning tools, such as cluster development, to limit impacts.

### ***Final Comments (All Issue)***

- The JEA plant dumps water into the river that could be reused. I’ve been told that it is too costly to run purple pipe (gray or reuse water pipe).
- I came here 25 years ago and it seems that water setbacks have been reduced and land use management seems to have been eliminated. Bring back growth management.
- I’m concerned about the implementation of this plan. The time frame is short for six meetings.
- Consult the Army Corps South Atlantic Coastal Study.
- Emphasize that you get more of what you measure – less bad, more good.
- Stress public education.
- Need to mention the Floridan aquifer and springs.
- Would like to see industrial folks put out their plans for using natural resources – dredging for example. How deep do our ports need to dredge for future ships with deeper drafts?
- Look at ocean energy sources. Florida Atlantic University center near Davie working on the use of ocean currents.
- Integrate aquaculture with fresh and salt water (?). What does industry plan to do?
- Can we redefine tourism to be more sustainable? We also need to educate students and get them voting.
- Appreciate you keeping us on track.
- Where can we submit more information?
- Very informative discussion but concerned about how good ideas will be funded.
- We are asking the charter review committee to consider requiring CRAs to guarantee access to water for recreation.
- Address transparency. Require open and accessible information from industry on water and energy usage.

### **FT. LAUDERDALE**

This workshop involved 11 participants and was conducted in focus group format. Participants included local government representatives, as well as some state agency representatives, members of the public, and researchers. While the participants did not form discussion groups, they did focus on specific issues for portions of the discussion. Those issues are noted in the subheadings.

### ***Initial Comments and Questions***

- What happens after the plan is developed? Not much has happened in the past.
  - *The plan will be provided to the legislature to guide future legislation. Also current leadership is eager to address ocean issues, and promising to move forward.*
- Governor has pushed the issues forward. One year is a tight timeline but we can be hopeful the Governor has several years to pursue ideas.
- How is the public being engaged? We need public support.

- *Money and time have been limited during this first phase, and have been focused on standing up the effort over the past three months. Going forward, we are doing more to raise awareness, especially early next year. It is also likely to be a focus of subsequent activity.*

### ***Vision Statement Comments***

- The vision needs to be broader as to why, and more specific as to what is happening. What is impacting the coral reefs for example.
- Second paragraph indicates we are just then dealing with the issues in 2030. It should reflect that we need to start now. Also reference technology in the first paragraph.
- 2030 may be the short-term. Also, phrase this as a vision of the future, not one that has already happened.
- A vision statement describes where you want to be. But we do want to be implementing plans before 2030.
- Oceans and coasts have always been integral to life in the state. Change to “are widely recognized as integral”.
- An educational component is missing here. Share information with the public so they understand.
- Re-emphasize coral reefs and fisheries. Don’t downplay them.
- Economics is very important. The value of reefs is critical to public support.
- We tend to talk to each other and the information is not disseminated well throughout the population. That is especially true of those just moving here. They don’t understand the value of the reefs and our coasts. The legislature definitely does not understand.
- Salt marshes, mangroves, etc. are also important and should be mentioned.
- Talk about the intrinsic value beyond economics.
- You should add beaches. They are the most economically valuable natural asset in Florida.

### ***Issues List – Suggested Additional Issues or Detail***

- Include loss and gain of habitat. Some habitats may move.
- Under economic impacts you are missing a drill-down into how our resources are actually used. Miami-Dade has the bay and everglades – how do residents value the bay? Local decision makers are managing the resources and they need to understand the value to their community. Include how residents interact with and value the resource. It’s called the cultural ecosystem service value.
- Include achieving carbon neutrality or reductions.
- You need a nexus or reference to the Everglades. It is critical to water quality and the aquifer.
- You will need to call out specific ecosystems to get local support.
- Include future development statewide. We have population growth in the coastal areas, yet interior counties could relieve that pressure.
- Look at the Florida 2060 Report. Building inland will impact the environment too.
- Include the use of renewable energy.
- No oil rigs off the coast – reinforce that with the legislature.
- Address the frequency with which water quality is tested in our coastal areas. Some areas test frequently, some don’t.

### ***Water Quality – Potential Actions***

- Test water quality once a week. Also, consider developing automated systems that can test in an ongoing manner.
- Costs can be very high without providing much additional benefit if testing is done too frequently.
- Municipalities are required to report any spills.
- Look at optimal frequency and utilization of technology.
- Even if you are doing it right, be sure others are too.
- There is an opportunity for efficiencies in water quality testing. Look at better coordination and best practices.
- Develop best practices for water quality testing -- frequency, efficiencies, etc.
- Develop systems to pull together data from many different sources to develop more a more comprehensive and geographically inclusive picture of water quality.

### ***Harmful Algal Blooms -- Potential Actions***

- Recommend a statewide blackout for fertilizers in the rainy season.
- Look at saltwater intrusion and the impact of water withdrawals. Also, what is occurring on land impacts the aquifer. You need to address more than just surface water quality.
- Resiliency planning should include measures to address areas of recurring storms – pockets of public and private land where it will be challenging to address flooding and fund improvements. There should be state funds for implementing resiliency in neighborhoods, not just planning money. For example, communities with low-elevation lift stations for sewage systems. It will take political will and funds to fortify systems.
- The road to the Keys is much more resilient today than thirty years ago because of planning and funding.
- Sometimes blooms are toxic and sometimes not. We need a better process for the media and public to get accurate, scientific information: a way to educate the public. Perhaps that could be a role for that new state science officer.
- Sargassum is a major problem. That is our biggest complaint from public.
- But it is a global problem. We feel the impacts from what happens in Brazil. It is also important to educate the public about that.
- Most septic tanks are in low-to-medium income households. They need support for updating their system or changing to sewer.
- Some communities allow payments for improvements over decades on a property tax bill.
- Provide the same support and financing for septic upgrades that the state offers for installing solar panels.

### ***Climate Change -- Potential Actions***

- Encourage utility companies to have renewable energy goals. The goal would be for a utility to generate a certain percentage of its energy from renewable sources within a certain period of time.
- Include an emphasis on living shorelines. Use natural, resilient mangroves, seagrasses, etc.
- Allow community choice aggregation of energy generation. You can purchase the mix you want.
- Legislators can change statutes. That would be a way to codify recommendations to direct citizens to take actions that will protect our oceans and coasts. Develop policy to govern how we manage our coasts and oceans.
- How are we going to fund any of this? Can we create a state fund with some type of tax?

- Aggregate different sources of funding. But without specific direction, the state will simply move funds out of someone else's pot of money.
- Factor in the social equity impacts of climate change. Those displaced are frequently minority communities.
- Encourage a statewide effort and approach to infrastructure planning.
- Historic communities that are economically stressed and without the tax base to address impacts may need state assistance.

### ***Public and Political Ownership – Potential Actions***

- If an idea comes from the public, then they will be more likely support it. We need the public to engage and get involved in activities that help them understand the value of oceans and coasts.
- You need to make comment opportunities more widely available.
- Audubon and 1000 Friends of Florida do free webinars and lobby. Utilize them and other organizations that do similar work to get information out, rather than reinvent the wheel.
- Use public service announcements over various media.
- It requires education – we are all the problem and we are all the solution.
- Marketing campaign. We need a good bumper sticker that everyone can coalesce around. Remember kids coloring books sent out to schools.
- Make sure we educate the adults, not just kids, so we do not have to wait for another generation to make progress.

### ***Habitats and Fisheries – Potential Actions***

- Not just regulation, but monitoring and enforcement too.
- Aquaculture is growing in importance. Encourage communities to adopt as part of their economic mix.
- But it takes land and water and needs to be done properly.
- Sustainable or multi-trophic aquaculture. It is more sustainable but may produce items that Americans are not used to eating.
- Citrus succeeded because of marketing and state support. A similar effort is needed for more sustainable aquaculture.
- We need to teach people what is sustainable in agriculture too.

### ***Final Comments – All Issues***

- Polluted stormwater has to be addressed. It is the number one problem for the oceans and coasts.
- Plastics and trash needs to be addressed.
- Opportunity to look at other states' ocean policies. Also, we need to talk about our blue economy. Mississippi has an ocean policy. Other states have examples and roadmaps we can look to for ideas.
- There is increasing awareness of these issues. If we are including other plans in our plan too, do we know if those plans worked?
- Is the real estate economy represented? We need that sector's input. They have a major impact on coastal areas.
- Highlight the value of the "blue carbon" stored in our state's coastal areas.
- We really need to act quickly – we need a shorter timeline. The impacts are already here. We have water over the seawall without any storm.

- These are the right topics and issues. What resources can we use to complement synergies and to implement actions in coastal development in the short term?
- In the 1980s Florida was cutting edge in terms of community planning. Many of the same issues are present in the current situation regarding development pressures. We need to address land use. Development will occur but needs to be done in a manner that limits impacts.
- Focus on economics. How will you fund this? How will you create it and make it equitable?
- It will require statewide comprehensive planning of development and environment.
- The public cares about hurricanes. Having more hurricanes impacts sustainability, economics and environment. It is a question of when, not if.
- How we are negatively impacting our environment? There is good information in the Marine Research Hub. They are a consortium of four university marine research institutes and encourage non-competitive research for greater public value. That allows innovative research to be commercialized.

## **MIAMI**

This workshop was conducted in focus group format despite having over 31 participants. Many participants arrived after the first half-hour, and after the workshop discussions were initiated in a focus group format.

### ***Initial Comments and Questions***

- How will this plan be implemented?
- How will this connect to the worldwide issues and worldwide best practices? Critical actions are occurring every day.
- How can we interface with the public?

### ***Vision Statement Comments***

- Estuaries, Everglades and wetlands need to be mentioned.
- Incorporate the bays: Biscayne Bay specifically.
- What is "healthy"? What is the standard?
- The interface between the oceans, coasts and the land needs to be mentioned.
- Say something about the people - multicultural and ethnic - and economic diversity. Florida is the place where people come from all over the Caribbean and South America. Residents should be mentioned first and then that they are supported by the institutions.
- The first paragraph is more of a wish list. In the interest of integrity for those investing, we cannot declare we are the leaders. For the second paragraph, also frame some of the special areas like resiliency, cruise ships. Play positives in unique ways. Paramount is ethics - the art of the good life.
- Important for people? We need to be unified with and recognize the importance of the environment.
- Mention carbon emissions in second paragraph. We need to be carbon neutral. In the third paragraph, the residents are listed last but are most impacted. They should be listed first.
- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) looks at biodiversity around the world. Oceans and coasts have a relational value beyond economic value. Talk about the human connection to the environment.

Assessment should go beyond the economic lens. What do stakeholders value about our oceans and coasts?

- Mention the role of healthy bays in mitigation of natural disasters.
- I definitely wonder about the definition of healthy and about getting there in eleven years.
- The concept of sustainability is not here. A sustainable economy needs to move to a new way of doing things. You also need to mention energy conservation.
- Make some mention of sustainable development, perhaps in the second paragraph.
- Clean water impacts people. Low income communities are particularly vulnerable to water quality problems. The statement should reflect the values you are trying to achieve with the recommendations.
- Talk about the education of youth. They are the future. Recycling was not part of the public consciousness just 20 years ago. Good marketing to youth changed the view of recycling. It will influence their parents now.
- The United Nations has 17 sustainable development goals. 2020 is the five-year milestone for sustainable development in the international accord. These goals are a matter of survival for many in the world.
- The first paragraph mentions coral reefs and fisheries. There are many other important habitats. Include mangroves, seagrasses, etc.
- We need the right mindset to support these ideas.
- UN provides great, broad perspective and goals for sustainability development.

#### ***Issues List – Suggested Additional Issues or Detail***

- Under water quality, the list is missing litter and trash.
- The seaweed issue missing – sargassum.
- You should also address wastewater from nuclear plants.
- Energy issues.
- Adaptive management needs to be emphasized, as well as the nimbleness to respond to changing conditions (they are not the same thing).
- Add freshwater inflows.
- Add managed retreat from the coast. People may need to leave coastal areas.
- Development needs to be a major, boldface category. We need to build in the right places.
- Focus on development beyond coastal communities. That development also impacts coastal watersheds.
- I don't see invasive species on the list.
- Education is key – of the public and of the legislature.
- The Atlanta Center for Disease Control has a forum for resilient communities. It addresses our problems of increasing climate change impacts. We have to honor details of actions.
- Energy should be a separate boldface category.
- Be careful how we educate the public. We cannot scare them, but also cannot let them ignore the issues. These issues have disproportional impacts on poor communities that also have the least ability to address the issues.
- There is a strong social equity component to all of this.
- For adaptation, it is vital in Florida to grow homegrown talent.
- There is a new study showing that affluent communities are more likely to get funding for beach renourishment after a storm while poor communities are simply bought out and asked to move.
- There are underlying societal factors that impede action.
- We have an ethical responsibility to protect all. Empower communities.

- The plan should have a section for social equity and ethics.
- Do you have an expert on social equity issues and displacement on the team?

### ***Water Quality and Harmful Algal Blooms – Potential Actions***

- The clean water act does not include plastics and trash. You need to include those here.
- Establish a program to subsidize replacement and upgrading of septic systems.
- The Water Management District needs to address pollutants reaching the coasts through stormwater. We need more attention to water flowing through canals into Biscayne Bay. Reduce the loads flowing into the Bay. Capture trash before it washes into Bay.
- Septic tanks can be the solution in some areas.
- Algal bloom offers opportunity economically too.
- Environmental health concerns go beyond just human concerns. Study the impacts of blooms on species and fisheries.
- Address water quality monitoring - even on a grassroots, entrepreneurial level -- to engage the public in monitoring water quality.
- Address stormwater discharges and also discharges through ground water. Increase the number of fertilizer ordinances. Also consider injecting treated water into the ground.
- How much pollution we are putting out there. Evaluate and manage the aggregate loads.
- There are weak requirements for stormwater management. There is not enough oversight or clarity on best practices for the state to enforce in permitting and maintenance.
- Explicitly state that all water in Florida is connected – from Okeechobee to Biscayne Bay.

### ***Climate Change – Potential Actions***

- Establish Clean energy mandates. Require renewable energy and emission reductions
- Measure the carbon emissions of each building (to develop an accurate estimate of total carbon emissions). You cannot fix what you cannot measure.
- What is the intention of the bullet on relocation or retreat? We need to consider social equity issues. Look at where communities are now, low income redlined into low lying areas. Climate gentrification is already in process. Acknowledge past hurts and address them moving forward.
- Work on data sharing to educate people. Researchers know what is driving climate change, but often the information has to be requested through cumbersome records requests. The information needs to be readily accessible.
- Low income communities and those moving to the state are often not aware of the issues. Public dollars are needed to inform them.
- Establish regulations for building construction - LEEDS for example.
- Use regulations and incentives for change.
- The emphasis in the list is on carbon. Other green house gases are also important.
- Make the connection to climate change personal.
- Penalize buildings that do not meet emission standards.
- People know some but not most of causes of climate change. Work with children -- they absorb information like sponges.
- Too many are simply put back in harm's way following natural disasters. Some are made whole by insurance, others are not. We need to stand up for communities not represented here tonight.
- Miami-Dade Community College invites adult education. We can set competitive goals for Florida to be the best it can be, and set in motion an evolving educational process.

- Loss of habitat and lost shoreline are important issues. Incentivize living shorelines through insurance pricing and public funds.
- There is a huge international community coming here. They can carry education on these issues back to their communities.
- Costa Rica is more progressive and sustainable country.
- There is a large segment of the population that cannot participate in these forums. This plan needs to include state sponsored outreach programs to those communities without the wherewithal to address climate change issues.
- Transportation policy should include incentives for electric vehicle infrastructure.
- State government should buy only electric vehicles. Some rare local communities are already doing this.

### ***Habitat and Fisheries – Potential Actions***

- Identify which habitats are at risk or stressed.
- There is a great deal of academic information that should be brought together on endangered species.
- Promote autonomous vehicles to reduce congestion and emissions (when the vehicles are electric).
- Improving safe, accessible walking. Optimize walking and biking opportunities and safety.
- Develop and promote awareness of best management practices for habitats and fisheries.
- Spartina marshes are not mentioned.
- Inland freshwater wetlands need to be protected and restored. Include in the overall plan as connected to coasts.
- This draft is lacking an enforcement piece. It needs that to be meaningful.
- Beach renourishment? Where is the plan to retreat from non-static shorelines and related habitats?
- Address invasive species.

### ***Public and Political Ownership, Implementation and Financing – Potential Actions***

- Ensure diversity of political voices and groups in the governing board for this effort. You need broader representation of racial and ethnic diversity: diverse leadership.
- You have to cast a wide net and work from the ground up on resilience.
- Tread lightly with fishing interests. Be sure to engage and get their input.
- State is known for recreational fishing. Empower fishers with information of consequences of climate change to that which they love.
- Mapping? There is a need for more mapping of subsurface areas around Florida.
- Include digital mapping to make it useful to users with data tied in and accessible.
- We also need more context for maps. We need to look beyond our front yard.
- Ownership? You need a subject matter expert advising you on minority and ethnic communities
- We make policy at the local level to address issues, but then encounter statewide preemption -- styrofoam for example, plastic bags and sunscreen too. The state prevents locals from addressing issues.
- We need public education and grade school programs.
- The issue of equity needs to be front and center.
- Put in place monitoring of any plans to evaluate progress.
- We need to change the building code for resiliency.

- Development and climate gentrification/displacement needs to be its own category.
- There needs to be a focus on prioritizing federal funding in a way that supports state efforts.
- Put in place safeguards that ensure this doesn't result just in payments to big corporations.
- Italy declared all its citizens must have literacy on climate change. We should do something similar.
- Need further development of the financing section.
- Regarding water quality and climate change, we need waste reduction and capture to prevent it going into the oceans.
- Invite international communities to give us their thoughts. We may be missing things that are easy to do.

## **SARASOTA**

This workshop was attended by 22 participants and was conducted in large group format, including table discussions. Table discussion comments are transcribed from the post-its and note cards used by participants. They remain grouped by table number because comments at each table were sometimes thematically linked. Grouping comments by table also provides an informal indication of the degree to which similar comments arose as themes common to many of the discussion groups.

### ***Initial Comments and Questions***

- We are wondering what actions should be taken and by whom?
  - The initial audience is the legislature. There is also coordination between state agencies, local governments and other interests.
- When we reach a conclusion, then what?
  - Plan delivered back to the legislature. We are looking for something the state can do over the long term, not just in reaction to immediate crises.

### ***Vision statement Comments***

- This is similar to the national vision Admiral Watkins put together thirty years ago. The issues remain the same.
- I like the use of the word identity. It is very personal.
- “Issues that plagued them in 2019”? What are they? And what about others that may arise in the future?
- In the last paragraph, cross out leaders. Say they “finally learned”.
- This carries no connotation of action. What is a healthier place? We need to measure our progress.
- Add language that addresses building future capacity to sustain the effort itself.
- Education is important. Involve people in the process, especially the younger generations.
- Local governments cannot fix the ocean but can play a role in building a solution. If every coastal community did a little thing, it would become a big thing - distributed and coordinated effort.
- This is a very fluffy statement, but the building is on fire. Contrast this vision with the alternatives of going in the wrong direction or just maintaining the status quo. The consequences are catching up with us.
- There would be value in defining "health". Make sure it is science-based.
- Need room for emerging issues that we do not know of yet.

- Talk about “innovative and adaptive” approaches.
- Getting outside buy-in is important. Invest time to get that buy-in.
- Need to involve younger generations as they are most affected.

***Issues List – Suggested Additional Issues or Detail (Grouped by Issue Category)***

*Water Quality and Harmful Algal blooms*

- Address the presence of pharmaceuticals in the water, and the potential for oil spills.
- What about land use? You really need to address development. Natural systems are being paved over.
- Develop indices of our current status to measure against in ten years. Develop an ocean health index for all the categories.
- Consider atmospheric deposition of nitrous oxide.
- Address marine debris and micro plastics.
- Address hydrocarbons from cars and aircraft.
- Nitrogen deposition.
- Storm water is a pollution source. Storm water resiliency should be under climate change.
- Add drinking water as an issue.
- Look at the economic impact of all the issues.
- Concerned that algal blooms kill off many things. Someone must pay attention to the consequences of algal bloom to natural systems, and recovery of natural systems from the blooms.
- Blooms and fishery management are tied together.
- Include an ecological impact assessment
- Issues for algal blooms are coastal observation and physical oceanography.
- Look at industry inputs into other waterways around the state, not just Lake Okeechobee.

*Climate Change*

- Look at blue carbon - the role of marine resources in carbon sequestration.
- Promote education to develop and implement a plan.
- Ben Diamond is putting in a bill for a climate assessment for Florida.
- Funding is major issue. Identify funding sources to do the things on this list.
- Adopt policies that convey the true cost of carbon pollution.
- Prohibit development in flood prone areas.

*Habitats and Fisheries*

- Marine life is a missing heading - species that are flagships for visibility.
- What about species of concern or endangered species? Be sure to add invasive species too.
- Address microbial communities too, not just large charismatic species.
- Include the special role of estuarine habitats for carbon sequestration and resiliency.
- Restoring historical levels in some areas will gain more support as a goal. Return to where system started out.
- Include protection of dunes. Consider re-evaluation of coastal development for permits and set-backs.
- Retreat?

- Add “more natural beach restoration than dredging”.
- Many habitats may be destroyed by re-nourishment of the beaches. We need more intentional and thoughtful restoration.
- There are currently limits on what can become a protected area. Explore other reasons for protected areas – for example to help replenish depleted ecosystems or areas after algal blooms. We need legal authority to deal with the impacts of algal blooms in terms of restoration.
- "Better regulation." It is not an unlimited resource to be restored for harvesting.
- Also include the invertebrates as well.

*Public and Political Ownership, Implementation and Financing*

- Face up to fact that the funding model for local government is more development.
- Address coordination with current comprehensive plans.

*Additional Issues Offered on Wall Posted-Its*

- Align with the United Nations Sustainable Development Goals.
- Place a limit on extraction from Florida's springs and aquifer.
- To resilience add: "Natural and Nature-Based Infrastructure".
- Conservation of birds.
- Conservation of marine mammals.
- Prevention needs to be prioritized on the same level as treatment.
- Need assessment of habitat to inform restoration and assess success or failure.
- Maintenance plan for restoration needs to be identified.
- As climate changes, restoration needs to consider that the prior state may not be reachable because of climate change.

***Priority Actions by Table***

*Table 1*

- Establish baseline of ocean health with an index.
  - There are existing examples from around the world: multi metric, with legislative funding.
  - We already do a State of the Gulf assessment.
- Develop progressive land use policy.
  - Models and regulation exist. Establish no-build zone lines and enforce them. Remove variances. We need a state role in any retreat.
  - Look at coastal management programs in other states like Oregon.

*Table 2*

- Bring environmental education back into classrooms
  - They will be the future leaders.
  - Develop a state curriculum.
  - There are loose standards in K-12. Standards should be more specific, and adaptable as we learn more.
  - Informal science education is important too: beach walks, outreach by zoos and research centers, etc. Emphasize that animals in captivity are there for education.

- Many cannot afford to work as informal educators (at Mote, for example) because of low wages. We need to allocate resources to support environmental education.
- Ecosystem is of the highest priority.
  - We need a holistic approach because issues are interconnected.
  - The goal is overall ecosystem health. What are the metrics, who will do it, who will maintain it?

*Table 3*

- Large scale conservation easements to stem development
  - The legislature could fully fund Amendment 1.
  - Buy land when it floods, do not just rebuild on it.
  - Pass property tax changes to support living beaches or mangroves instead of walls.
- Reduce waste water pollution.
  - Relates to earlier discussion.
  - We have good state rules that are just not implemented everywhere.

*Table 4*

- Advanced waste water treatment (AWT) for all.
  - Provide funding to replace septic systems.
  - Level of treated water.
  - AWT is a thirty-year-old technology. Require QWT (Quaternary Waste Treatment). It would be expensive, but more cost means more care in how much and how we use water.
- Implement amendment 1!

**PORT CANAVERAL**

This workshop was attended by 61 participants and was conducted in large group format, including table discussions. Table discussion comments are transcribed from the post-its and note cards used by participants. They remain grouped by table number because comments at each table were sometimes thematically linked. Grouping comments by table also provides an informal indication of the degree to which similar comments arose as themes common to many of the discussion groups.

***Initial Comments and Questions***

- Who is doing heavy lifting in terms of actually writing the plan?
  - TetraTech.
- What is the legislature going to do with this?
  - Lay the groundwork for state policy. The plan will have recommendations for follow-up legislation, with a possibility of addressing “low hanging fruit” when the next legislative session starts in January.
- When will the economic study be available?
  - Late December
- Will there be other opportunities to offer suggestions?
  - We will be engaging participants today on actions and again in the spring with a draft plan.

### ***Vision Statement Comments***

- This is excellent, especially the reference to the consequences of sea level rise. But this is also pessimistic. Need to add the concept of preventing the worst consequences. Also add support for national and international efforts to limit warming to 1.5 Celsius.
- This is missing a statement that the natural system is productive and sustainable.
- Need to address air and water.
- It's missing wetlands.
- Do not extend the 2030 deadline in the vision. We need to act now. I've worked all over the world and have seen that ecosystems can bounce back quickly.
- I would encourage you to include a dotted line from here to there. How do we get there? How do you make this real?
- The first sentence is a great line. It's now 2019 and in 11 years? But we should be there now. We need to convince policy makers to act now.
- Two trends are very important -- retirees looking for recreational activities and tourists visiting our coast line.
- Add water quantity and supply.
- I don't see beaches here. They are key to the economy.
- What problem identification has been done? Is there a mission statement?
- I would like to see that we need to rebuild living shorelines. They are key to water clarity.
- Most of the participants in the room are here with NGOs. Add them to the last sentence.
- Talk about the stressors. By 2030 the biggest will be population growth and the growth of tourism. They are causing many of these issues.
- I embrace vision, but suggest for legislature's benefit adding "as supported by the state of Florida".
- This looks like a business plan for the state to grow. What if it were for residents who want to live here?

### ***Additional Vision Statement Comments Offered on Wall Post-Its***

- Beaches, native species, oysters, and clam habitat are all of critical importance for the overall vision.
- The vision should include the concept of continued planning and implementation to identify and anticipate changes due to growth, development and environmental change.
- 2018\* (*not sure what this means as it was placed next to 2030*)

### ***Issues List – Suggested Additional Issues or Detail (grouped by Issue Category)***

#### ***Water quality and Harmful Algal Blooms***

- The big problem is wastewater treatment. It also fits in technology.
- This is the most important issue. Include water for drinking and swimming as part of the issue.
- Add septic systems to sewer.
- Address legacy loads.
- Need an additional major heading for "infrastructure". That will be a big cost in the future.
- Include water quantity and quality.
- In addition to discharges to tide, sewage discharge is key.

- Make the issue water security - preventing sickness from microbial contamination. Don't get bogged down in type of treatment.
- We need regulation.
- Ten years ago we looked at infrastructure through DCA. Who is responsible now for that? We need a coordination mechanism again.
- Define "coastal watershed".
- Development and infrastructure impact all of these issues. They should have a separate category.
- Add conservation of water quantity.
- We know the solutions to most of these issues, but do we have the political leadership to get things done.
- Educate residents about how their actions impact the environment.
- Need public ownership of water quality,
- Blooms?
- Not sure if the last bullet fits here. It may be better under water quality.

### *Climate Change*

- This is a problem that cannot be fixed by individual action. Only 30% of emissions are related to individual choices. We have to address through government to reform the whole system.
- Managed retreat needs more emphasis.
- Managed relocation.
- Address the changes in coastal circulation produced by climate change.
- We need a management plan for the retreat of insurance from the state.
- Encourage techniques to reduce coastal armoring.
- "Climate change" is too political. We need a new phrase for the issue.
- Some of the issues listed here are redundant.
- Parameters like acidification and changes in precipitation need to be considered through research.
- Address the severity of wind damage and increased storm impact.
- Add species range changes.

### *Habitats and Fisheries*

- Combine under restoration of coastal systems that include all species.
- Look at essential fisheries as codified in the Magnus-Stevenson Act.
- Look at moving away from coastal hardening. Beach re-nourishment, living shorelines, and managed retreat are a better approach.
- Under habitats look at future availability of green space and public ownership.
- You are missing worm rock reefs north of Martin County.

### *Public and Political Ownership, Implementation and Financing*

- We need a long-term dedicated source of funding (50 years), otherwise we are playing whack-a-mole.
- Education component as a theme in this category.
- For wastewater infrastructure alone, we are grossly underfunded at state level. We need carbon pricing at the federal level with state participation.
- The coral reefs should be referenced from Key West to Martin County.

- Build on quality research that has already been done. We know where the habitats are.
- Cities and towns are on 30-year comprehensive plans. All must include storm and waste water plans.
- Technology and innovation of today won't get us there. We need incubators for new ideas.
- I moved here with little awareness of impacts on environment. We need education for new arrivals.
- We need to pay for the true cost of dumping sewage. Dumping into waterways and oceans should not be allowed.
- Require changing from septic tanks to sewer.

*Additional Issues or Detail Offered on Wall Post-Its*

- Add a new category, growth management, to address population growth.
- Bring back DCA, impact fees and environmentally sensitive planning.
- Include under Habitats: biodiversity, seagrasses, native communities, and invasive species.
- Make infrastructure a major item on the issue list.
- New issues to include: population growth, and; infrastructure
- Simplify the list.
- For each sub-bullet, elaborate. Why is each an issue relative to the vision? For example - Water quality: land use in coastal watersheds which increases pollutant loads to adjacent waters and reduces the cleansing effects of natural lands upon surface water runoff.
- We need to have a scientific agreement on the projection of sea level rise to 2070 (add under Climate Change). The Corps of Engineers, NOAA and USGS each have a different projection. I believe it ranges between a 45" to 26" increase from today. How can infrastructure projects be properly designed for the next 50 years with such a wide range? All infrastructure design begins with the high water elevation for the design period.
- Under Implementation and Financing: 1) Integrate plan with the federal South Atlantic Coastal Study (SACS). This is a \$16 million study currently underway and very similar to this plan. 2) Clearly assign issues and actions steps to appropriate state and local agencies.

***Table Discussion Post-Its Regarding Potential Actions***

In the table groups participants discussed what actions they believed should be taken to address the issues. After the discussion, each individual wrote their suggested actions on post-its and placed them on an easel-pad sheet at their table. Each participant could offer as many suggestions as they liked. All suggestions submitted using this process are transcribed below.

*Table A*

- We need to redesign retention ponds for better water quality. The majority are "wet" using chemicals and storing muck and nutrients. Dry ponds absorb more water and clean it before it goes into the aquifer. Wet ponds need floating islands of plants and littoral plants instead of herbicides. Wet ponds can not collect stormwater because they are usually filled to the overflow and all new rain just flows out.
- U.S. has been interested in an interoceanic canal since 1855. The U.S. Commission for the Interoceanic Canal in 1970. In 1949 Pres. Truman signed law 280. If you think about

business for Florida by 2030, the world merchant fleet will be 85% ultra large container ships.

- Statewide advancement of shift to the use of LNG as an alternate fuel to petroleum products. We have unlimited natural gas to compress, store and use for trains, ships, auto/truck and electric plant production. It is clean, cheap, and made in the US. Florida Ports Council and local governments support. Port Canaveral will supply LNG next fall to Carnival ships, a first in the United States.
- Don't just educate and write rules, enforce them.
- Financing must be accountable for community to buy-in.
- Items will not be implemented without a financing plan.
- Start a water quality testing program and publish results in the news and on websites. I test for clarity, pH, D.O., salinity, and temperature for the MRC. We need to test for nitrogen, phosphorous, coliform and bacteria. Then we need to publish the information on a website and state the safety of the IRL for swimming and fishing.
- Concerned about coral reef ecosystems. Do not establish no fishing zones. This will not fix the problem.
- Do not allow so much building on the beaches.
- We need to establish more shorebird nesting areas, more horseshoe crab nesting areas, and more marine life nurseries in the Indian River Lagoon. I have seen many of these environmental areas destroyed due to sea walls, shoreline hardening with rocks and concrete, and severe shoreline erosion due to cutting down trees and plants and replacing them with turf grass that cannot hold the soil.
- Determine the maximum sustainable housing density and place a limit on new houses. Stop shoreline housing development.
- Stop spraying pesticides to control aquatic vegetation in waterways. We need training for staff who maintain stormwater ponds. Stop spraying pesticides to kill vegetation around edges of ponds. The plants die and contribute additional nutrients.
- Enforce no dumping of sewage from live-aboard boats.
- Change the Burt Harris Act to slow down high density building in the coastal high hazard area.
- Grow a pair.

*Table B*

- Focus on funding.
- We need single authority to oversee the Indian River Lagoon with power to override local objections and obstacles.
- Require all multi-dwelling development to post a public bond of a percentage of development cost to be used to help fund new infrastructure.
- Require all lagoon counties to pass an increase in sales tax for water quality like Brevard County did; a 0.5% increase.
- Failing low-tech infrastructure is very expensive to repair or replace, and often the largest contributor of nutrients.
- If they've been working 20 years, why are we worse off?
- The issue is sea level rise. Over the last 30 years sea level has risen 6". The next 50 years could see a rise of 45" to 26". The cost of rebuilding infrastructure for this rise is tremendous.
- Implement agriculture BMPs.
- Growth management should forcefully push toward low impact development.
- Establish a strategic acquisition fund to facilitate managed retreat,

- Use the Florida Land & Water Trust Fund to leverage federal land and water conservation funding.
- Create a new technology pilot program for funding innovation of sustainable infrastructure, development and restoration.

*Table C*

- Take a precautionary approach environmentally.
- Create or continue incentives for eco-friendly economic growth.
- Habitats – include mitigation areas.
- Implement Low Impact Development.
- Complete the action plan and implement.
- Upgrade regulations and technology to address stormwater and non-point source pollution.
- Monitor of progress.
- Establish ecosystem-based goals and objectives.
- Education!
- Independent review of measures proposed for efficiency and things learned.
- Condense and prioritize topics. There are too many bullet points to address in the plan.
- Identify spawning areas.
- Starts with outreach and education. Make environmental protection and natural reasoning a mandatory class in schools.
- If every 4th grader learns Florida history, they should be learning Florida natural history at the same time, using a science-based curriculum for all issues facing their specific local environment.
- Accountability: - laws - political leadership - common sense.
- Include coordination and collaboration with Caribbean actors.
- Address relocation from the coasts.
- For sustainable fisheries, address data collection, coordination and collaboration with Caribbean, and protect identified spawning areas.
- Publish the KA (?) speech. Put it on the bottom of every lid.
- Educate everyone.
- Declare war - unite - win - not going to happen.
- Teach and educate. Taking responsibility begins with knowledge.

*Table D*

- Create a set of environmental/water innovation fairs. Seed fund prizes for best innovative technology proposals. Essentially similar to the Hack the Lagoon Duane DeFreese did in Melbourne. Generate a groundswell.
- There should be no bio-solids from wastewater treatments to be spread out over any land in any state. Bio-solid material should be incinerated and reduced to ash. Much the same way as a trash incinerator. Waste Management Company has found a way to incinerate trash and form an energy pellet that can be used to fuel vehicles or homes
- Under Political Ownership, get buy-in and commitment from the legislature to adopt final strategic plan.
- Require statewide mandatory yearly septic tank inspections and push to eliminate or outlaw future use of septic systems.
- Screening and natural filtering of stormwater discharge points.
- Outlaw fracking.

- The legislature should: 1) adopt a strong clear requirement for water basins to develop comprehensive basin plans that will control current and future emissions; 2) require mandatory state review of plans and effective monitoring; and, 3) establish strong, swift penalties for areas and sources that do not fully comply. We must have enforcement.
- Add under Harmful Algal Blooms: Develop bio-solids deposit options to stop spreading on coastal agricultural land.
- Edit current statement under Harmful Algal Blooms that begins “Develop fund ... near shore coastal waters” to say: develop, fund, implement and enforce best management practices to reduce point and non-point sources of nutrients, contaminants and sediments into freshwaters that flow to estuaries and near shore coastal waters”.
- Financing idea: everyone needs to pay a water withdrawal fee (\$5/1000 gallons). We must stop letting corporations withdraw unlimited amounts from our aquifer for the price of a Water Management District permit.
- Fund the Florida Forever Program. It saves wetlands, can help with coastal retreat, replenish aquifer and allows retreat from sea level rise for wildlife.
- Better regulation and enforcement. For example: enforce the federal and state no-discharge from boats regulations. Sewage dumping from boats into all waters can be stopped by Fish and Wildlife enforcement.
- Employ the best technological solutions that have been proven and succeeded elsewhere in the world.
- Develop a long term state funding plan to address the \$50 billion in pollution problems the state faces.

*Table E*

- Education of everyone! All need to buy in. They need to have skin into the game.
- Citizen education is a necessity.
- Do you know if Indian River Lagoon is part of this?
- Recycle.
- Leadership to connect cities and counties with information and solutions.
- Specifically call out estuaries in the plan.
- Enhance and modernize wastewater treatment plants (bio-solids; nutrients).
- Fund and enforce septic to sewer.
- Develop standards that can be followed nationally and internationally.
- Increase ease of access to information for transitioning (incoming) local and civic leadership.
- Improve communication to the general public. Get the community on board through P.R. and social media.
- DO NOT dump sewage into lagoon or ocean.
- Grey H2O puts nutrients back into Indian River Lagoon and ocean.
- Fund campaign for public ownership (i.e. taxes/regulations) - urgent!
- Coal factories in Orlando?
- Dumping sewage is a big problem.
- Information gets lost with turnover in city and county leadership.

*Table F*

- Address bio-solids management.
- Specificity is paramount. Focus on wastewater funding and fixing.
- Streamline permitting for innovative technology and solutions at state level.

- Research into coastal ocean circulation changes due to increased freshwater and temperatures (climate change).
- We need additional research to better understand the effects of climate change and how it will impact overall oceanography, fish behavior, migration, etc.
- Strengthen regulation and permitting at the state level of development, both new and existing.
- Increase infrastructure.
- Education and outreach.
- Responses to all listed issues in my 85 years are always based on "impact emergency".
- Hold people and businesses accountable for raw sewage spills.

*Table G*

- "Monitoring" is okay, in fact we need it!
- Statewide, comprehensive HAB monitoring of cell counts, toxins and nutrients.
- Explore additional flushing of lagoon systems.
- Water quality & nutrients: network of designated muck accumulation pits for maintenance removal; recognized best practice for environmental dredging (restoring habitat by dredging) with permitting fast track.
- Monitoring network: air, water, critters. Distribute information on something equivalent to the weather channel. Use crowd sourcing.
- Low hanging fruit: 1. Stormwater retention on every property; 2) bio-swales with native vegetation; and, 3) regulation at state level.
- Legislative funding tied to local ordinances restricting/limiting development.
- Engage in lobbying for, and endorsing, legislation consistent with the mission of the Ocean Alliance.
- Harmful algal blooms: eliminate septic tanks in Indian River Lagoon watershed.
- We have to stop putting nutrients into our waterways.
- There needs to be a dedicated recurring funding for cities and counties to be able to get matching funds for local competitive cost share grants to fix infrastructure.
- Get rid of lawns. We need regulation to accomplish this and protect homeowners from homeowner association rules.

*Table H*

- Implement Amendment 1 (LWLA) as the public wanted it.
- Get Florida DCA and Coastal Zone Management Agency back.
- DCA - bring it back to manage growth, especially stormwater, sewage, wetlands, sprawl, low impact development, etc.
- Use Florida 2070 Project report for guidance.
- Water costs in Florida are the cheapest in the U.S.
- Protect coastal waters. Use the new dollars for conservation.
- Legislative priority should be fund, follow up, implement.
- Long-term dedicated major funding for water issues. Corporate and residential impact fees. State income tax.
- City and county should promote native plants instead of St. Augustine grass.
- Implement Restore Act and Land and Water Legacy Amendment (2016) fully. These two funding sources could add \$2 billion in conservation funding.
- Restore WMD funds.
- Establish water budget for the state and implement higher consumptive use permit fees.

- Florida is fragile. New residents need to be educated about the environment, water conservation and fertilizers.
- Pick a suitable horizon of 2070 -- 2100 and have all planning efforts in Florida include a climate change and development time frame. I recommend the 2070 report (see [?] Florida, 1000 Friends of Florida report)
- Add Population Growth as a bold faced issue category (400,000 people per year). Address developmental planning, zoning issues and processes.
- Under Climate Change, add other parameters: ocean acidification; temperature change and storms; and change in rainfall.
- Incentivize conservation easements, conservation of large tracts and Low Impact Development tax breaks. Conserve first and build second. Offer credits to re-develop.
- Technology and Innovation - aggressively pursue long and short-term solutions to deal with bio-solids, wastewater treatment plants, etc.
- Better public education.
- Utilize chambers, municipalities, and counties to do longer term planning.
- Reinststitute the Central Florida "How Shall We Grow" program from about 2007.
- Impose a water usage fee for all residents and businesses to fund water-body protection and restoration.

*Table I*

- Secure State of Florida dedicated funding for water quality projects and land acquisition for conservation and management.
- Review Florida's land development and environmental regulation with revisions as necessary to meet the vision.
- With infrastructure and carbon emissions.
- You list taking advantage to restore the cost of these developments, but solar power seems to be an obvious choice in the "sunshine" state.
- This is a non-profit for Florida and its coast and people, not business profiting off of it.
- Dedicated funding.
- Public education.
- Create a state agency responsible for coastal resilience and restoration.
- Water quality with the focus on moving from septic to sewer.
- Education: scientists are notoriously bad at educating the public. Constituents need to have a good understanding of the issues. Lawmakers (Posey and Rubio) will not do anything for climate change unless there is a strong response from citizens.
- Community planning, zoning, responsible growth and green spaces.
- Prioritize actions. I believe Floridians need to focus on getting ready for the 27 million people in 2030. "Florida will need 20% more water by 2030" according to the Florida Chamber of Commerce.
- Re-establish the Department of Community Affairs with similar framework and mission/objectives to focus on two-thirds of the issues mentioned today. The remaining one third are environmental protection and restoration.
- Responsible growth and responsible redevelopment.
- Military-style joint operations planning tenets: 1) command and control - clarify procedural framework with feedback/planning/operation loop; 2) implementation of unified values in two main functional areas in Florida (affecting all things) -- responsible growth/redevelopment and environmental protection/restoration; and, 3) training and education with resources.
- Home rule authority to quickly and effectively understand, address and resolve issues that communities face. Not all communities have the same priorities.

- Whatever you do, please ensure there are clear provisions for: 1) Transparency (and timely notice of future steps); 2) effective, evidence-based standards; and, 3) quick investigation and accountability of alleged fouls (of process, fraud, waste, abuse, conflicts of interest, etc.).

### ***Table Reports on Priority Actions***

In the table groups each individual wrote one priority on a note card and placed in a bowl on the table. Each table reported out one priority chosen at random from the bowl. Remaining priorities were transcribed and appear in the next subsection of the Port Canaveral section of this report.

- Support LNG transformation to replace petroleum. We are producing and using in Jacksonville, and will use here next year. Educate about this.
- Education -- political will. Educate about the truth of the situation.
  - Resource and plan
- Funding through corporate business tax on corporations and development.
- Water quality network comparable to the weather channel.
  - Pay for it -- state program to help.
- Creative collaborative recurring funding across state, federal and local levels. Buy a beach after a hurricane through LWTF, EPA. Get creative.
- Most important solution is to have long-germ dedicated funding source to help local governments pay for the water quality improvements needed in their area.
  - Ten years ago we had the money before WMD fees were cut in half. Restoring those would generate significant funds.
  - Education -- start young. If every fourth grader has to take a Florida history class, include natural history. State support for that curriculum.
  - Add civics.
- Educate the public to make well informed decisions.
  - Work through Home Owner Associations.
- This plan needs to be prioritized to develop actionable items that can actually be implemented.
  - Use the emergency.
  - Don't make it so big that the legislature is afraid of it.
- Growth management -- stop creating a bigger problem.
  - Incentivize good growth.
- Fix and prepare infrastructure for what the future will hold. Can't accommodate all the growth on the infrastructure we have.

### **Participants' Priority Actions**

In the table groups each individual wrote one priority on a note card and placed in a bowl on the table. All priorities submitted using this process are transcribed below.

- Data collection and monitoring.
- Ecosystem based goals/objectives/actions.
- Educate everyone (mandatory? with 4th grade Florida history?).
- Financing revenue to finance what needs to be done.
- Prioritize actions.
- Financing is necessary for any action to work
- Write an environmental plan to restore the Indian River Lagoon, then enforce the plan with severe penalties for violations.

- Do not allow so much building on beaches
- Think again about a new interoceanic canal for ULCS - [www.lanacol.com](http://www.lanacol.com) (?)
- Support LNG transformation. Replace petroleum. Promote/fund infrastructure, sensibly regulate fuel for ships/trains/auto/truck/power plants. Cleaner, cheaper, made in USA!
- Accept that Florida will continue to grow at about 400,000 per year. Stop the pro-sprawl aspect of development and develop policies that redevelop existing areas, brownfields development and growing up not out. Manage growth.
- Manage growth.
- Long-term, stable consistent funding for coastal/ocean actions.
- Funding through corporate business tax on corporate, business and residential development.
- Manage growth responsibly to conserve first, build second.
- Education - start young - add to curriculum.
- Eliminate septic tanks in lagoon watersheds.
- Monitoring and funding long term.
- Algal blooms: each property owner should be required to retain stormwater on their property and to not release chemicals off property (septic) except proper sewage pipe.
- Comprehensive HAB monitoring.
- Long term monitoring for HABs and water quality.
- Engage in building the political will through lobbying for and endorsing legislation consistent with the mission of the Ocean Alliance.
- Water quality monitoring network comparable to weather channel. Real time chemical, biological, temperature depth. Consider remote sensing, on-site real time monitoring. Upload to the web.
- Education (political will): truth of the situation; understanding of how to civically engage in the process; and, understanding of their individual and collective (home rule) rights.
- Dedicated state funding for: A) water quality improvement projects; B) land acquisition/conservation and management.
- Funding for coastal habitat restoration!
- Focus on reducing CO2 emissions. Put a priority on fossil fuel emissions.
- Improving water quality by improving wastewater infrastructure.
- Ocean rise planning. The coasts' largest problems relating to the communities are going to be relocating, construction code, and protecting buildings and infrastructure.
- Deterrents and incentives through taxes to make changes to address these issues.
- Sea level rise over the next 50 years will cause a huge cost to rebuild infrastructure - sewage, stormwater, raise highway elevation, etc.
- Local, county and state policies must be aligned with water quality objectives and vision.
- Creative collaborative funding.
- Repairing and updating infrastructure and holding property owners responsible. Also political leadership.
- Dedicated, recurring, continuing funding source.
- How to fund projects to take major action.
- Don't reinvent the wheel. Work with the other agencies, NGOs, research community and public to initiate pre-existing plans and come up with new ones.
- Funded finance program for wastewater treatment upgrades.
- Educate all to understand what is going on.
- Do not dump sewage into Indian River, ocean, etc.
- Public on-boarding.
- If at the end of the day it comes down to a vote of the public opinion on what to do next, they must be educated to make well informed decisions - educate!

- Public will for action!
- Enforcement of policies by local, state, and federal government.
- We need state long-term funding to stimulate local match to pay for restoration/control projects. Restore water millage fee to pre 2000 levels. Water withdrawal fee.
- Develop a long term funding plan to address the \$50 billion pollution problem the state faces, including: septics, sewage treatment, sewer sludge disposal, storm water, and habitat restoration.
- Develop alternatives to bio-solid spreading on coastal agricultural lands. Recycle bio-solids into useful products through modern technology\
- The most important solution is to have a long-term dedicated funding source to help local governments pay for the water quality improvements necessary in their area. (Don't use Florida Forever.)
- Effective use of infrastructure and private/public partnerships to increase the effectiveness and advancement.
- This plan needs to be prioritized to develop an actionable item or items that can be actually implemented.
- Infrastructure - fix it and prepare for the future.
- Deal with wastewater. If we fail at this, the foundation for living and capacity for economic development is screwed.

## APPENDIX A – PARTICIPANT LISTS

### Panama City Stakeholder Workshop -- November 4, 2019

Name	Affiliation/Organization
Mike Rogers	AECOM
Jim Muller	Bay County BOCC
Faith Clarke	Florida Dept. of Environmental Protection
Michelle Smith	Florida Dept. of Agriculture and Consumer Services
George Warthen	Florida Fish and Wildlife Conservation Commission
Jennifer Fitzwater	Florida Fish and Wildlife Conservation Commission

### Jacksonville Stakeholder Workshop -- Nov. 5, 2019

Name	Affiliation/Organization
Quint White	Jacksonville University, Marine Science Research Institute
Susan White	Citizen/environmental enthusiast
Jill Christofersen	Florida Wildlife Commission
Margaret Day Julian	Florida Wildlife Commission
Chuck Jacoby	St. Johns River Water Management District
Sue Ann Alleger	Nassau County Department of Planning
Richard Alleger	Interested citizen
John Nooney	Joe Q. Public
Conrad Markle	Concerned taxpayer of Duval County
Chris Farrell	Audubon Florida
Dave Bruderly	Retired ocean engineer/environmental consultant
Daniel Fleszar	N/A
Sarah Boren	City of Atlantic Beach Environmental Stewardship Committee/USGIS Florida

### Ft. Lauderdale Stakeholder Workshop -- November 13, 2019

Name	Affiliation/Organization
Lenore Alpert	FOA
Angela Grooms	FOA
Glenn Wiltshire	Port Everglades
Douglas Mann	APTIM
Dick Dodge	Nova Southeastern University
Alyssa Jones Wood	City of Hallandale Beach
Ron Van Sciver	Retired
Marilyn De Martin	Public Relation
Grace Jones	Hazen and Sawyer
Tom Reinert	FWC
Vivek Galav	City of Hollywood
Laura Eldridge	DEP

## Miami Stakeholder Workshop -- Nov. 14, 2019

Name	Affiliation/Organization
Melissa Hew	City of Miami
Matt Varkony	University of Miami
Billy Nauman	FT
Hugo Rodriguez	GHD
Chuck Jacoby	St. Johns River Water Management District
David Quinones	Rock Orange
Ruben Berron	STHAL
Dr. Salvador Romo	STHAL, LLC
Richard A. Pearson	RAP/SAT - NIST Committee for Social and Economic Resilience
Jesse Davis	GHD
Bhargavi Pathakamuri	Woolpert, Inc.
Laura Eldridge	DEP
Kristi Kerrigan	DEP
Abigail Fleming	Environmental Justice Clinic UM Law
Katavzyna "Kat" Kulpa	Village of Key Biscayne
Peter Kulpa	Village of key Biscayne
CJ Sweetman	FWC
Mike Matthews	Earth Ethics Institute
Diego Traibel	City of Hallandale Beach - Sustainability and Flood Mitigation
Ian Zink	University of Miami/NOAA NMES
Emilio Lopez	SOP Technologies
Steven Eagle	Nova Consulting
Ripley Raubenolt	SCS Engineers
David Capelli	#smartMiami
Carla Mays	#smartMiami
Rachel Skubel	PhD candidate, University of Miami
Heather Tedlow	Miami-Dade County Parks, Recreation and Open Spaces
Hugo Guzman	
Edward Pritchard	Miami-Dade County Parks, Recreation and Open Spaces
David Doebler	Volunteercleanup.org / Miami Beach Sustainability Committee Chair
Jim Murley	Chief Resiliency Office, Miami-Dade County

## Sarasota Stakeholder Workshop - Nov. 19, 2019

Name	Affiliation/Organization
Federico Vazquez	SBW & SCRR
*Dominic Rodriguez	Booker High School
Emily Hagerman	Palmetto High School
Ernesto Lasso de la Vega	Sarasota Bay Watch
Ryan Druyor	FL Fish & Wildlife Conservation Commission
Kate Hubbard	FL Fish & Wildlife Conservation Commission
Jackie Dixon	USF CMS
Tim Dixon	School of Geo Sciences
*Ed Sherwood	Tampa Bay Estuary Program
Rob Brown	Manatee County
Jennifer Shafer	Shafer Consulting
*? Pierce	CAC
Damon Moore	Manatee County
*? Gilchrist	Sarasota/NCF

*Amber Platowski	Shark Stewards/Sarasota City Schools
Darcy Young	Sarasota Bay Estuary Program
David Shafer	Shafer Consulting
Sherri Swanson	HDR/CAC
Jessica Bibza	National Wildlife Federation
Kali Spurgin	FWC
Ron Pierce	with CAC
John Ryan	Sarasota County
Lenore Alpert	Florida Ocean Alliance
*Kumar Mahadevan	Florida Ocean Alliance

### Port Canaveral Stakeholder Workshop -- Nov. 20, 2019

Name	Affiliation/Organization
Frank DiMarco	Senator Mayfield Staff
Kalik Pouliga	Senator Mayfield Staff
Senator Tom Wright	
Eli Converse	Senator Wright's Office
Wayne Justice	Port Canaveral Commission
Andrea Young	TD/West Melbourne Council
Wayne A. Mills	ORCA
Jim Gomez	CANATCOL - USA
Tony Cimaglia	TNC Oceanographic
Laurent Rawlings	Melbourne Regional Chamber
Kristina Jackson	Citizen
Scott Murray	Public
Robert Day	Public
Robert Petty (Bob)	Public
Raul W. Parkins	FIU
Joe Nolin	County of Volusia
Michael Walther	Clean Water Coalition
Jeanna Merrifield	Wild Ocean Market
Terri Breeden	Brevard County
Matt Uptin	ROFFS
Lew Kontnik	BIRLC
Laurilee Thompson	Dixie Crossroads Seafood Restaurant
Chuck Jacoby	SJRWMD - FOA Steering Committee
John Windsor	Public
Rick Anderson	Public
James Sloan	Brevard Salt & Water Conservation District
Tony Sasso	KBB
John Lose	Resident
Matt Shelton	Tetra Tech
Robert Weaver	Florida Tech
Joyce Wasserman	Citizens Climate Lobby
Gerald Schoenle	Citizen
David Miller	Space Coast LLL
Hannah Hart	Gov
Erick Ziegl	Bullsugar.org
Bob Musser	Canaveral Port Authority
Doug Patterson	Citizen
Duane DeFreese	FOA/IRLNEP
Karen Windsor	Citizen
Steve Traxler	In Water Research Group

Name	Affiliation/Organization
MJ Waters	Brevard IRL Coalition
Kevin Johnson	Florida Tech
Rob Salonen	Florida Tech
John Hearin	Surfrider Foundation
Terry Gibson	American Water Security Project
Todd Hopkins	Citizen
Jim Glass	FFFA
Melissa Martin	FEF SOIR LCOC Cocoa Sust, Barry Law
Lukas Brummer	Canaveral Port Authority
Anthony Burns	ROFFS
Virginia Barker	Brevard County
Bill Klein	Titusville Citizen
Vince Lamb	Citizen
Steve Chalimers	MRC
Lisa Ruckman	Citizens Climate Lobby
Sherri McCoy	Commercial Fishing
James King	ROFFS
Marlys Breckle	Citizen
Malcom (Mac) McLouth	Retired Port CFO/Citizen
Judy Orcutt	CWC of IRC
Luz N. Gomez	Citizen

## APPENDIX B – MEETING MATERIALS

### A Strategic Policy Plan for Florida’s Oceans and Coasts

#### STAKEHOLDER WORKSHOPS

November 13, 2019

6:00 pm – 8:00 pm

Marine Industries Association of South Florida

221 SW 3rd Avenue

Fort Lauderdale, FL 33312

#### Meeting Objectives

- Review the process for developing a Strategic Policy Plan for Florida’s Oceans and Coasts
- Suggest refinements to the guiding vision for the plan
- Identify actions needed to address the issues facing Florida’s oceans and coasts
- Review opportunities for continuing involvement in development of the plan

#### 6:00 Welcome and Introductions

##### Agenda Review

##### Overview of the Strategic Policy Plan for Florida’s Oceans and Coasts

##### Vision

- Review draft vision

##### Issues and Actions

- Plenary review of issues list
- Development of actions

Table discussions

*What action should be taken to address the issues assigned to your table?*

*Which of these should be the highest priorities?*

##### Word-Cloud

- *Think about your own hopes for Florida’s Oceans and Coasts in the year 2030.*
- *What one word or term best describes what you see?*

##### Next Steps

- Plans and data
- How to stay involved
- Workshop evaluation

#### 8:00 Adjourn

## DISCUSSION GUIDELINES

Expect and respect perspectives different from your own

Speak to be understood, not to persuade

Explain your assumptions

Ask questions to understand

Focus on issues, not individuals

To be heard, be willing to listen

Share the airtime!

## VISION

The following draft is based on the discussions of Steering Committee to-date. It will continue to evolve in response to input from the Stakeholder Workshops and the further discussions and deliberations of the Committee.

*It is the year 2030. Florida's oceans and coasts are healthy, and seen as integral to the identity, quality of life, and economy of the state. Fisheries and coral reefs are rebounding from the issues that plagued them in 2019.*

*In cooperation with national and international efforts, Florida's state and local governments have effectively integrated planning for improved water quality and for the consequences of climate change and sea-level rise into their decision-making, and begun implementing those plans.*

*Florida's governments, business community, entrepreneurs, research institutions and residents are leaders in developing innovative approaches and new technologies to address oceans and coasts issues, and in leveraging the value of oceans and coasts to the state.*

You will see the vision statement on boards around the room. If you have comments or suggested refinements to the vision, please write them on the post-its next to the boards, and place them on the board beneath the statement.

All comments and suggestions will be included in the summary of tonight's workshop.

# ISSUES LIST

The following list is based on the discussions of Steering Committee to-date. It may be refined if major topics are found to be missing.

You will see a board with the title “Issues List” at the back of the room. If you have comments or suggested refinements to the list, please write them on the post-its next to the boards, and place them on the board beneath the statement.

All comments and suggestions will be included in the summary of tonight’s workshop.

## 1. Water Quality

- a. Water quality is the most important issue facing Florida’s oceans and coasts and was viewed as important and urgent by those interviewed
- b. Nutrients, harmful algal blooms, sewage/septic discharges, turbidity, and freshwater discharges to tide
- c. Land use in coastal watersheds

## 2. Harmful Algal Blooms

- a. Environmental policies about municipal, agricultural, and industrial nutrient loading of inland surface waters.
- b. Development of treatment technologies for Lake Okeechobee releases.
- c. Identify sources of nutrients that fuel the blooms and reduce sources.
- d. Develop, fund, and implement best management practices to reduce point and nonpoint sources of nutrients, contaminants, and sediment into freshwaters that flow to estuaries and nearshore coastal waters.

## 3. Climate Change

- a. Increase resilience against sea level rise – awareness campaign, re-mapping of evacuation routes, planning for relocation of neighborhoods in flood zones, increased resilience in large infrastructures like ports, railways, highways, etc.
- b. Loss of intertidal habitat with sea level rise and storms (e.g., beaches, mangroves, saltmarsh) and loss of shallow subtidal habitat – identify existing/desirable distributions of intertidal habitat and develop/fund/implement a plan to ensure that these will persist overtime with sea level rise, effects from climate change, and other detrimental influences.
- c. May eventually require managed relocation of coastal development and communities in compromised areas.
- d. Develop, fund, and implement a plan that makes Florida a leader in reducing greenhouse gas emissions; take advantage of green economy opportunities to more than offset any “costs” associated with reducing greenhouse gases.
- e. Reduce carbon output to reduce global warming.
- f. Build new buildings on stilts.
- g. Sea level rise, rising ocean temperatures, shifting ecosystems and fisheries, and the need for resiliency to address these issues.
- h. Ocean acidification.

## 4. Habitats

- a. Conservation and restoration of coastal zones – build on progress of recent years, design approaches (including funding) that cross county lines, enlist academia for monitoring and development of new technologies, septic-to-sewer etc.

- b. Loss of intertidal habitat with sea level rise and storms (e.g., beaches, mangroves, saltmarsh) and loss of shallow subtidal habitat – develop, fund and implement restoration and protection of Florida’s coral reefs, seagrass beds, and oyster resources where compromised.
- c. Ecosystem restoration is highly desirable and more research is needed in order to be able to do this efficiently and successfully – most important is to identify causes of decline of the system desired to be restored and to take remediation steps for the source of the problem because, without fixing the sources, degradation will continue.
- d. Coral reefs – steps for remediation include pollution abatement, amelioration of climate change, reduce local stressors (dredging, sewage, etc.).
- e. Beach re-nourishment.

**5. Sustainable Fisheries**

- a. Restoration of shallow subtidal habitats may require reducing fishing pressure in some areas.
- b. Develop tools and, as necessary, create authorities/mechanisms to integrate habitat management into fisheries management. This is something that FWC has flagged as a “long-term” priority. At present, FWC and DEP identify habitat as a priority but do not clearly work together to enhance or protect habitat for specific fisheries (production) outcomes.
- c. Better regulations that favor increased fish for all, not just recreational and commercial, but for divers to see and for the fish to reproduce and make more fish.

**6. Public and Political Ownership**

- a. Need to promote public and political ownership of oceans and coasts issues.
- b. The south Florida coral reef ecosystem from Dry Tortugas to Miami is under various levels of Federal and State management and protection. From Miami north to Martin County, there are no special management or conservation zones. This is the highest populated coastline in the state of Florida. Management and conservation in this area is urgently needed. Last year a designated area (outline) was drawn by the state for reef areas of southeast Florida, but no management plan was developed. This would be very important to do so.
- c. Strengthen Florida’s leadership position in marine (including fisheries and aquaculture) and maritime industries by driving innovation and technology, workforce development, supporting marine technology incubator and accelerators, etc.

**7. Strategic Policy Plan Implementation and Financing**

- a. Issues facing Florida’s oceans and coasts cannot be adequately addressed with current resources, or by any one organization.
- b. Individual organizations will need to enhance their capacities (including the FOA).
- c. Build capacity to collaborate among all of those active in these issues – state, federal, local, public, and NGO stakeholders.

**8. Economic Impacts of Florida's Oceans and Coasts**

- a. Summary of the economic report on the value of Florida’s oceans and coasts to the state.

## ACTIONS

During this part of the agenda, you will be asked to discuss two questions with others at your table before sharing your individual answers with the room as a whole.

*What actions should be taken to address the issues assigned to your table?*

*Which of these should be the highest priority?*

Please follow the steps outlined below for this discussion. All answers to both questions will be included in the workshop report.

### IDENTIFICATION OF ACTIONS NEEDED – TABLE DISCUSSION INSTRUCTIONS

You will have about 30 minutes for the table discussion.

1. Find the person at your table with the *birthday closest to today's date*. That person will speak first. If two or more people have the same birthday, the one with the *niftiest shoes* goes first.
2. Go around the table and allow everyone to offer an answer to the first question. Please allow everyone to speak before anyone takes a second turn.
3. Listen for the facilitator's announcement that it is time to move on to the next step. (You don't have to wait for the announcement before moving on if your group is ready.)
4. Write your answers to the first question (actions) on the post-its using the markers at your table, and place your post-its on the easel-pad sheet on your table. You may write as many answers to this questions and use as many post-its as you like.
5. Write **ONE** answer to the second (priorities) question on a 3x5 card, and place it in the bowl on your table. Each bowl may have **ONLY** one card for each person at the table, and each card may have **ONLY** one action on it.

### REPORT OUT

We will take one card at a time, at random, from the bowl at each table and read it aloud. We will repeat this as many times as the available time allows. Time permitting, table participants may offer additional comments.

## **WORD CLOUD INSTRUCTIONS**

Log on to the College's Wi-Fi. The username and password are on your table.

Open a browser on your phone.

Go to [PollEv.com/foaoceans962](https://PollEv.com/foaoceans962) on your browser.

*Think about your own hopes for Florida's Oceans and Coasts in the year  
2030.*

*What one, two or three word or term best describes what you see?*

Your facilitators will have additional instructions for generating a real-time word cloud of hopes for the future of Florida's oceans and coasts.

**STAY INFORMED AND INVOLVED!**

[www.floridaoceanalliance.org](http://www.floridaoceanalliance.org)

# Strategic Policy Plan for Florida's Oceans and Coasts STAKEHOLDER WORKSHOP EVALUATION

November 6, 2019

Marine Industries Association of South Florida

221 SW 3rd Avenue

Fort Lauderdale, FL 33312

*Please rate each of the following statements using a 0 to 5 scale, where 0 means totally disagree and 5 means totally agree.*

**1. Please assess the overall meeting.**

- \_\_\_\_\_ The agenda packet was very useful.
- \_\_\_\_\_ The background information and presentations were very useful.
- \_\_\_\_\_ The objectives for the meeting were made clear at the outset.
- \_\_\_\_\_ Overall, the objectives of the meeting were fully achieved.
- \_\_\_\_\_ Overall, I am very satisfied with the meeting.

**2. Do you agree that each of the following meeting objectives was achieved?**

- \_\_\_\_\_ Review the process for developing a Strategic Policy Plan for Florida's Oceans and Coasts
- \_\_\_\_\_ Suggest refinements to the guiding vision for the plan
- \_\_\_\_\_ Identify actions needed to address the issues facing Florida's oceans and coasts
- \_\_\_\_\_ Review opportunities for continuing involvement in development of the plan

**3. Please tell us how well the facilitators helped the participants engage in the retreat.**

- \_\_\_\_\_ The facilitators made sure all perspectives were heard and respected.
- \_\_\_\_\_ The facilitators helped us arrange our time well.
- \_\_\_\_\_ Participants followed the direction of the facilitators.

**4. What did you like best about tonight's meeting?**

**5. How could the meeting have been improved?**

**6. Do you have any other comments that you would like to add (Please use back of form if needed)?**