NAS SUWANNEE PROJECT

COMMUNICATION TOOLKIT

Ecological and Economic Impacts of Land Use and Climate Change on Coastal Food Webs and Fisheries

NAS Gulf Research Program Grant No. 200011709

KEY MESSAGES

Land use and climate change will significantly impact the Suwannee River Basin and Estuary. Both factors are important, but extreme land use changes are predicted to have the strongest effects.

Increased agricultural activity is predicted to increase nutrient loading and fish production, but harm seagrasses. This would create a trade-off between benefits to certain fish species and habitat loss or degradation. Further, increased nutrients would increase the probability of harmful algal blooms that could harm both fisheries and shellfish aquaculture operations.

Shellfish aquaculture may benefit from increased nutrients, but is vulnerable to changing climate conditions. Rising temperatures and lower salinity due to increased rainfall could result in economic losses, especially in Franklin and Levy counties.

The economy of the Suwannee River Basin is closely linked to agriculture, timber, and shellfish aquaculture. Land use changes that reduce these activities could impact the local economy.

People are willing to pay more to protect the estuary. Anglers are especially willing to pay to prevent declines in seagrass and certain fish populations.

Community input is valuable for developing future management plans. The data and models produced by this project can be used to explore policy options and guide future research efforts in the Suwannee River Basin.

TALKING POINTS

The Suwannee River Basin is a vital part of the community, supporting the economy and the environment. However, changes in land use and climate are posing significant challenges.

Here's a closer look:

Land use changes: Decisions about future land development will impact the estuary. While some changes are inevitable, extreme changes, like widespread conversion of natural lands to agriculture or rapid urban development, could have serious consequences.

Agricultural production: Increased agricultural activity can bring economic benefits. However, nutrient loading can harm critical seagrass beds, which are essential for a healthy estuary and the fisheries supported by these habitats.

Shellfish aquaculture: Shellfish are a valuable commodity in the local economy. Increased nutrients from some land use changes could increase average shellfish production rates, but would come at a cost of higher probability of harmful algal blooms. Further, rising water temperatures and lower salinity caused by increased rainfall could lead to economic losses, especially in Franklin and Levy Counties. We need to ensure long-term sustainability of this industry.

Economic impacts: The Suwannee River Basin's economy relies heavily on agriculture, timber, and shellfish aquaculture. Land use changes that restrict these activities would have negative economic impacts. Seeking solutions to promote agriculture operations using best management practices to minimize impacts is key.

TALKING POINTS CONTINUED

The path forward: Solutions and collaboration
The good news is there are solutions! By working together, we can ensure a healthy and thriving Suwannee River Basin and Estuary for future generations.

Here's how:

Sustainable practices are key. Implementing sustainable practices in agriculture and land development is crucial. This could involve things like using cover crops, buffer zones around waterways, and precision fertilizer application. Through responsible land management, we can maintain a healthy estuary and support industries that rely on natural resources.

Invest in a healthy estuary. A recent survey shows people are willing to pay more to protect the estuary, especially anglers who value healthy seagrass beds and fish populations. This willingness to invest demonstrates the community's deep connection to the estuary.

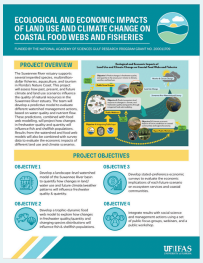
Your voice matters. Community input is essential for developing effective management plans. Local knowledge and perspectives are invaluable as we work to address these challenges.

This project has produced data and models that can be used to explore different policy options and guide future research efforts. This information can be used to:

- Develop and implement sustainable land use practices.
- Find ways to support the local economy while protecting the environment.
- Identify areas for further research to ensure the long-term health of the estuary.

MEDIA RESOURCES

In addition to the key messages and talking points, several multimedia resources are available for you to use when discussing the results of this project with different audiences.

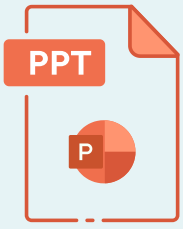


Print materials

Fact sheets, reports, and graphics highlighting project objectives and key findings.

Video

Educational video about each project objective featuring members of the research team.



Powerpoint slides

Branded slide decks including background information, methods, and results.

Webpage

Project webpage where media materials can be accessed and downloaded.

https://piecenter.com/nas-suwannee/

MORE INFO

For more information, please visit the project webpage or contact Mike Allen (msal@ufl.edu). With your help, we can inform the community about this research and spark collaborative efforts to sustainably manage natural resources in the Suwannee River Basin.

Scan the QR code to visit the project webpage.

https://piecenter.com/nas-suwannee/

We want your feedback!

If you use these resources to communicate about the project with your audiences, please let us know what you think. Scan the QR code to fill out a short evaluation form.

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