

Exploring Environmental Issues: Focus on Forests

Activity 4: Tough Choices

Issue Article 5 – Climate Change Projections

Notes for Educators and Workshop Facilitators:

This article can be used to spark discussions about climate science and differing viewpoints on proposed actions for addressing climate change. This resource can also be used in conjunction with PLT's online high module, *Southeastern Forests and Climate Change* (<http://sfrc.ufl.edu/extension/ee/climate>).

Issue

Damage from hurricane created need for city to rethink their planning and growth, but not everyone agrees whether climate change projections should be considered in the process.

Facts

- Hurricane Charley hit in 2004.
- Charley caused damage to Punta Gorda.
- Hurricane Sandy caused \$50 billion in damage in 2012.
- Sea level rise documented at Keys for more than 100 years.

Players

- City Planners
- Citizens against
- Citizens for
- Scientists

Exploring Environmental Issues: Focus on Forests

Activity 4: Tough Choices

Punta Gorda, Florida Debates How to Rebuild

Punta Gorda is a small town on Florida's west coast where people come to retire and enjoy living near the ocean. While some citizens are concerned about the environment and potential impacts from climate change, others tend to be more concerned with the town's economy. In 2004, the town took a direct hit from Hurricane Charley, and the city was left in rubble as the high winds pushed salt water far into the community and tore apart buildings.

"We needed to rebuild the town, which takes a town discussion," claimed city planner Bob Smith, "but there were things that were difficult to talk about."

Climate change and projections about sea level rise were a few of those things. Sea level rise has been documented along coastlines around the world. Tide gauges in Key West, FL have recorded sea level for more than 100 years (they were among the first placed by the National Oceanic and Atmospheric Administration) and indicate that the sea level is nine inches higher than it used to be.¹ The residents there can see the effects of higher water levels. Rainstorms regularly bring floods and stormwater does not drain efficiently; waves at high tide often slop water across low seawalls. However, while examples like this helped citizens in Punta Gorda realize they needed to do something, they didn't help people talk about the problem. In fact, discussions about climate change and sea level rise caused some residents to simply leave meetings when experts tried to explain.

"You've got experts on both sides of the debate," explained a resident from Homeowners Against Climate. "There is a professor at Florida State University who says the sea will rise only 18 inches by 2100 and it is because we are still emerging from the recent Ice Age.² There are other scientists who say the ocean will be six feet higher because of melting glaciers and warmer water, caused by climate change. If the experts can't agree, then don't even talk to me about making changes that will impact our town's economy!"

People who agree with professor emeritus James O'Brien's modest prediction of sea level rise are not anxious to invest money in making changes to the shoreline. In fact, he and many others do not believe it is necessary to prepare for sea level rise. Businesses and homeowners will respond, he suggests, when they are affected by seawater, and the government intervention will not be needed to prevent people from buying homes in areas that flood repeatedly.

The gradual rise in sea level might give people time to adapt, but it doesn't prepare people for storm surges like those that accompanied Hurricane Sandy and caused \$50 billion in damage in 2012.³

¹ Rockwell, Lilly. 2013. A rising concern: the impact of sea level rise on Florida, Florida Trend. Retrieved January 16, 2015 from <http://www.floridatrend.com/article/15814/a-rising-concern>.

² Rockwell, Lilly. 2013. A rising concern: the impact of sea level rise on Florida, Florida Trend. Retrieved January 16, 2015 from <http://www.floridatrend.com/article/15814/a-rising-concern>.

³ Porter, David. 2013. Hurricane Sandy was second-costliest in U.S. History, Report Shows. Huff Post. Retrieved January 16, 2015 from http://www.huffingtonpost.com/2013/02/12/hurricane-sandy-second-costliest_n_2669686.html.

Exploring Environmental Issues: Focus on Forests

Activity 4: Tough Choices

Other people believe they can plan for an unknown future by using computer models.⁴ For example, one computer model suggests where wave action could be modified by restoring stretches of oyster beds and maintaining mangrove forests along the shore. Volunteers could help place oyster shells in the bay and cost the town very little, suggested a spokesperson from the non-profit organization, Restore the Bay. And changing the building code could help designate where future construction will occur, making it less likely that structures and roads would be damaged from rising sea level. Restore the Bay believed that these types of actions could benefit ecosystems along the shoreline and help sustain the town's economy in the long run.

Some people who attend regional planning meetings think broadly about a variety of related issues, and others have only one concern. Meeting coordinators are challenged to engage those who only care about recreational fishing (including access and habitat) and those who only care about dredging, for example. The "single-interest" parties may become upset if the one thing that concerns them does not show up in the meeting notes or final plan. It makes it all the more important to provide information about connections and indirect effects of management changes.

"The scientific consensus is that climate change is happening and the sea will rise," explains a planner from the Southwest Florida Regional Planning Council.⁵ "But scientists don't agree on the specifics and they leave the strategies of how to adapt completely up to local communities. Here at Punta Gorda, it is hard to have these discussions." Meetings became very difficult when scientists talked about "retreating" from the ocean or suggested spending money on short-term defensive strategies like seawalls, the planner explained, simply because some people could not bank on the projections and didn't agree with the terminology.

⁴ Gillis, Chad. 2014. Punta Gorda plans for future. News-press.com. Retrieved January 16, 2015 from <http://www.news-press.com/story/news/local/2014/08/10/punta-gorda-plans-future/13864345/>.

⁵ Morris, Lynn. 2011. Climate adaptation is bringing sceptics in the US and UK onboard – but is it fast enough? Ecologist. Retrieved on January 16, 2015 from http://www.theecologist.org/News/news_analysis/800754/climate_adaptation_is_bringing_sceptics_in_the_us_and_uk_onboard_but_is_it_fast_enough.html.