

Panel Session Notes

Session IV: Wildlife and Natural Systems Management:

Panelist

- John Pait, Sr. VP for Sales, Marketing, and Product Development for ArborGen
- Dr. Kier Klepzig, Assistant Director, Southern Research Station, USDA Forest Service
- Dr. Karl Havens, Director, Florida Sea Grant
- Dr. Thomas Eason, Deputy Director of Habitat and Conservation, FWC
- Dr. Tim White, Director, UF SFRC
- Dr. Tom Hocht, Director, UF Center for Landscape Conservation Planning, Research Associate, GeoPlan Center

Notes by: Maxwell Wightman and Vanessa Mintzer

Introduction - Dr. Tim Martin, Professor in the School of Forest Resources and Conservation, Director of the UF Carbon Resources Science Center, and Project Director of the NIFA funded PINEMAP project, UF

Question from audience:

A map illustrating the predicted doubling of development in Florida has been referenced multiple times throughout the day.

Questions asked in regards to this map.

- *Where is the water going to come from?*
- *In a state so dependent on Real Estate how do we maintain the state's economy and avoid this predicted development?*

- (Dr. Thomas Eason)

We need to build off of existing projects and get better at being informed and identifying such critical resources as water. Once such resources have been identified we are going to need to have some serious discussion on how we need to interact with them. Forecasting and science-based decisions critical to major issue.

- (Dr. Karl Havens)

It is likely that we will “fight water with water” by doing things such as taking more water from the Everglades to combat saltwater intrusion. It was noted that in this country water is expected to be essentially free and that this is not the case in many other countries. It is likely that in the future water is going to cost us more.

Miami is one of the most at risk cities for water. What steps are being taken to address this? (follow up) –Will landowners be compensated?

- (Dr. Tom Hoctor)

The main steps that are being taken have to do with water conservation and protecting the lands in south central Florida. Florida's Cooperative Conservation Blueprint addresses this risk. Protecting lands (including headwaters), hydrological restoration, working with landowners, and creating Infrastructure to store water when needed are priorities. One of the main goals of these land protection projects is to maintain the hydrological integrity of these lands. In essence these programs seek to promote dispersed water storage. Dispersed water storage refers to the storage of water in wetlands or the flooding of defunct citrus groves. Landowners are compensated for the allowing water storage on their properties through a lease.

- (Dr. Thomas Eason)

The bottom line is that right now money is not being invested to seriously address this issue. Knowing that the need exists, however, allows planning for potential solutions so that when money does become available the science is there to make informed decisions. We tend to wait until the last second to deal with these issues. We need to be proactive now. But there will be decades of societal struggle.

What is the current role of molecular markers in the breeding of pine trees? Do we have markers for particular traits?

- (John Pait)

ArborGen is currently working with people at the University of Florida on this. The basic strategy thus far has been to use a whole bunch of markers and then go back and build a model based on the results. We are at the point of maturation of the technology (provided overview of technology). Technology allows higher probability of recovering trees The population is then truncated in order to capture the best trees. The project is farther along in selecting individual trees than breeding.

- (Dr. Tim White)

The progress of technology is truly astonishing. The original sequencing of the human genome cost approximately 100 million dollars. The sequencing of human DNA now cost a thousand dollars. It is exciting to think that we have the potential to apply such technology to natural resource management. Such technology will allow us to begin to understand how genetics and the environment interact to impact phenotypic plasticity. Our understanding now allows us to ask better questions. Need interdisciplinary teams working together to figure out mechanisms of complex problems and then extrapolate to the future

What is the role of the forest industry in preserving biodiversity?

- (John Pait)

We have a profound responsibility. Foresters are trained to consider natural resource management at a landscape scale. They are trained in habitat management, biodiversity and hydrology. Most companies have special places that they are trying to preserve. The conservation easement program has essentially created a market for protecting these types of areas. Set asides to protect the integrity of streams were developed by the forestry

community. This was done voluntarily without regulatory pressure. Now we also have to consider genetic diversity. Plantations make up only ~9% of forest land in Florida and produce a vast amount of the timber. This allows us to meet timber demands off a small amount of land. In pine plantations there is also a lot more biologic and genetic diversity that we have previously thought.

- (Dr. Kier Klepzig)

We also must consider what a forest is and the purpose of our land management. For example is a eucalyptus plantation a forest? Such plantations may be essentially a biological desert, but the purpose of this land is to produce fiber and not to support biodiversity. Defining the difference between forests and plantation forests is crucial, and we need to consider the goals of these lands. The point of plantations is not biodiversity. A major issue is with small landowners....diversity in those lands is not always going to be there. That scares me a lot more than the diversity in plantations, because that's not what plantations are for. How do you manage small landowners well?

Is there an investment in monitoring biodiversity and valuating it?

- (Dr. Kier Klepzig)

Forest service is making efforts to do this, but is short of where they could be. FIA is on private and public land and this is a major part of how we monitor this. The Forest Inventory and Analysis (FIA) will allow us to have a better handle on the conditions and what is out there. There are some efforts to monitor but overall we are short of where we could be.

- (Dr. Thomas Eason)

The core question is hard to answer. How do we place a value on biodiversity when we don't know how much we have? How do we value something with no direct economic value? I believe that if we don't put a value on this then they are not going to be there. We need to do what they did for the Olympics, but the challenge is daunting.

If you took a picture of North Florida in 1930 and took one today what differences would you see?

- (Dr. Tim White)

You would see some loss of forest land due to urbanization and sprawling suburbs. You would also see an improvement in forest quality. Globally only ~4% of the world's forests are in plantations. These plantations did not even exist until around the 1950s. Agriculture will intensify and extensify. There will be competing land uses

- (John Pait)

You would also see large areas of 5 or 6 thousand acres in. These would represent large holes in the forest canopy. We don't necessarily have to increase footprint to increase agricultural output. We just have to do it right.

A lot of historic farm land that was cleared is now in pine plantations. How many of these plantations could potentially be turned back into crops now that there is an economic driver to grow corn and soybeans? (Discussion focused on the topic of land use change)

Land use tenure is a concern worldwide. There needs to be scenario analysis for land use based on different visions. Olympics designed a land use platform. How do we get to this platform?

- (Dr. James Jones)

Food production is going to intensify to feed 9 billion people. There is going to be competing uses for land we attempt to feed this population.

Why can't we get together and ask how should we think about land use change. We need to ask what should forestry look like? What should agriculture look like? Where should wildlife corridors be? So far there has not been a platform for this type of thinking.

- (Dr. Kier Klepzig)

Biomass markets are emerging and are exciting as such markets would allow foresters to do some beneficial forest health activities that would otherwise not be economically feasible. I have started hearing discussion on this, but we need a unified concept. There are opportunities to do good if we plan cohesively and cooperatively.

- (Dr. Karl Havens)

Another factor here in Florida is sea level rise. Going to see a shift of people coming from the coast into the interior forest area.

- (Dr. Tom Hctor)

In some regions scenario planning is happening in Florida. The area south of Orlando is looking at agricultural priorities, transportation priorities and others to ask what kind of future do we want to have? Modeling for urbanization in Florida does not consider sea level rise and this may have very important impacts on smaller towns in the interior.

Landscape Conservation Cooperatives provide a good model for frameworks for bringing diverse landowners together to manage landscapes

- ***Follow-up comment from audience (Tim Breault, Landscape Conservation Cooperative)***

We are in the process of creating a forum and trying to build scenario tools. We want to integrate information and make tools available to other people. Humans by nature don't collaborate, we compete. But we need to build partnerships and ask "what you can do better than anyone else?" and focus on that.

- (Dr. Thomas Eason)

We need to collaborate and land grant Universities can work to help integrate

I've been hearing in sessions all day about the need to collaborate. What I am not hearing is how do we make this happen. What is your experience in getting these different people to work together?

- (Dr. Kier Klepzig)

If you build it they will come. The most important thing to do is get them together in one room. Also money helps.

We are talking about a future of more and more competing land uses and we have platforms where scientist come together and talk but at what point do we get decision makers and policy makers to join the discussion. At what point do you see the government facilitating the discussion.

- (Dr. Thomas Eason)

It's hard to get people at that level involved. It's going to take inspired leadership. I don't think it's going to come from above, I think it's going to come from us. It will bubble up from the bottom. I think there is years if not decades before this become a real political discussion. One of the challenges is going to be the time line.

- (Dr. Karl Havens)

There are good examples of when this has already happened (e.g. everglades and climate change) A challenge is seeing if things work out or not. Time scale of climate change is so large that it will difficult to measure what works.

What about the private sector? How do they really feel about these issues and what role do they play in the bubbling up these issues?

- (John Pait)

What I have found is that when scientist and regulators (basically the people involved in planning) being to develop strategies, private landowners become weary. I think you would find a lot of common ground between forest landowners. Many of these people are multiple use oriented. I think you would find when the private sector is involved in the discussion they are more willing to change rather than being told what to do. Farmers are always worried about this year's crop and next year's crop but they are also now looking ahead to handing their farms off to their children. Therefore they see sustainability to be critical and are willing to be a part of the discussion. They are also open to making changes if they are provided with the information to be able to make wise decisions.

Follow-up comment from audience (private sector representative) - I work with farmers in the mid-west. They have a long term vision, especially now that their kids are coming back to their lands. The "field to market" is a collaborative effort to reduce footprint and increase yield.

Follow-up comment from audience – The Navy is never involved in discussion and they should participate. It's a group we should bring into the equation.

- (Dr. Thomas Eason)

Evolutionarily we are short-term oriented. We need a system that allows us to make short-term decisions that are locked into a long-term design. We need to have a paradigm that ensures that addressing short-term dynamic issues plays into the long-term plan.

Follow-up comment from audience – Coming up with multiple solutions and putting them to work at the same time may provide more resilience.

Final Notes

- (Dr. Tim White)

Our elected officials respond to their clients. Us. Our population, however, is very illiterate when it comes to natural resources. We need to somehow get kids back outside and include these issues in our k-12 education.

- (Dr. Tom Hctor)

We need to build awareness through programs like the Florida Wildlife Education Campaign.

- (Dr. Thomas Eason)

We are the ones we've been waiting for. We are the ones who have to get it done.