



## TABLE OF CONTENTS

*Please note that the page numbers are linked to the panel descriptions & speakers' abstracts.*

An Evening with Sheila Watt-Cloutier .....	2
Opening Reception.....	2
A Global Perspective .....	2
The Tide is Upon Us: Coastlines in the Face of Sea-Level Rise (Water Track).....	3
Food for the Future: Florida's New Agricultural Frontier (Land Track) .....	4
A Thaw in the Courts: The Changing Climate for Litigating Climate Change (Energy Track) ...	6
Special Event - Campus Climate Neutral Round Table.....	7
Special Event - Higher Ground: The Battle to Save Florida's Beaches .....	7
My Aquifer Runneth Dry: Drinking Water and Diversions (Water Track) .....	7
Community Land Management for Conservation: Making Homeowners Responsible and Making Agencies Comfortable (Land Track).....	9
Cash for Carbon: Carbon Markets and Regulatory Alternatives (Energy Track) .....	10
Funding the Everglades: A Restoration Project in Need (Water Track) .....	12
Shell-Shocked: The Impact of War on the Environment (Land Track) .....	14
Sustaining the Sunshine State: Florida's Alternative Energy Solutions (Energy Track) .....	16
Banquet .....	18
Workshop: Citizen Planning: Effective Public Participation in the Land Use Process .....	18
Water and Dam-Nations: Environmental Injustices and Dams (Water Track) .....	19
All Creatures Great and Small: Planning for Humans and Biodiversity (Land Track).....	19
Communication Breakdown: Science Education for Policymakers and Policy Education for Scientists (Energy Track) .....	21
Special Event – Natural Florida: In Word, Image and Deed .....	23
The Focus on Florida .....	23



**WEDNESDAY, FEBRUARY 27, 2008**

Pre-Conference Keynote Speech 7:30-9:00 p.m., Reitz Union Ballroom

**An Evening with Sheila Watt-Cloutier**

- **Sheila Watt-Cloutier**, 2007 Nobel Peace Prize Nominee and Inuit Climate Change and Human Rights Activist; Former International Chair for the Inuit Circumpolar Council

**THURSDAY, FEBRUARY 28, 2008**

Opening Reception 6:00-9:00 p.m., The President’s House

**Opening Reception**

- Welcoming Remarks: **Robert H. Jerry, II**, Dean and Levin Mabie & Levin Professor of Law, University of Florida Levin College of Law
- Keynote Speaker: **Shannon Estenoz**, Governing Board Member, South Florida Water Management District

**FRIDAY, FEBRUARY 29, 2008**

Opening Plenary 8:30-10:00 a.m.

**A Global Perspective**

Amidst an increasing awareness of the ecological interconnectedness of humans and our natural environment, the opening plenary will lay the foundation for understanding Florida’s challenges in the context of global environmental issues. Professor Tseming Yang will open the discussion by providing a macroscopic perspective on the state of international environmental laws, focusing particularly on developments in China. To this, Professor Binford will address anthropogenic additions to existing global nutrient cycles and the increasing importance of these additions to environmental challenges confronting the world. Michael Burnett will focus on his experience with market-based mechanisms to capture carbon emissions in the United States, comparing our nascent system with the European Union Greenhouse Gas Emission Trading Scheme. Finally, David Bookbinder will conclude by discussing the legal mechanisms for addressing greenhouse gas emissions and their impact on the development of environmental law.

- **Michael Binford**, Professor, Department of Geography, University of Florida
- **David Bookbinder**, Director of Climate Change Litigation, Sierra Club
- **Michael Burnett**, Executive Direction, The Climate Trust
- **Tseming Yang**, Professor of Law, Vermont Law School; Director of the Vermont Law School/Sun Yat-sen University Partnership for Environmental Law in China

With the global growth of public concern about environmental issues over the last several decades, environmental legal norms have increasingly become internationalized. This development has been reflected both in the surge of international environmental agreements as well as the growth and increased sophistication of national environmental legal systems across the world. A number of trends, such as globalization and international development aid efforts, have shaped the global rise of environmental law. The result has been convergence toward a shared set of legal principles and norms regarding the environment, such that one can arguably describe it as a common body of law. The emergence of what Robert Percival and I call "global environmental law" already has and will likely continue to have profound implications for the implementation, practice, and development of environmental law worldwide.



**Morning Session**

**10:30 a.m.–12:00 p.m.**

**The Tide is Upon Us: Coastlines in the Face of Sea-Level Rise  
(Water Track)**

Sea-levels have been rising slowly for decades, and scientists indicate that the rise will likely begin to occur much faster over the next century, with rises of between 0.6 and 16 feet estimated. Our knowledge of the impacts of such scenarios and our planning for them remain nascent endeavors. This panel begins by examining policies for insurance and other subsidies that promote coastal development in areas at risk for storms, erosion, and sea level rise. The panel will then discuss the dynamics of beaches and coastal areas generally in response to sea-level rise. As part of this, panelists will examine the impact of sea-level rise on our built environment and the reciprocal impact the built environment may have on coastal ecosystems as sea-level rise occurs. There will be additional time for a discussion of potential policies that could help Florida adapt to sea-level rise.

- **Andrew S. Coburn**, Research & Graduate Faculty and Associate Director, Program for the Study of Developed Shorelines, Western Carolina University

In the face of migrating shorelines (erosion), rising sea levels and the possibility of more and stronger hurricanes, America's coastal communities are in dire need of innovative, effective, long-term coastal management strategies that balance economic and environmental sustainability. One possible alternative is strategic retreat – the systematic, planned and proactive removal of vulnerable coastal development. Two primary erosion response/storm mitigation measures are currently used along developed shorelines: beach nourishment and erosion control structures. Beach nourishment, the import and emplacement of sand on an eroding beach, is expensive, unpredictable, inefficient and may result in long-term environmental impacts. The detrimental environmental impacts of erosion control structures such as sea walls, groins, bulkheads and revetments include sediment deficits, accelerated erosion and beach loss. Although the viability of strategic retreat as an effective coastal management strategy has yet to be demonstrated, preliminary studies indicate it has the potential to be an efficient, practical, sustainable and holistic approach to managing developed coastlines.

- **Robert H. Jerry, II**, Dean and Levin Mabie & Levin Professor of Law, University of Florida Levin College of Law

Of the ten most expensive catastrophes in U.S. history in terms of insured loss, eight have been hurricanes. Seven of those eight have been hurricanes with impact in Florida. Six of those seven were hurricanes that affected Florida in the 2004 and 2005 seasons. These extraordinary events have greatly affected -- and disrupted -- insurance markets in Florida. The regulatory response involves, at its core, a significant shift toward subsidy-based pricing of property insurance generally and wind insurance specifically. The increased reliance on state-facilitated reinsurance and on a state-created first-party property insurer to cover hurricane risk means that a significant portion of any future hurricane loss will be shifted to Florida's state budget, where it will be paid through general revenues, thereby shifting the impact of future hurricanes to taxpayers generally. In this new framework, the general tax base provides a subsidy to owners of coastal properties, whose insurance costs are artificially deflated. At the margin, this subsidy encourages coastal development, which increases the risk of future hurricane losses, which in turn increases the exposure of the state budget.

- **Robin Kundis Craig**, Attorneys' Title Insurance Fund Professor of Law and Co-Director, Environmental and Land Use Law Program, Florida State University College of Law

Sea Level Rise, Human Health Implications, and Adaptation for Humans and Ecosystems

Adaptation efforts to respond to the sea level rise caused by global climate change are often stymied by problems of long-term uncertainty. In particular, scientists have not yet reached a



consensus regarding the amount of sea level rise expected by the end of the century – although ice in Greenland and Antarctica appears to be melting faster than anticipated, and each new estimate increases the sea level rise expected by the end of the century.

Removal of infrastructure to adapt to sea level increases is expensive and inconvenient and hence subject to popular resistance, especially in the face of uncertainty over how much such adaptation will be necessary, and how quickly. The presentation posits that a more productive focus for sea level rise adaptation, at least in the near term, is protection of human health. First, protection of human health can achieve a level of popular support to get adaptation strategies started when more general considerations – such as protection of ecosystems and biodiversity – might fail. Second, protection of human health should result in adaptation measures such as removal of septic systems, hazardous waste facilities, and other toxic and hazardous facilities from the coastal zone, which will provide protections to both humans and marine and coastal ecosystems that will be beneficial regardless of how much sea level rise actually occurs.

- **Moderator: Ryan Feinberg**, J.D. candidate, Conservation Clinic, University of Florida Levin College of Law

### **Food for the Future: Florida's New Agricultural Frontier (Land Track)**

During this century, Florida Agriculture will deal with a number of global environmental challenges not traditionally within the realm of agriculture. These challenges will be brought to the forefront based on global environmental concerns. Meeting these global challenges of the 21st century while providing food, fuel, and fiber for ever-growing populations requires agricultural research focused on the development and implementation of environmentally sound, socially acceptable, and economically feasible agricultural practices. This panel examines ongoing research that is and will be of even greater future significance in sustaining Florida's Agricultural Future and in providing viable solutions in meeting local, state, and global environmental challenges.

- **Dr. Nick Comerford**, Professor of Forest Soils, Department of Soil and Water Science, University of Florida

“Where has all the photosynthesis gone; long time passing”: Carbon sequestration in Florida

Carbon sequestration is the capture and long-term storage of atmospheric carbon. For Florida's forests and agriculture, that means sequestering carbon in biomass and in the products for which that biomass is used. It also implies moving biomass into the soil and storing it throughout the soil profile as soil carbon. Florida's climate and unique soils offer challenges and opportunities for increasing carbon sequestration. The greatest challenge is the increasing urbanization of the state and the reduction in the land base available for carbon sequestration. Other challenges include understanding the influence that climate change may have on Florida's soil carbon sequestration and biomass production; as well as having the ability to accurately and economically measure carbon changes that result from diverse management strategies. Opportunities for increasing carbon sequestration include increasing the rotation age in managed forests with movement toward more solid wood products in lieu of pulp; application of no-till management in agricultural fields; soil water table management with carbon sequestration as a goal; selection of crop and tree genetics that promote carbon storage in the soil; and direct soil addition of slowly decomposing char residue resulting from the wood pyrolysis for bio-energy and chemical production. A critical message should be that while some of the basics are known, our decades of information on forest and crop management have not been realized with an eye toward carbon sequestration. The technology and techniques needed to enhance and measure carbon sequestration will benefit from research and development with carbon sequestration as the primary objective.

- **Dr. Eric Simonne**, Associate Professor and Extension Specialist, Department of Horticulture Sciences, University of Florida



## BMPs and TMDLs for vegetables in Florida: Rationale, Development and Implementation

With 180,000 acres and a value of \$1.5 billion, vegetable production is a major component of Florida's economy. Vegetables are commonly grown on sandy soils with low fertility and poor water holding capacity. Inadequate irrigation management and excessive rainfall often result in nutrient losses especially (nitrogen and phosphorus) by leaching and/or runoff, thereby causing water impairment. The federal Clean Water Act of 1977 required that states assess the impact of non-point sources of pollution on surface and ground waters, and establish programs to minimize them. Section 303(d) required states to identify impaired water bodies and establish total maximum daily loads (TMDLs) for pollutants entering these water bodies. Once a TMDL is established for a pollutant in a watershed, a 5-year basin management action plan (BMAP) is developed. As a response to the Federal Law, the Florida Watershed Restoration Act (1999) gave the Florida Department of Agriculture and Consumer Services (FADCS) the authority to develop Best Management Practices (BMPs) to reduce pollutant loads in target watersheds.

Adopted by reference in rule 5M-8 in 2006, the "Water quality/quantity best management practices for Florida vegetable and agronomic crops" manual describes the BMPs that apply to vegetable grown in Florida. BMPs are specific cultural practices that aim at reducing the environmental impact of agricultural production while increasing or maintaining economical yields. BMPs intend to be educational, economically sound, technically feasible, environmentally robust, and based on science. Because the BMP mandate requires a combination of research, demonstration and outreach, it re-affirms the relevance of the land grant mission in the 21st century, and requires universities to engage in inter-agency alliances. The extension approach to water and nutrient management has changed from "pollute less by applying less fertilizer" to "pollute less by better managing water". Applied research is leading to advances in areas such as irrigation scheduling, nutrient cycles, and controlled-release fertilizers. At the same time, universities learn how to walk a fine line between education and regulation, address perennial issues of over-fertilization, and consider the reformulation of recommendations that are now used in a quasi-regulatory environment. A combination of education, consensus and novel approaches is used to adapt the rigors of research to a multitude of growing conditions and risks of nutrient discharge in order to comply with Federal laws and restore water quality. This presentation will discuss the main challenges, strategies, obstacles, and opportunities currently used to successfully reconcile the educational, economical, environmental, and science-based aspects of vegetable BMPs in Florida.

- **Dr. Ann C. Wilkie**, Associate Professor, Bioenergy and Sustainable Technology, Department of Soil and Water Science, University of Florida

### Agriculture – Growing a Sustainable Future

Today, there are major ecological impacts being exerted on agriculture by our rapidly changing planet. Continued development and urbanization are quickly reducing the amount of land available for farming. Deforestation and increased carbon emissions are producing global climate changes that have far-reaching consequences for agriculture. The future will likely include limits on greenhouse gas emissions and stricter regulations for protecting air, soil and water quality. To remain viable, agriculture must embrace a holistic cycle where resources are conserved and the ecological balance between farming and the environment is managed for sustainability. As the true costs of our energy consumption practices become recognized, the need for a transition to carbon-neutral renewable energy sources becomes more urgent. In the future, farmers may realize new revenue from a diverse portfolio of biodiversity protection, carbon sequestration, water conservation and renewable energy production. Ultimately, farming will be viewed by society as the cornerstone of our dynamic ecosystems. However, we must ensure that the emerging renewable energy economy benefits family farms and rural communities. By supporting local agriculture, we can invigorate our communities and "taste the food less traveled".

- **Moderator: Michael Olexa**, Director and Professor, Department of Food and Resource Economics, University of Florida



## **A Thaw in the Courts: The Changing Climate for Litigating Climate Change (Energy Track)**

This panel will provide a range of perspectives on the importance of and hurdles facing litigation of climate change. From a public interest perspective, this panel will focus on post *Mass v. EPA* issues of standing and harm. A private practice perspective will provide an overview of the current status of both state and federal law regarding climate change litigation, in addition to underscoring the importance of these issues to those in private practice. For an international perspective, this panel will discuss the progress that the U.S. and other nations are making in the wake of global climate change treaties and how they can and should further collaborate on preventing global climate change.

- **David Bookbinder**, Director of Climate Change Litigation, Sierra Club
- **Lawrence P. Schnapf**, Associate, Schulte Roth & Zabel; Founder, Schnapf Environmental Law Center

In the absence of federal regulation of greenhouse gas emissions, state and local governments have begun adopting their own climate change programs. As a result of this proliferation of local climate change initiatives, a majority of the United States economy is not subject to some sort of greenhouse gas restrictions. These local programs vary considerably in their scope and impact various economic sectors differently. My presentation will review several of these local greenhouse initiatives. I will also review caselaw involving the use of environmental review laws to address climate impacts of developments and other innovative approaches being used by environmental organizations to restrict greenhouse gas emissions and enhance greenhouse gas disclosure of publicly-traded companies.

- **Harvey M. Sheldon**, President, Harvey M. Sheldon, P.C.; Partner, Hinshaw & Culbertson, LLP; Former Regional Counsel of the U.S. EPA, Region 5

### **Climate Change Related Litigation:**

#### **Is the Sky Really Falling, and Will Litigation Prevent It?**

**Abstract:** Irrespective of how real global warming may be, as a matter of sound policy making and serious science, federal agencies have failed the public by not sufficiently including within their records of decision clear explanations of the available highly competent opinions and clear evidence of the unreliability of the assertions upon which most climate change litigation depends for its viability. The public generally is seriously undereducated on the complexity of climate and the relationship of human activity and climate change, and this facilitates the popularity of the simplistic assumptions and conclusions that underpin the popular theories of impending catastrophe. Examples of the available scientific critiques of the currently popular viewpoints that the models can accurately predict the future and that manmade carbon emission is key will be shared with the audience.

Courts, including the U.S. Supreme Court have been less than judicious in deference to agency expertise and overly indulgent of expert opinions that rely on what amount to little more than impressionistic guesses about what data are likely to be, rather than rigorous science. A review of *Massachusetts v. EPA* and its related EPA history is given to illustrate the presenter's points.

The employment of litigation under three current major United States laws (the Clean Air Act, NEPA, and the Energy Policy and Conservation Act (EPCA)) in the cause of reduction of asserted adverse effects of global warming is generally not beneficial or likely to result in sound policy. Examples of difficult questions for judges to determine are provided. There are deleterious side effects of litigation centered environmental advocacy. They include discouragement of new energy projects in the United States and the incurrence of serious costs that may be completely ineffective respecting climate change. There is also less attention paid to societal investment in means of amelioration of climate change effects in places like Florida and worldwide.



Query whether and to what extent carbon emission reduction should be mandated, but if the public consensus continues to be that climate change should be addressed by carbon emission regulation, it can best and most sensibly be done through new legislation that is designed to use market based mechanisms that put a premium upon energy efficiency, rather than directives of specific emission controls or taxation of carbon.

- **Tseming Yang**, Professor of Law, Vermont Law School; Director of the Vermont Law School/Sun Yat-sen University Partnership for Environmental Law in China

Litigation related to climate change has been growing over the past several years not only in the United States but in other parts of the world. In such cases, private individuals have challenged the failure of government agencies to properly consider the effects of climate change, and courts have become increasingly receptive to such arguments. At the same time, there also has been an increase in litigation activities in international fora related to climate change, some of it related to implementation of the Kyoto Protocol. These developments indicate not only a greater awareness and broader understanding of climate change issues but the impact of the issue on legal norms worldwide.

<b>Lunch Break</b>	<b>12:00 – 2:00 p.m.</b>
--------------------	--------------------------

**Special Event - Campus Climate Neutral Round Table**

The Campus Climate Neutral Roundtable (CCN) will bring together graduate students throughout the Southeast to address reducing greenhouse gas emissions from campuses and to ultimately move toward climate neutrality. This CCN is part of a nationwide effort to mobilize graduate students to tackle greenhouse gas emissions from campuses and to provide leadership for the future in confronting climate change.

- **Dedee DeLongpré**, Director, Office of Sustainability, University of Florida
- **Anna Prizzia**, Office of Sustainability, University of Florida

**Special Event - Higher Ground: The Battle to Save Florida’s Beaches**

For decades, Florida’s outstretched coastline welcomed millions of Americans who came in search of their part of the American dream. But Florida’s beaches are no longer an unspoiled paradise for people and wildlife. A rapidly growing population, coupled with sea-level rise and increased storm activity, is severely straining the state’s dynamic barrier islands. This 20-minute film seeks to educate viewers about the implications of coastal erosion and how it affects all who use the beaches – from homeowners to fishermen, surfers to sea turtles. *Higher Ground* explores a changing reality, and considers ways we might adapt if we are all to continue sharing in Florida’s most valuable natural resource.

- **Gary Appelson**, Caribbean Conservation Corporation

<b>Afternoon Session I</b>	<b>2:00 -3:30 p.m.</b>
----------------------------	------------------------

**My Aquifer Runneth Dry: Drinking Water and Diversions  
(Water Track)**

During the last half-century, Florida has experienced significant growth in population and development. This growth has resulted in an increased demand for water resources, and numerous legal issues regarding how to most effectively allocate these resources have ensued. In the past few years, Florida has been embroiled in a controversy over whether to pipe surface water in rural areas of north Florida to highly urbanized areas of central and south Florida. Professor Klein will address the issue from a national legal perspective, while Wayne Flowers will discuss legal implications of water diversion in Florida. Karen Ahlers will provide perspective from a citizens' action group regarding water diversion in our local area.



- **Karen Ahlers**, President, Putnam County Environmental Council

Florida is experiencing a historic drought. Rivers, lakes, and many springs are experiencing historic low levels. These hydrologic events are occurring statewide and with no apparent end in sight. Most Floridians are oblivious to these ecological threats and Florida's per-capita water consumption and total groundwater withdrawals are increasing. Florida has the highest per capita water use rate in the country; statewide per-capita domestic use is between 150 to 170 gallons per day. In early 2007, the St. Johns River Water Management District announced central Florida will exceed the Floridan Aquifer's ability to provide a "sustainable" drinking water source beyond 2013. Rather than addressing the root cause of this problem, the issuance of consumptive use permits which allowed water withdrawals at amounts far exceeding recharge rates, the SJRWMD has chosen a course which will force cities to seek alternative water supplies before trying meaningful conservation programs. The plan to withdraw millions of gallons of water from the Ocklawaha and St. Johns Rivers to meet Orlando and Central Florida's drinking water needs is an experiment that smacks of disaster and defeatism. As currently structured, the proposed withdrawals will cost over \$4 billion and only satisfy needs through 2025. This presentation will focus on the current health and potential additional environmental risks to both the Ocklawaha and St. Johns Rivers, the District's selective analysis of the withdrawal plan, and present alternatives for meeting Florida's future water needs.

- **Wayne Flowers**, Shareholder, Lewis, Longman, & Walker

Transporting Water for Consumptive Uses in Florida

Florida has experienced unprecedented growth in recent years, a trend which likely will continue, at least in the near term. This growth has caused extreme demands on Florida's water resources, to the point that use of groundwater, historically Florida's most clean, abundant and cheap source of water, has reached critical limits due to the environmental impacts associated with current demands on this source. As a consequence of limitations imposed on use of groundwater by Florida's water managers, public supply utilities have been encouraged to explore use of surface water from Florida's rivers and streams as an alternative to groundwater. Given the location of suitable surface water sources in relation to the places where such water is needed, use of the available surface water sources will, in many instances, necessitate transporting the water across watershed, county and sometimes water management district boundaries. This presentation will explore how Florida law either facilitates or inhibits transport of water (sometimes both at the same time) across these boundaries and thus, whether utilities will be able to rely on the prospect of transporting surface water to meet their impending water demands.

- **Christine Klein**, Professor of Law and Associate Dean for Faculty Development, University of Florida Levin College of Law

The Case Against Water Transfers

Throughout the country, water policy embraces a supply-side mentality that requires municipalities to bring water to the people, at all costs. As a result, the nation relies upon thousands of engineered water transfers—even siphoning water from one side of mountain ranges to the other—in an unsustainable attempt to support relentless growth. This presentation challenges the conventional reliance upon water transfers as a response to shortage. It argues that importing water from distant watersheds lulls growing communities into a false sense of security; subsidizes an unsustainable addiction to growth; and exacts significant social, economic, and environmental costs. As an alternative paradigm, this presentation argues for a prospective shift to a demand-side model under which communities achieve water independence by living within a water budget that includes the nourishment of the aquifers and rivers essential to both human and natural ecosystems.

- **Moderator: Mary Jane Angelo**, Professor of Law, University of Florida Levin College of Law



## **Community Land Management for Conservation: Making Homeowners Responsible and Making Agencies Comfortable (Land Track)**

As the built environment continues to replace natural habitats in Florida, reconciling the two becomes increasingly important. One of the ways to accomplish this reconciliation is to charge Homeowner's Associations and Community Development Districts with land management responsibilities. Results to date have been mixed. This panel will examine the strategies and legal tools that could improve the ability of these groups to manage both common areas and individual lots for biodiversity conservation. Panelists will discuss the role of conservation easements, deed restrictions, third-party management in structuring a framework, and enforcement and education to ensure compliance.

- **Ray Ashton**, Executive Director, Ashton Biodiversity Research & Preservation Institute, Inc.

### COMMUNITY CENTERED CONSERVATION PROGRAMS, THE TORTOISE MODELS

The basic needs that determine the ability of a community to manage wildlife include, the appropriate green space for preserves, proper regulations at the federal, state, and local levels, community rules and support including covenants, easements, and funding. All of these things must be created in a way that causes landowners to look at the program as enhancements to the community. An up and coming trend in developments is to replace golf courses with several thousand acres of greens with natural habitat and lands keepers with biologists to manage natural areas. Surrounding home sites have conservation easements to insure buffering and people buying in these areas are doing so for their attraction to this form of recreation. A second form community that can provide on site tortoise conservation because of well planned greenways that are wide enough and managed properly to sustain tortoises and other upland species. Finally there are the communities where private landowners and their associations make great efforts to use native landscaping, and cooperation among members of the community to provide proper habitat. There is a pride in “blending natural and human communities together to make it work.

- **Jim Bierly**, Sugar Mill Woods Homeowners Association

### GOPHER TORTOISE SOLUTIONS IN CITRUS COUNTY

- (1) Problem:
  - Gopher tortoises were being buried alive or killed during construction.
- (2) Why the killing of gophers is of importance.
  - Keystone species
    - Protected by State of Florida
- (3) Citrus County Laws
- (4) Builders in Sugarmill Woods
- (5) Power Point program
- (6) Questions

- **Michael C. Eckert**, Attorney Hopping Green & Sams, P.A.
- **Moderator: Ondine Wells**, IFAS Florida Yards & Neighborhoods Statewide Builder and Developer Program



## **Cash for Carbon: Carbon Markets and Regulatory Alternatives (Energy Track)**

Carbon markets represent a “cap and trade” approach to the reduction of greenhouse gas emissions that contribute to climate change. Carbon markets transform pollution into a form of currency, which can then be traded. In 2005 the European Union initiated the world’s largest carbon market, known as the Emission Trading Scheme, which exists under the framework of the Kyoto Protocol and allows for the expansion of a global carbon market. Although the United States has been an unwilling participant, a number of states, including California, Oregon and Washington, and private organizations, such as the Chicago Climate Exchange, have emerged to lead the U.S. towards a future that is less dependent on carbon. In order for these markets to function most effectively they must account for a variety of scientific, technological, and legal challenges. This panel will discuss current regional, state, and private initiatives as well as the bills pending in Congress. The panel will also consider issues related to markets based on demand side management, the effect of regulation of previously voluntary markets, securitization, and the unique opportunities carbon markets present in Florida.

- **Michael Burnett**, Executive Director, The Climate Trust

In order to cost-effectively reduce Florida’s greenhouse gas emissions, it is necessary to provide economic incentives for action. A cap-and-trade approach for reducing pollution must be integrated into a suite of climate policies that provide financial incentives and utilize technology regulation. Moreover, under a cap-and-trade system, offsets, which are an equivalent compensation to actual emissions reductions, can be utilized to produce more cost-efficiency. In order to assure the utmost quality of the offset, the emitter must demonstrate that the investment is not required by regulations, that the investment is not common practice, and that the offset funding helps overcome financial, technological, and/or implementation barriers. In addition to their financial benefits, offsets also pose to drive technological innovation, incorporate uncapped sectors, and provide energy security.

- **Hal S. Knowles, III**, Coordinator, Program for Resource Efficient Communities and Ph.D. candidate, School of Natural Resources and Environment, University of Florida

As a result of the interconnected challenges of climate change and peak oil, the global economy is expected to become increasingly carbon constrained in the near future. Carbon markets and/or other regulatory alternatives can serve as prosperous pathways to greenhouse gas (GHG) emissions reductions and energy switching strategies. Pacala & Socolow (2004) suggested “improvements in [energy] efficiency and conservation probably offer the greatest potential to provide [GHG emissions mitigation] wedges.” More specifically, the building sector accounts for approximately 48% of annual U.S. GHG emissions (36% of the direct energy related GHG emissions and an additional 8-12% of total GHG emissions related to the production of materials used in building construction) (AIA,; Architecture2030, 2007; Nässén, Holmberg, Wadeskog, & Nyman, 2007).

Furthermore, individual households account for approximately 50% of the GHG emissions in the building sector (Abrahamse, Steg, Vlek, & Rothengatter, 2007; Greening, Ting, & Krackler, 2001). Though the U.S. Climate Change Science Program estimates homes can achieve GHG emissions reductions up to 70% with current best practices (McMahon, McNeil, & Ramos, 2007), there remain considerable challenges awaiting GHG emissions mitigation in the residential sector. This session will provide a brief background on the role of the built environment within carbon trading schemes, the unique opportunities and constraints for energy efficiency and energy conservation, and the implications of climate change mitigation and adaption for Florida’s urban infrastructure.

### References:

Abrahamse, W., Steg, L., Vlek, C., & Rothengatter, T. (2007). The effect of tailored information, goal setting, and tailored feedback on household energy use, energy-related behaviors, and behavioral antecedents. *Journal of Environmental Psychology*, 27, 265-276.



- AIA. *Architects and climate change*. Retrieved January 11, 2008, 2008, from <http://www.aia.org/SiteObjects/files/architectsandclimatechange.pdf>
- Architecture2030. (2007). *Climate change, global warming, and the built environment: Architecture 2030*, January 11, 2008, from <http://www.architecture2030.org/home.html>
- Greening, L. A., Ting, M., & Krackler, T. J. (2001). Effects of changes in residential end-uses and behavior on aggregate carbon intensity: Comparison of 10 OECD countries for the period 1970 through 1993. *Energy Economics*, 23, 153-178.
- McMahon, J. E., McNeil, M. A., & Ramos, I. S. (2007). Buildings. In A. W. King, L. Dilling, G. P. Zimmerman, D. M. Fairman, R. A. Houghton, G. Marland, A. Z. Rose & T. J. Wilbanks (Eds.), *The First State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle* (pp. 95-102). Asheville, NC, USA: National Oceanic and Atmospheric Administration, National Climatic Data Center.
- Nässén, J., Holmberg, J., Wadeskog, A., & Nyman, M. (2007). Direct and indirect energy use and carbon emissions in the production phase of buildings: An input-output analysis. *Energy*, 32, 1593-1602.
- Pacala, S., & Socolow, R. (2004). Stabilization wedges: Solving the climate problem for the next 50 years with current technologies. *Science*, 305, 968-972.

- **Mark van Soestbergen**, President, International Carbon Bank & Exchange Inc.

Emission Reductions from the Building Sector, the largest opportunity wedge in Florida's GHG Profile

As over half of the energy and resulting greenhouse emissions generated by electric utilities are to serve the residential sector, a unique opportunity presents itself to couple the built environment with utilities in a way that helps achieve energy reductions and renewable portfolio goals. The primary instrument envisioned is a market driven mechanism, whereby developers are rewarded for designing communities that significantly reduce energy and water consumption beyond code, with an additional award tier available for reducing transportation impacts. The opportunity wedge for reductions from the built environment in the electric sector is estimated at \$160M annually by 2012, \$900M annually by 2017, and \$3B annually by 2025. The questions that remain are what is needed for communities to participate in this market, and what share of that market can reasonably be harnessed. The presentation will describe the support systems needed to enable carbon financial instruments to travel between the carbon market and developers.

- **Michael Wallander**, Attorney, Greenberg Traurig, LLP

The Florida Landscape: Carbon Costs and Opportunities

The State of Florida is exploring alternatives for "Reducing Florida's Footprint" and one such mechanism which has achieved strong consideration is a market-based "cap-and-trade" program. A cap-and-trade program presents both challenges and opportunities. The challenges are the costs imposed on various economic sectors, such as utilities, manufacturing and transportation, which are in turn indirectly passed through to society. Significant opportunities also exist for companies within those sectors that outpace their competitors, as well as with a host of potential project-sponsors who will come up with creative methods to reduce, avoid or sequester greenhouse gases -- and be rewarded with cash for carbon offset credits that can be sold to companies to meet the cap requirements.

Florida has significant potential to develop a strong and deep supply of carbon credits which could strengthen our economy and minimize regulatory costs. In the process, Florida can emerge as a worldwide leader in developing innovative projects covering such diverse arenas as agricultural, land use, forestry management, green and energy-efficient building construction, renewable energy, waste-to energy and cogeneration, ecotourism and transportation, among others. This session will briefly explore these opportunities and will examine some of the legal



aspects, challenges and concerns, including requirements for creation of a carbon credit (in particular, additionality), as well as transfer options, securitization, international or extraterritorial trading, and integration with, or possible preemption by, a federal program.

- **Moderator: Christine Manning**, J.D. candidate, Conservation Clinic, University of Florida Levin College of Law

**Afternoon Session II**

**4:00 – 5:30 p.m.**

### **Funding the Everglades: A Restoration Project in Need (Water Track)**

The earth's ecosystems are increasingly beyond the need for mere conservation and in need of large-scale affirmative restoration. Florida is on the leading edge of the coordination between federal and state law and funding to implement large-scale restoration projects. The Comprehensive Everglades Restoration Plan (CERP) is the world's largest environmental restoration plan. It envisions a 50-50 federal and state funding partnership. Since the initial federal appropriations in 2000, however, federal funding for Everglades restoration projects has been significantly reduced. This panel will focus on the state and federal funding for environmental restoration projects, based largely on the Everglades experience. The panelists will evaluate the general process for funding of restoration projects, address the recent Water Resources Act of 2007, and discuss innovative approaches to large-scale restoration funding.

- **Shannon A. Estenoz**, Governing Board Member, South Florida Water Management District

Everglades restoration has taught us that funding long-term ecosystem restoration programs is very challenging when funding mechanisms rely on annual state or federal appropriations processes. One alternative, more reliable approach is to think about restoration as a long-term infrastructure enhancement effort, similar to the construction of new schools or utilities, and perhaps explore the funding strategies of those types of government investments. In 2004 the South Florida Water Management District issued more than \$500 million in Certificates of Participation, a debt mechanism that generates capital for long-term projects. School Boards commonly use COPs to fund the construction of infrastructure. Obviously, there are a number of factors that must be in place to make this type of approach feasible – the financial position of the issuing entity being chief among them. When it is feasible, debt issuance is a reliable way of generating revenue to fund large-scale infrastructure investment necessary to the function and mission of government, and as such could be part of the mix for many large-scale ecosystem restoration programs, particularly those that can boast economic and sustainability goals.

- **Kim Koleos**, J.D. Candidate, University of Florida Levin College of Law Conservation Clinic

Restoration of the Florida Everglades is the largest Army Corps ecosystem restoration effort to date, but implementation has been substantially delayed by issues unrelated to restoration, including prioritization of authorized projects, Corps reform, and fiscal responsibility in authorizing projects that clearly have a federal role. The federal government has committed itself to implementing and funding the Comprehensive Everglades Restoration Plan, but with no mechanism to streamline congressional approval of the individual projects that make up CERP's master sequencing plan. The delay in restoring the Everglades ecosystem is not a matter of lack of federal support, but rather, the comprehensive plan lacks a legislative vehicle able to navigate the cumbersome political process of WRDA reauthorizations.

Legislation in the form of a Water Resources Restoration Act is necessary to make the Corps' environmental protection mission more effective, efficient, and responsive, as well as to provide an opportunity to keep up with changing environmental demands. A dependable biennial authorization process is critical for the Corps of Engineers to conduct an orderly and manageable water resources program, but absolutely imperative in administering large-scale ecosystem restoration projects where the environment is subject to continued degradation while legislation



awaits final passage. Under the leadership and support of Senator Bob Graham, UF's Conservation Clinic proposes the development of a Water Resources Restoration Act that addresses large-scale water resource restoration as a discrete class of authorization projects and creates a separate legislative authorization independent of the WRDA process.

- **William Leary**, Member, St. Augustine Planning and Zoning Board; Former Director for Natural Resources, White House Counsel on Environmental Quality

The current intergovernmental model for large-scale ecosystem restoration is not working. Nor is the current reliance upon federal funding. Here's what might.

For decades now, we have created a variety of intergovernmental governance task forces or similar entities for each of our large-scale ecosystem restoration efforts. The Everglades model is typical, composed of representatives of a variety of affected federal agencies and the state, regional, tribal and local governments. Multi-state ecosystem efforts tend to exclude governments other than the affected states. A recent version of the Everglades model was created for coastal Louisiana and of the multi-state model for the Great Lakes. For decades now, one federal agency, most often and recently the Army Corps of Engineers, has been designated the lead federal agency. In addition, a variety of federal/state cost-share arrangements have been established. These restoration efforts have largely competed against one another for funding in Congress and within the Administration. They have competed for federal agency attention, especially in agencies other than the lead agency. And they have competed within federal agencies for the attention of administrators more comfortable with managing agency programs than involvement in intergovernmental ecosystem projects.

Congressional funding has been complicated by congressional committee jurisdictional restrictions and biases. Congress also exhibits a preference for programmatic authorization and funding over specific projects – the Water Resources Development Act, as job jar for the Corps, and the occasional but unpredictable earmark, being the notable exceptions. The current trend away from adequate federal funding and consequent delay in restoration will require a sea change that must include an Administration and Congressional commitment to a different model that will take advantage of this competition and of a larger trend toward restoration in a much broader context than environmental restoration. This will also necessitate the application of more innovative funding schemes involving the private sector and the built environment.

- **James C. Nicholas**, Professor Emeritus of Law, University of Florida Levin College of Law; Professor Emeritus, Department of Urban & Regional Planning, University of Florida
- **Richard J. Grosso**, Director, Environmental and Land Use Law Clinic and Professor of Law, Nova Southeastern University

The earth's ecosystems are increasingly beyond the need for mere conservation, and in need of large-scale affirmative restoration. Florida, in particular the Everglades, is on the leading edge of the coordination of shared, coordinated federal and state law and funding to implement large – scale restoration projects. The Comprehensive Everglades Restoration Plan (CERP) is the world's largest environmental restoration plan. It envisions a 50-50 federal and state funding partnership, but, since the initial federal appropriations in 2000, federal funding for Everglades restoration projects has been seriously reduced. This panel will focus on the state and federal funding for environmental restoration projects around the Country, based largely on the Everglades experience.

The objective of the panel is to stimulate efforts at implementing innovative ideas on how to fund large-scale ecosystem restoration projects. The scale of such projects suggests that the federal government will typically need to be a partner with states in funding and implementing such projects. Yet, the Everglades' example suggests that changing national priorities, federal budget limitations and other challenges may in some cases make long-term, sustained federal funding unreliable. It may thus be important for states to develop plans for financing the lion's share, or even all, of such projects on their own. At the same time, ideas exist for creating a



federal funding mechanism that will separate ecosystem restoration projects from the federal funding mechanism for large – scale public works projects such as dams, ports, levees, and other potentially destructive and controversial projects. The panelists who will be discussing these issues include persons who were directly involved from the government and advocacy group perspective in the authorizations and appropriations for the Everglades restoration project, a Florida expert in public financing mechanisms, and a person involved in the drafting of legislation that would create a new federal mechanism for funding restoration projects. They will evaluate the general process for funding of restoration projects, address the recent Federal Water Resources Development Act, and discuss innovative approaches to large – scale restoration funding.

### **Shell-Shocked: The Impact of War on the Environment (Land Track)**

The direct impact of an explosion has a very visible effect on the immediate environment, but this is only one of many long-term impacts. During times of war, the impact we have on the environment can seem all the more important to discuss. With the increase in military spending comes an increase in military activity, not only in the war zone, but also across numerous military areas such as bases and training sites. This panel will focus on better understanding the real and potential effects war has on the environment, both immediate and long-term.

- **Cpt. Lee Dougherty**, Attorney; Assistant Professor of Military Science, University of Florida; Commissioned member, U.S. Army Reserves; Former Florida National Guardsman, 3/20 Special Forces Group (Airborne); Former U.S. Army Ranger (3/75)

As a lawyer and Assistant Professor of Military Science and an active practitioner of the art of war in situations of extreme conflict and danger, my role is partly that of an academic trying to make sense of a range of conflict and difficult issues that have been an integral part of my professional life. Before one spins off on an abstract excessively generalized discourse it may be of value to look at a concrete problem in which issues of preparedness for the defense of our national interest have consequences not only in terms of narrow military doctrine based on the principals of military necessity, proportionality and more generally humanitarian concerns, but effectually where the entire structure and process of preparedness and action have broader consequences on society and the ecological values that are as important to our society as our posture of effective self defense which is a critical limb of our national security doctrine.

The problem that emerges from any view of effects, specifically of warfare and national security, is the impact of change at every level of society nationally and globally. Change includes the impact of technology on humans and the broader environment. In the context of war, technology changed the face of war specifically during the American civil war. To some, this was the first modern technological war. Specifically, if the impact of the war wasn't as devastating on the environment in a direct sense it was a major catastrophe in terms of the killing. Technology made the death toll particularly high and became an integral part of national security planning and subsequently affected every conflict since.

This means that if technology is critical to national security then society as a whole has to mobilize all sectors of the society including its technological sectors to deal with the advancements. The political economy of a modern nation in the aftermath of the civil war would contemplate the mass mobilization of all sectors of society. From the point of view of the broader environmental values, this clearly means there would be environmental impacts that go beyond specific battlefield conditions. It is not surprising that the totalitarians developed the concept of total war which was their legacy in the aftermath of WWII. A total war concept thus would involve essentially an attack on all the resources of a community, including the environment itself.



It is possible that very little thought was given to the impact of armed conflict on the environment by the aggressive forces in the world community because they may have worked on an assumption that as a resource the environment may absorb anything and recover. During the first gulf war Saddam set oil fields on fire – making war on the environment vastly impacting not only his country but the entire region.

We are in an age where we realize better than in the past that the threats in the global environment are real and in light of modern weapons and their delivery systems may lead to permanent catastrophic damage for all. We know more clearly now that there are huge costs to preparedness. We frequently underestimate the costs of the process of testing and evaluating the efficacy of modern weapon systems. Weapons of mass destruction represent a new dimension in testing, threats and in our time possible uses by shadowy terrorist groups driven by psycho-pathological persons with dreams of religious glory or depraved alienation. Thus the picture is complex in terms of what we have done in the past about how this broader aspect of preparedness can appropriately be managed within the broader definition of national security.

One of the impacts of technological and scientific advancements is that the advancements far outstrip their value and become the foundation of our modern economy based on the new wealth that project our economic stability in terms of the advancements of the future whose obvious impacts on the environment are much more benign. For example, the entire modern communications revolution and conquest of cyber space, driven in large part by national security aims, is a vast improvement in the human condition with minimal environmental impact.

The bottom line is that we need a strong national security stance now more than ever, but we have to find a way to balance the real and potential threats to the environment both from our enemies and from our own ignorance as to the long term effects of our actions. Technology must be an important tool in the advancement of weapons which will insure our preparedness while equally insuring limited damage to the environment. Without being prepared we open the environment up to damage from those like Saddam Hussein who have little or no regard to the effects on the environment. In looking at the issue of national security and the environment we recognize as we express our concern of some aspects of environmental use that these concerns are also complemented by the dramatic development of technology whose outcomes seem to suggest the possibility of much better balance between national security in the conventional sense and the critical importance of global security in the environmental sense.

- **Mark Goldstein**, Chairman of the Board, Vice President, Secretary and Director of The Mammatech Corporation

Dr. Goldstein will address a largely unknown, potentially apocalyptic effect of war on the environment. The chronicle is both frightening and heartening with current, successful scientific outcomes. It begins with an obscure Russian scientist, Nikolai Ivanovich Vavilov and his colleagues who died heroically attempting to rescue from war, the diverse botanical species upon which humanity depends for food. Their sacrifice and contribution produced an astonishing, but quiet scientific revolution. War has irreversible effects on plant genetic material critical to life. Vavilov's work inspired the emergence of organized "gatherers" working to preserve diverse plant genetic material. Gatherers roam the planet in search of diverse seeds and plant species that are then stored in remote seed bank stations in the Arctic and other protected, largely uninhabited regions. International regulatory actions are emerging that support these endeavors. Vavilov and his colleagues died of starvation protecting the original seed banks they created knowing that humanity would perish without the ability to grow food. They refused to eat the seeds they had gathered.

- **Paula Stahmer**, Attorney; Co-chair, Suwannee-St. Johns Chapter of the Florida Sierra Club



- **Moderator: Winston P. Nagan**, Moderator, Professor of Law, University of Florida Levin College of Law; Samuel T. Dell Research Scholar; Founding Director, Institute for Human Rights and Peace Development; Affiliate Professor of Anthropology, University of Florida

The impact of military activities on the environment is one of the most important public policy issues of our time. The issue is enormously complex and it is not easy to find the appropriate wedge into the issues and problems that provides a reasonably coherent narrative of the stakes. We know that the stakes are critical. The military has a substantial monopoly over our national security posture. That means that if they botch their responsibilities our security may be catastrophically undermined. On the other hand, we know that without environmental security a broader picture of threats to human survival becomes more apparent. We need environmental integrity for human security nationally and globally. We need peace and security because the capacity for dooms day destruction is already evident in the massive arsenals specialized to mass destruction. The policy conundrum is the claim that national security necessity may undermine environmental security and the necessary foundations for human and generally life sustaining systems.

One of the important and seriously complicating factors is the power of special interests in defining national policy and therefore either strengthening or weakening the vital interests of national security and environmental integrity. The current administration has probably been the most strident in recent years in its effort to subordinate issues of environmental interests and at the same time vastly extend the scope and process of national security imperatives. In short, national security has grown exponentially in terms of how it is defined and presented as a public policy need. Thus, a question may arise, can we avoid the do-gooder image of environmentalists by collapsing environmental concerns into a broader definition of national and international security. I shall discuss some of these themes and take them in some other directions:

1. National security, war, and the impact of violent conflict on the environment.
2. National security and war preparedness.
3. National security, weapons of mass destruction, and the environment.
4. Testing
5. Manufacturing
6. Storing
7. Storing waste
8. Conflicting perspectives emerging from the pentagon: how green is my outlook?
9. Exemptions from environmental laws
10. Cicero- Silent enim leges inter arma. In time of war, the law falls silent. Will this be the fate of laws dealing with environmental security?

### **Sustaining the Sunshine State: Florida's Alternative Energy Solutions (Energy Track)**

Florida Governor Charlie Crist signed three Executive Orders on July 13, 2007, to establish an immediate, multi-pronged strategy to reduce the state's greenhouse gas emissions. These orders call for increased energy efficiency and increased use of alternative and renewable energy sources. This panel will discuss Florida's needs for sustainable energy within the scope of these Executive Orders. The panelists' varied perspectives and presentations will evaluate alternative energy sources and examine what steps can be taken to increase their use and overall energy efficiency in Florida.

- **David Guest**, Managing Attorney, Earthjustice, Tallahassee, Florida Office



- **Charles Pattison**, Executive Director, 1000 Friends of Florida; Member, Florida Governor's Action Team on Energy and Climate Change

The Florida Energy Commission has just released its report which is intended to address the many climate change, global warming and energy efficiency issues raised in last year's three gubernatorial executive orders. These recommendations have major implications for environmental and regulatory programs, citizens, businesses and taxpayers. Charles Pattison, President of 1000 Friends of Florida and a member of the Governor's Climate Action Team and the Century Commission for a Sustainable Florida, will summarize and briefly review the 85 recommendations covering seven different policy arenas.

- **Winifred G. Perkins**, Manager of Environmental Relations, Florida Power and Light Company

As the largest electric utility in Florida and the third largest generator of power in the U.S. (when combined with our sister company FPL Energy); the decisions and actions of FPL Group have a significant impact on the overall development of alternative energy for Florida and throughout the country. The positive impact of this is the fact that FPL Energy is the largest developer and owner of wind power in the U.S. and also operates the largest commercial solar generator in the U.S., located in the Mojave Desert in California. The issue is how this will translate into increased development and use of alternative energy in Florida. Certainly, one of the first areas to focus on is the area of energy conservation. FPL is the #1 utility nationwide for energy conservation. However, more needs to be done to offset the fact that Florida residents use 30% more energy per capita than they did 20 years ago. FPL is currently evaluating a 20 megawatt wind project in coastal St. Lucie County. In addition, FPL just completed a large solar project in Sarasota on top of an existing closed landfill. We are also in the permitting phase of an even larger solar project planned for Martin County. The future holds even more possible prospects for alternative energy in Florida including ocean current power, which we are in the research phase with FAU, off-shore wind and of course expanded solar power. This panel will address these complex issues from a variety of perspectives, and is certain to be a lively and engaging discussion.

- **Dr. Eric D. Wachsman**, Director, Florida Institute for Sustainable Energy; Director, UF-DOE High Temperature Electrochemistry Center; UF Research Foundation Professor, Materials Science and Engineering, University of Florida

#### Why Florida Should Lead in Sustainable Energy

Energy may be the defining issue of this century. Our quality of life, standard of living, and security depend on energy. The limited supply of fossil energy, its accelerated consumption, impact on global warming, and the dependence on its supply from unstable countries are major economic and security issues. To address these issues we must have a strong balanced energy research program, which is based on the best and most efficient use of our indigenous natural resources while minimizing our dependence on imported energy forms. Moreover, the dire forecast, by the recent Intergovernmental Panel on Climate Change, of unabated anthropogenic CO<sub>2</sub> (and other green house gases, GHG) on our environment confirms that addressing this issue is critical to global survival.

Abundant, reliable, clean, and affordable energy is essential for a healthy State of Florida economy. Moreover, due to Florida's unique coastal geography and southern latitude, it is the state with both the most to gain by harnessing its abundant renewable energy resources and the most to lose if it doesn't. We are rich in renewable energy resources, particularly biomass (~10% of US total) and solar, yet currently dependent on fossil fuels. This dependency contributes to global warming and the associated increased risk of violent weather and rising ocean levels that threaten the residents living near our 1350 miles of coastline. These facts were clearly communicated at the recent Summit on Global Climate Change sponsored by Governor Crist, and by his recent Executive Orders.

Increasing renewable energy generation reduces GHG emissions, decreases our external energy dependence, and creates jobs, while its distributed deployment increases resiliency to catastrophic



events. In addition, considerable opportunity exists to increase the energy utilization efficiency by all constituencies including industry, government, and local residences. A transformation of the State’s energy system will require R&D of promising new technologies and their commercialization, and coordination of the full set of stakeholders in our energy future. These topics and the role of the Florida Institute for Sustainable Energy in addressing them will be discussed.

- **Moderator: Jane West**, Founding Partner, Collins & West, P.A.

### Banquet

7:00 – 10:00 p.m., The Harn Museum of Art

- Welcoming Remarks: **President Bernie Machen**, President of the University of Florida
- Keynote Speaker: **David Hunter**, Assistant Professor and Director, Program on International and Comparative Environmental Law, American University’s Washington College of Law

Professor Hunter will discuss the evolution of international environmental law and its potential for helping to solve today’s global environmental problems. International environmental law emerged in the early 1970s as the newest field of public international law, concerned almost exclusively with relationship between nation-states and monopolized by foreign diplomats and Department of States. International environmental law has changed significantly since then, driven by environmental activists and their public interest lawyers. International environmental law, as it is practiced today, reflects a far greater and more diverse role for civil society and their lawyers, and in this democratization of international environmental law lies its greatest potential for solving climate change and the other tough issues facing us.

<b>SATURDAY, MARCH 1, 2008</b>	
<b>Workshop</b>	<b>9:00 – 10:30 a.m.</b>

### Workshop: Citizen Planning: Effective Public Participation in the Land Use Process

This workshop will focus on the best practices that citizens need to effectively participate in the land use process. The discussants will describe the respective roles of citizen advocates, attorneys and planners in the comprehensive planning process and discuss best practices they believe can be applied universally to participation in the land use arena. They will offer suggestions on how to make the most of legal and planning expertise on a shoestring budget, and the appropriate role of lawyers as well as citizens and experts in the public participation process. They will also address effective communication skills and other practical information for land use advocates, their experts and their counsel.

- **Dr. Kim Davidson**, M.D., Coalition for Responsible Growth
- **Bob Cohen**, Member, City of Gainesville Planning and Zoning Board
- **Richard J. Grosso**, Director, Environmental and Land Use Law Clinic and Professor of Law, Nova Southeastern University
- **Al Hadeed**, County Attorney, Flagler County
- **Moderator: Devesh Nirval** (invited), Regional Specialized Agent, Pinellas County Extension Urban Environmental Sustainability

<b>Morning Session</b>	<b>11:00 am – 12:30 p.m.</b>
------------------------	------------------------------



UNIVERSITY OF FLORIDA · LEVIN COLLEGE OF LAW  
P.O. BOX 117629 · GAINESVILLE, FLORIDA 32611

### **Water and Dam-Nations: Environmental Injustices and Dams (Water Track)**

This panel will focus on dams as the center of environmental justice issues. The panelists will highlight dams in Costa Rica and Panama. Specifically, the panelists will address environmental justice issues surrounding the motivation for dam construction. These issues include relocation, displacement, resettlement, and the allocation of benefits.

- **Ruben Orlando Gonzalez**, Rotary Foundation World Peace Scholar, Duke University; Founding member, Alliance for Conservation and Development

The Panamanian government is building dams across the country, ignoring the land rights and genuine development needs of indigenous peoples in a quest to provide electricity to the capital, Panama City. The Panamanian NGO Alliance for Conservation and Development (ACD) is working with indigenous community leaders to provide legal support to the efforts to defend their rights. These are some of the most important issues societies are currently facing in the broader context of environment and culture in times of Globalization. Power struggles, especially in the energy sector, are not only threatening the life of indigenous peoples, but also reframing the approach of many governments to conservation and development. This presentation will also examine with specific examples, the link between conservation and human rights as a cross cutting issue that is being left behind by the environmental community. This discussion will help us to understand the multiple challenges that conservationists face as free trade and open markets are dictating the agenda of weak states such as Panama, where ACD have fought governments and private corporations for the past 6 years. Ruben Gonzalez, ACD Board member, will focus on the urgent situation in Bocas del Toro province, where the construction of two dams adjacent to La Amistad U.N. Biosphere Reserve are threatening indigenous lands, homes, and livelihoods right now.

- **Dr. Anthony Oliver-Smith**, Professor, Department of Anthropology, Center for Latin American Studies, University of Florida

Dams constitute a fundamental manifestation of the way a society expresses not only its relationship to nature, but its construction of social relations as well. Dams enable us to perceive the science, engineering, policy-making, finance, and ambition and that are brought together to produce the large-scale technological systems that manage resources and environments. In opposition to dams we see an array of interests, discourses and groups that are generally marked by significantly different formed and routes of access to power, including local people and their NGO and social movement allies, some foundations supporting issues in the public interest, and other elements of civil society.

- **Gaby Stocks**, Ph.D. candidate, Department of Anthropology, University of Florida

I will discuss the case of the Arenal dam in north central Costa Rica. The communities of Arenal and Tronadora were relocated in the late 1970s as a consequence of the construction of the Arenal hydroelectric project. As one of the few success stories of resettlement, at least in the short term, this case provides some important lessons for future resettlement efforts. However, the long term consequences of the relocation of these communities remain unclear, and this will be the subject of my dissertation research.

- **Moderator: Thomas Ruppert**, Assistant in Environmental Law, Center for Governmental Responsibility, University of Florida Levin College of Law

### **All Creatures Great and Small: Planning for Humans and Biodiversity (Land Track)**

Habitat destruction, pollution, and a changing climate put great pressure on biodiversity. This panel explores the critical issues of biodiversity loss, explains its disturbing rate of occurrence, and emphasizes prospective solutions to



these issues. The primary focus will highlight conservation planning, which aims to protect biodiversity by finding a balance between the location of development and the location of protected areas, thus allowing for the movement of species in the face of a changing climate. Terry Gibson will provide personal insight into the loss of biodiversity suffered in Florida. Eugene Kelly will address the causes of biodiversity loss, focusing primarily on climate change and sea-level rise. Preston Robertson will present the State of Florida's perspective on conservation planning.

- **Terry Gibson**, Managing Editor, Shallow Water Angler Magazine; Projects Editor, Florida Sportsman Magazine

Negative synergy between local ecosystem stressors, stressors associated with climate change and stakeholder ignorance, apathy and belligerence: An Engaged Sportsman's Perspective.

The stressors associated with global warming are synergizing negatively with myriad stressors associated with direct human alterations of Florida's coastal, freshwater, and terrestrial ecosystems. The consequences are manifesting themselves as costs that can be measured in terms of diminished, degraded, or lost recreational and economic opportunities. Of serious concern are: (1) Lost or damaged beaches thanks to crippled littoral systems, rising sea levels, hurricanes, and engineering responses that exacerbate the problems and create new problems; (2) Extended coral bleaching and disease events that may be worsening due to rising sea-surface temperatures and land-based sources of pollution; (3) Massive canal discharges during wetter than usual wet years (more hurricanes), as well as inadequate water levels in freshwater lakes and flows of fresh water to estuarine systems during dry years; (4) More intense and longer lasting Harmful Algae Bloom (HABs) due to increasing nutrient loading and longer warm seasons; (5) "Short-stopping" migratory waterfowl due to less severe winters; (6) Poor nesting success among bobwhite quail due to habitat loss, heat, and radically fluctuating annual precipitation levels; (7) The difficulty of engaging the sporting community in these issues due to the phenomenon of shifting baselines, a fundamental lack of awareness, skepticism about the causes of global warming, and mistrust or antipathy toward regulatory agencies and environmental groups due to unpopular management decisions such as no-fishing zones. Without the explicit support of these communities, it will be much more difficult to get support for policies that would stabilize the climate, restore coastal ecosystems, and help wildlife adapt to a warmer planet. If climate stabilization and ecosystem-based management are the goals, it is therefore critical to build relations between the scientific community and recreational sectors and to create non-traditional partnerships between recreational users and the environmental community.

- **Eugene Kelly**, State Conservation Planner, The Nature Conservancy

Re-evaluating The Nature Conservancy's Conservation Priorities in Response to Development Impacts and Projections of Sea-Level Rise

The Nature Conservancy conducts Ecoregional Assessments (EAs) to develop conservation priorities. An EA identifies a network of sites that, collectively, will meet the habitat needs of the plant and animal species native to that ecoregion. Florida's ecoregional "portfolio" encompasses a total area of approximately 16 million acres divided among 310 sites. Strategies for achieving protection of the portfolio may include a variety of approaches. Currently, more than 11 million acres of the portfolio have already been protected through public ownership, conservation easements, or other means. The Florida portfolio was assembled using a focal target list of 688 different taxa, natural communities, and habitat features as the subset of biodiversity used to represent the entire range of biota native to the state. We have used new data layers to evaluate the extent and impact of losses to the portfolio from development since the EAs were completed, and of the potential impacts of sea-level rise. These analyses are being used to determine whether additional areas should be added to the portfolio to compensate for habitat losses and likely impacts to the ecoregional conservation targets.

- **Preston Robertson**, Vice-President and General Counsel, Florida Wildlife Federation

Climate Change and Florida: Facing Facts



UNIVERSITY OF FLORIDA · LEVIN COLLEGE OF LAW  
P.O. BOX 117629 · GAINESVILLE, FLORIDA 32611

Preston Robertson, Vice-President and General Counsel of the Florida Wildlife Federation (FWF), will give a presentation on the impact of global warming and sea level rise on Florida. As carbon dioxide and other greenhouse gas emissions continue, how will Florida's coastline and its coastal communities fare into the 21st Century? As most of South Florida is at very low elevations, many environmental qualities we take for granted may be under threat. Robertson shall lead a slide show and discussion on an issue that is now coming to the fore world-wide and one that will affect environmental law and conservation in Florida for many years to come. Robertson is a 1990 graduate of the University of Florida School of law, and has been in private practice in Gainesville, as well as serving as an Assistant Attorney General, Assistant General Counsel for the old Game and Fresh Water Fish Commission and Fish and Wildlife Conservation Commission. He acted as the North Florida and South Georgia representative for The Conservation Fund prior to his present work with FWF.

- **Moderator: Janet Bowman**, Associate Director of Government Relations, The Nature Conservancy

### **Communication Breakdown: Science Education for Policymakers and Policy Education for Scientists (Energy Track)**

One of the greatest challenges in developing and implementing environmental policy is communication between scientists and policymakers. It is important to train scientists and policymakers to understand each other's limitations and needs in order to make the transfer of information effective. In order for sound policy to be formulated, social scientists, natural scientists, and policymakers need to be able to understand each other's perspective in order for informed environmental policies. This panel will discuss the inherent difficulties in and strategies for achieving a smoother dialogue between scientists and policymakers in developing environmental policy from three different perspectives.

- **Dr. Judith T. Kildow**, Director, The National Ocean Economics Program, Monterey Bay Aquarium Research Institute

#### The Challenges of Unifying Two Cultures: Science And Policy

While our oceans and other planetary assets are changing at rates not seen for millions of years, foretelling a future we can hardly imagine, our legal and decision making systems seem incapable of grasping the magnitude of the implications for these changes much less having the knowledge and tools to do much about this unprecedented time in history.

Many ask why there is such a large hiatus between the deliberations of government and those of scientists; why scientists are not more engaged in the policy process; why governing officials are not more knowledgeable about scientific information. Particularly in the case of the oceans, which have received so little attention for so long, this problem is especially large. The oceans until recently have not even been a part of the conversation about climate change. Yet, whether the atmosphere cools or heats up, the oceans are acidifying at a rapid rate, threatening marine life in all of its aspects, in a time frame that will be part of our grandchildren's if not children's future. Threatening food supplies, oxygen supplies.

Scientists and policy makers operate under different sets of assumptions, different incentive systems, and different sets of needs. They have had, with rare exception, different types of training and as a result of all of the things that separate them, they reflect two cultures operating under different paradigms. Although experts have recognized and written about these two cultures for decades, we can no longer tolerate just studying them, we must do something to unify them to serve society more effectively. At this time in history, when so many of government's challenges are science and technology-based, and environmental decisions pose huge challenges, it is



unthinkable to allow decisions about the future of our planet and humanity to be left in the hands of those without the knowledge to make informed decisions.

To address this challenging and timely problem, using marine examples, this talk will describe one approach to bring these two cultures closer together: 1) understand the differences that separate them; 2) build creative and reasonable strategies that bring them together to reveal how these differences reflect their respective perspectives, 3) understand the barriers to better communications between the two cultures; 5) examine successful decisions/cases where science informed policy and policy informed science in order to capture the lessons learned and apply them to future situations; and 6) continuously work to eliminate barriers and facilitate communications and understanding between the two cultures.

While these strategies will not produce a perfect world, they can at the least move forward toward informing policy debates that can produce more effective legislation, and program implementation in government.

- **Jon L. Mills**, Dean Emeritus, Professor of Law, Director, Center for Governmental Responsibility, University of Florida Levin College of Law

Science and Policy

I will discuss the actual impact of scientific presentations on legislative decisions. The example I will use is the Wetlands Protection Act. The most difficult question for policy makers is where scientists present conflicting views. Should policy makers negotiate scientific truth? How do policy makers make a judgment on the credibility of scientific data? Ultimately, do policy makers view their own staff as more credible? What if science suggests the need to act against a popular political position? (as it frequently does). I will discuss the value of "translators" - those who can facilitate communication between the language of science and the language of policy.

- **Dr. Stephen Mulkey**, Professor, Department of Botany and Coordinator, Sustainability Science, School of Natural Resources and Environment, University of Florida

Climate change politics in Florida – How good science can be used to do nothing

The worlds of science and policy have different goals, different standards for what constitutes "proof," and different approaches for characterizing uncertainty and risk. Under the leadership of Governor Charlie Crist, Florida has embarked on a program to participate in the mitigation of climate change, but individuals and groups who wish to maintain the status quo argue that mitigation should not be attempted because the science is uncertain. They suggest that efforts at mitigation are unlikely to be effective and will cause severe damage to the state's economy. While the scientific community overwhelmingly accepts that the greenhouse gases are changing global climate, political elements within Florida regard this as a partisan issue and insist that anthropogenic climate change remains unproven. Some scientists have assumed that their job is to provide such "proof," and to counter these claims with even more evidence that anthropogenic climate change is real, and that it is feasible and economically viable to address it. Science is unlikely to provide logically indisputable proof of anthropogenic climate change even as its effects become grossly apparent on a grand scale. Detection and attribution of any given atmospheric forcing factor are inherently uncertain. Over any scale of time and space, all climate change represents the outcome of heterogeneous forcing, and many climate-related events can be attributed to both human and natural factors. Ultimately choices related to mitigation are normative and have little to do with objective aspects of science. Drawing on my experience as a program administrator and science advisor to the Century Commission, I review examples of normative statements and miscommunication between policy makers and scientists. I develop evidence for the role of values in the public statements of prominent climate scientists and how their opinions have contributed to the politics of inaction. I examine the concepts of uncertainty and proof as they apply to the issue of climate change, and suggest a strategy for how science can be used to produce effective policy.



- **Jim Swann**, Former Governing Board Member, St. Johns River Water Management District

Science and Policy Remarks

Discuss the use/abuse of science in influencing policies.

- Four big issues science was in the supporting role.
  - Everglades Restoration: Marjorie Stoneman Douglas, Nat Reed, etc.
  - Discussion points: Wekiva Rule – Friends of the Wekiva  
Upper Basin Restoration – Board driven  
– Economic model
- Good science often needs an interpreter/advocate.
  - Discussion points: The Nature Conservancy – natural area inventory
- Science in the wrong hands can be abused.
  - Discussion points: Waste load allocations  
Indian River Lagoon Act
- Scientists often disagree letting policy makers choose political answers.
  - Discussion points: Tailor Creek Slough
- Science evolves leaving policy makers behind.
  - Discussion points: Everglades Restoration – 90’s plan doesn’t account for global warming  
Reusing wastewater
- **Moderator: Alyson Flournoy**, Professor of Law, Director of the Environmental and Land Use Law Program, University of Florida Levin College of Law

<b>Lunch Break</b>	<b>12:30 – 1:30 p.m.</b>
--------------------	--------------------------

**Special Event – Natural Florida: In Word, Image and Deed**

- An interactive multimedia presentation, produced and directed by Steve Robitaille, Santa Fe Community College

English and Media Studies Professor Dr. Steve Robitaille hosts a multi-media presentation that explores how artists, painters, photographers, musicians, and writers have represented the natural wonders of Florida from the 1500s to the present. Painter Ellie Blair will produce a painting during the program, while the audience listens to singer/songwriters Cathy DeWitt and Janet Rucker; and poet Lola Haskins will read from her work.

<b>Closing Plenary</b>	<b>1:30 – 3:30 p.m.</b>
------------------------	-------------------------

**The Focus on Florida**

With nearly 1800 miles of coastline, Florida is the country’s fourth fastest growing state. Each day brings nearly 1000 new residents to tee off on over 1200 golf courses and to contribute to Florida’s ecological footprint. Ranked among the top thirty international contributors to greenhouse gas emissions, Florida undoubtedly has a significant impact on the regional, national, and international environment. The closing plenary will refocus the Conference discussion on Florida and the state of its environment. In the



increasingly heated battleground for Florida's water resources, journalist and author Cynthia Barnett will discuss Florida's water issues, both the current state and the future implications of increased urbanization and consumption. Dr. Stephen Mulkey will further examine issues related to sustainable land-use and to preservation of the natural biodiversity of the state. From the energy perspective, Tommy Boroughs will give an overview of the state government's recommendations for a sustainable energy future for Florida. Finally, John H. Hankinson will close this year's Conference with a song of promise and determination to reduce Florida's footprint.

- **Cynthia Barnett**, journalist and author of *Mirage: Florida and the Vanishing Water of the Eastern U.S.*

In the 19th Century, Floridians were determined to rid the land of water, never imagining how sorely we would someday miss 9 million acres of wetlands drained statewide. In the 20th Century, we viewed our aquifers underground as endless, handing out water permits to anyone who asked for one, and never imagining a time when our once-abundant groundwater resources would no longer be sustainable for future supply. What assumptions are we making today that will seem equally far-fetched 50 or 100 years from now? Long-time Florida journalist Cynthia Barnett says one false assumption is that we must have more and more and more water to grow our economy. Population growth and economic prosperity, she argues, need not follow the increasing-demand, mega-infrastructure path of the last century. For the first time in its history, Florida has a chance to forge a sustainable water path in the 21st Century. Will we do it?

- **Tommy Boroughs**, Partner, Holland & Knight; Chair, Florida Energy Commission; member, Florida Governor's Action Team on Energy and Climate Change

Florida's unique environment and economy, and its growing population require a strategic approach to energy policy. The Florida Energy Commission (FEC) was created in 2006 to advise the Florida Legislature on options for a comprehensive state energy policy. In 2007, the FEC and its advisory groups met for 26 full days, and spent many hours researching available options and receiving input from the business and energy communities and the general public. This activity resulted in the 7 policy goals and 85 recommendations covered in the FEC's 2007 *Recommendations to the Florida Legislature, Vol. I & II*.

This presentation will provide an overview of the 7 policy goals, and the major and/or relevant recommendations therein. It will address them as part of an overarching, strategic energy policy and as part of the way to speak to Florida's current and future environmental and growth questions. It also will address them as an aspect of transitioning to an energy policy structure that could help to facilitate a greener environment and economy for Floridians.

- **Dr. Stephen Mulkey**, Professor, Department of Botany and Coordinator of Sustainability Science, School of Natural Resources and Environment, University of Florida

#### **Opportunities for climate mitigation and adaptation in Florida**

Increasing constraints on land use place Florida at a crossroads with respect to its options for climate mitigation and adaptation. Aspects of anthropogenic global climate change that are especially germane to Florida include sea-level rise, hurricane intensity and frequency, changes in precipitation and increased frequency of regional drought. While the role of the greenhouse gases in global climate change is clear, there is compelling evidence that anthropogenic climate change on a regional scale can also be attributed to the effects of land use change. Climatologists have argued convincingly that land use change, including urbanization, should be considered a "first order" or primary forcing agent for mesoscale climate. Over the near term, this effect may be most important for those regions of Florida with high rates of human population growth and land use change.

Failure to develop and implement appropriate plans for proactive adaptation could cost billions in lost revenue, while endangering the health and wellbeing of Florida's citizens. Alternatively,



UNIVERSITY OF FLORIDA · LEVIN COLLEGE OF LAW  
P.O. BOX 117629 · GAINESVILLE, FLORIDA 32611

significant opportunity exists for economic development through land management for climate mitigation and participation in carbon markets. Most environmental co-effects of landscape based carbon mitigation projects result in positive impacts on watershed function, biodiversity, and ecosystem resilience. Urbanization in Florida is rapidly constraining the landscape-based options for carbon sequestration and development of carbon mitigation projects.

- **Moderator: Thomas T. Ankersen**, Professor of Law, Director of the Conservation Clinic, Center for Governmental Responsibility, University of Florida Levin College of Law