

The human side of implementation of climate change adaptation for coastal habitats

Brian Needelman



5th National Conference on Coastal and Estuarine Habitat Restoration
Nov. 13-17, 2010

Interviews/Meetings

State

Zoe Johnson, Maryland DNR
Christine Conn, MD DNR
John Sherwell, MD DNR
Gwen Shaughnessey, MD DNR
Jim Pahl, Louisiana Office of
Coastal Protection and
Restoration Academic
John Fear, NC NERR

Academic

Jackie Takacs, MD Sea Grant
Vicky Carrasco, MD Sea Grant
John Day, LSU
Denise Reed, University of New
Orleans
Eugene Turner, LSU
Pete Petersen, UNC
Mike Piehler, UNC
Linwood Pendleton, Duke
John White, LSU

Federal

Legislative aide, Senator Mikulski's office
Jim Titus, EPA
Jim Lyons, USFWS
Carolyn Currin, NOAA

NGO

Beth McGee, CBF
Douglas Samson, Nature Conservancy
Steve Bozak, Restore America's Estuaries
John Kostyack, National Wildlife Federation
Jay Pendergrass, Environmental Law Institute
Carl Bruch, Environmental Law Institute
Todd Miller, North Carolina Coastal Federation
Brian Boutin, Nature Conservancy
Steve Peyronnin, Coalition to Restore Coastal
Louisiana

Private

Sarah Mack, Tierra Resources

(Opinions and input still welcome!)

Coasts and Climate Change Adaptation as Case Study

- Case where we think we know that we should be doing something, but precious little is actually being done

Implementation

- The presumptuousness of our careers
- How do we define and measure success in our careers?

Backdrop of our existence

- Scale of problem exceeds scale of solutions
- Social/economic/political revolution?
- More likely: the folly continues
- Social/economic/political forces beyond our scope and control
- Environmental community:
 - Save and do as much as we can
 - Hope for the future

Vision

- A *positive* future of environmental security
- Negativity, uncertainty, and risk don't play
 - “Adaptation” and “retreat”
- Vision: essential, yet idealistic

Psychology

- Moral and logical imperatives minor influence at society scale
- We often do what we think others are doing

**Don't over-complicate the
message**

North Carolina Sea-Level Rise Assessment Report

March 2010



Prepared by the N.C. Coastal Resources Commission's
Science Panel on Coastal Hazards

1 meter
(by 2100)

**Goodness, not 20 feet!
(At least by 2100)**

Pfeffer et al. 2008. Science
321:1340-1343.

**Don't just define adaption,
Picture it**

A picture of adaptation



Tues 2:00: Brian Boutin, The Nature Conservancy

Adaptive Management

- Not a solution or substitute for vision
- Usually top-down, fundamentally bottom-up
 - Underfunded

Top-down vs. bottom up

- Ideal: integration
- Top-down: Prescriptive without providing \$/time

The Almighty Dollar

- Restoration costs often out of sync with big picture
- Development/Tourism/Oil >> Fisheries
- National Infrastructure Bank

Ecosystem service valuation

- Not rigorous
- Science long way off from defensible quantification of most services
- Society can spot over-selling

Stakeholder participation/engagement

- Among the most important/overlooked things we do (or don't do)

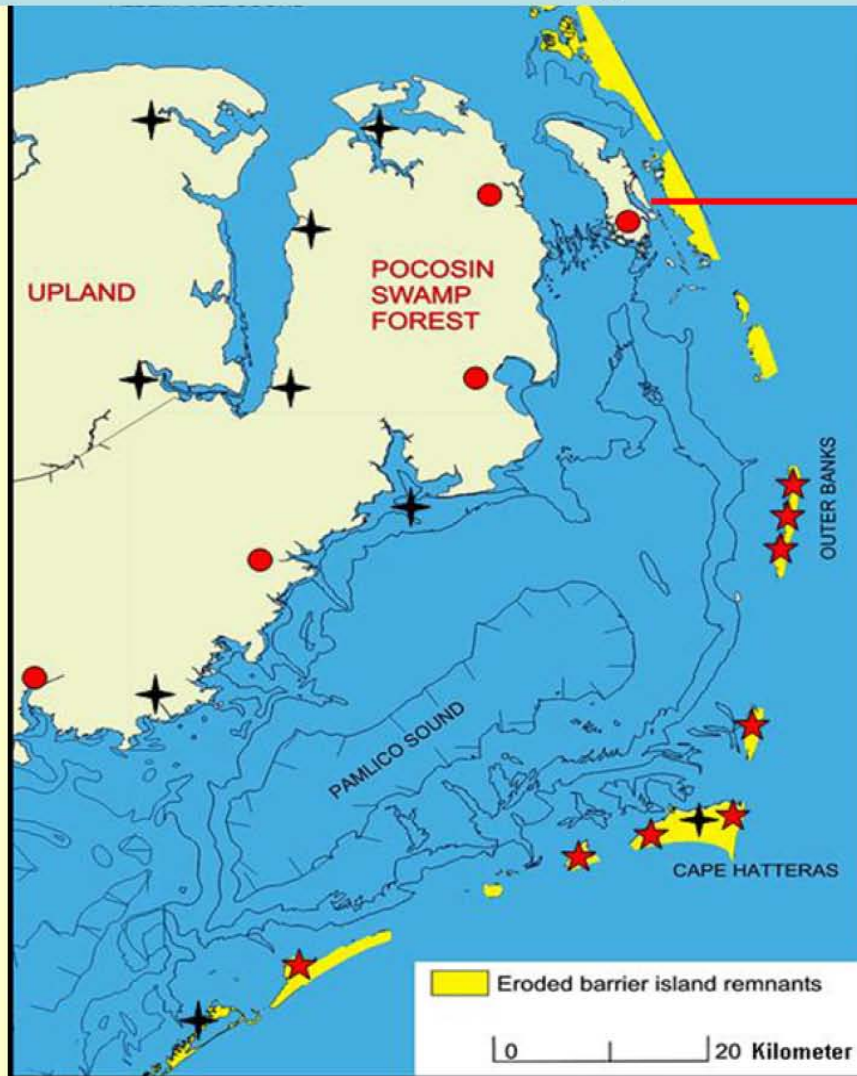
We are all too busy

- Modern age of conveniences fill our lives, leaving little time for anything else
- Little time for anything new, or reflection on broader context

So...

- Optimism
- Reality not necessarily so bad
- Maybe we will overcome

The Future: "A String of Pearls"



URBANIZED BARRIER ISLANDS

EIGHT OCRACOKE-STYLE DESTINATION VILLAGES, EACH WITH VAST OVERWASH FLATS AND INLETS

MAINLAND FERRY HUBS

POTENTIAL ECO-TOURS



From talk to change: How and who?

- Adaptive management
- Systems
- Cost-efficiency
- Public education
- Stakeholder engagement
- Psychology, sociology, economics
- Prioritization
- Funding sources
- Legal
- Federal agency roles and organization
- Policies and politics
- Role of academic research
- Flood insurance
- Ecosystem services
- Decision making and transparency
- Top-down vs. bottom up
- Systems thinking and analysis
- Long-term thinking and planning
- Scale