

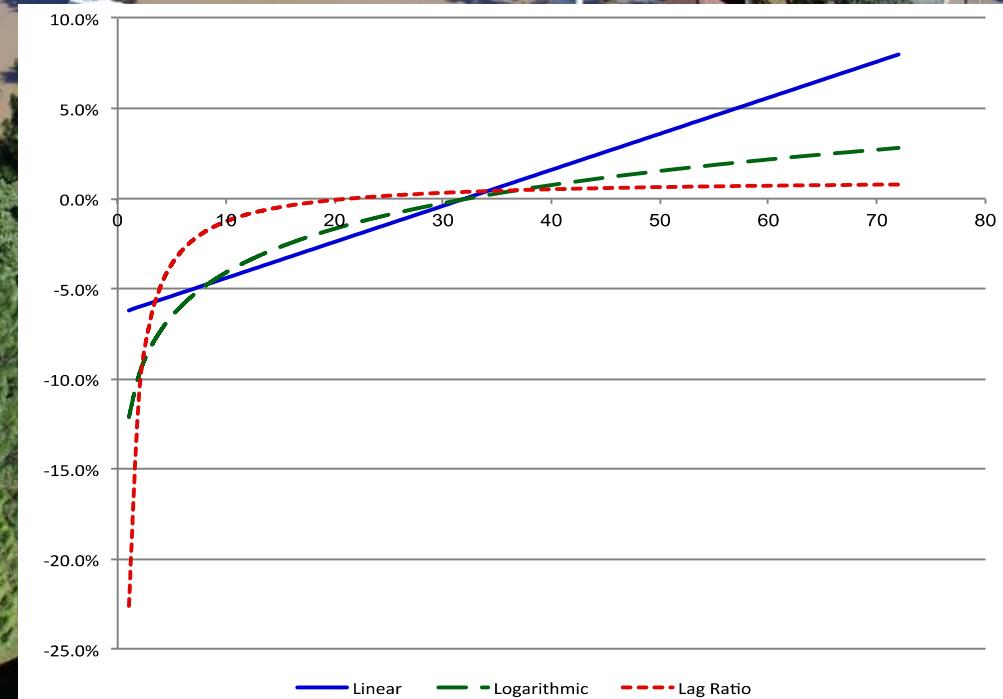
**Craig Landry, Ag & Applied Economics, University of Georgia**

# **Coastal Hazards, Insurance, and Mitigation**

- Factors influencing **flood** and **windstorm insurance** uptake and **structural mitigation measures**
  - Prices, income, & wealth
  - Risk perceptions & risk tolerance
  - Expectations of disaster assistance & credibility of insurance providers
  - Information/Disclosure
- Marketability of **Multi-peril hazard insurance**
- The **Community Ratings System of NFIP**
  - Factors influencing participation and point levels
  - Effectiveness of CRS activities in limiting damage

# Changes in Implicit Flood Risk Premiums: Empirical Evidence from the Housing Market, *JEEM* (2013)

- Flooding events & housing prices in Greenville, NC
  - No significant storm activity for decades
  - No discount in flood zone despite NFIP requirement
- Hurricanes *Dennis* & *Floyd* (1999)
- Significant discounts appear (controlling for damage)
  - -5.7 % after Dennis
  - -8.8% after Floyd
  - Discount gets as large as -20%, but disappears over time (6 – 8 years)

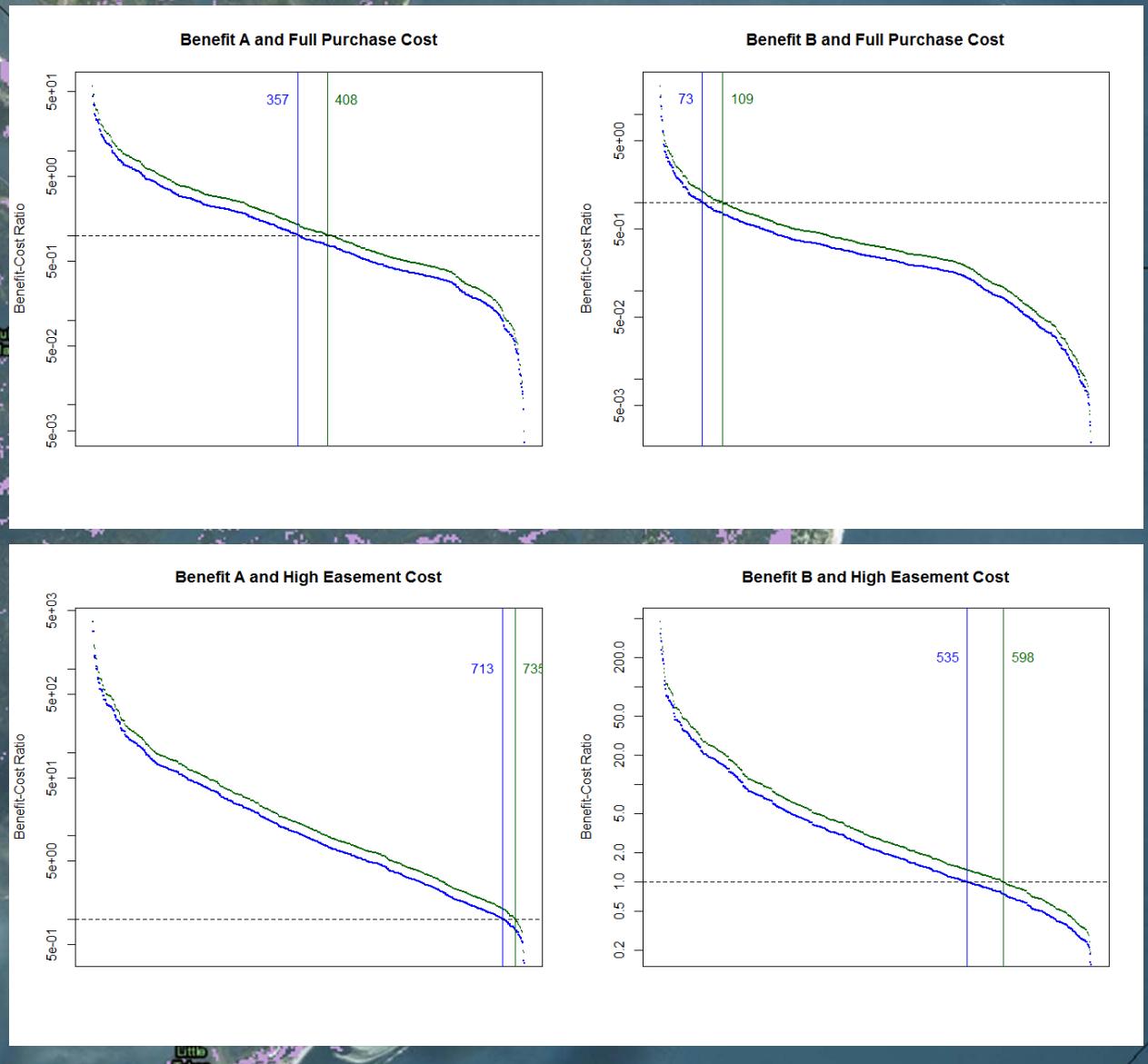


# Coastal Management in Georgia

- SLEUTH model to predict urban development
- SLAMM model to predict wetland migration
- Overlay identifies potential parcels for conservation
  - Benefits of marsh preservation derived from meta-analysis (e.g. floodwater storage, groundwater recharge, water quality, carbon sequestration, habitat & nursery grounds)
  - Costs of preservation can entail fee-simple purchase, partial purchase, or easements

# Coastal Management in Georgia

- Fee-simple purchase of wetland migration pathways
- High Cost easement option



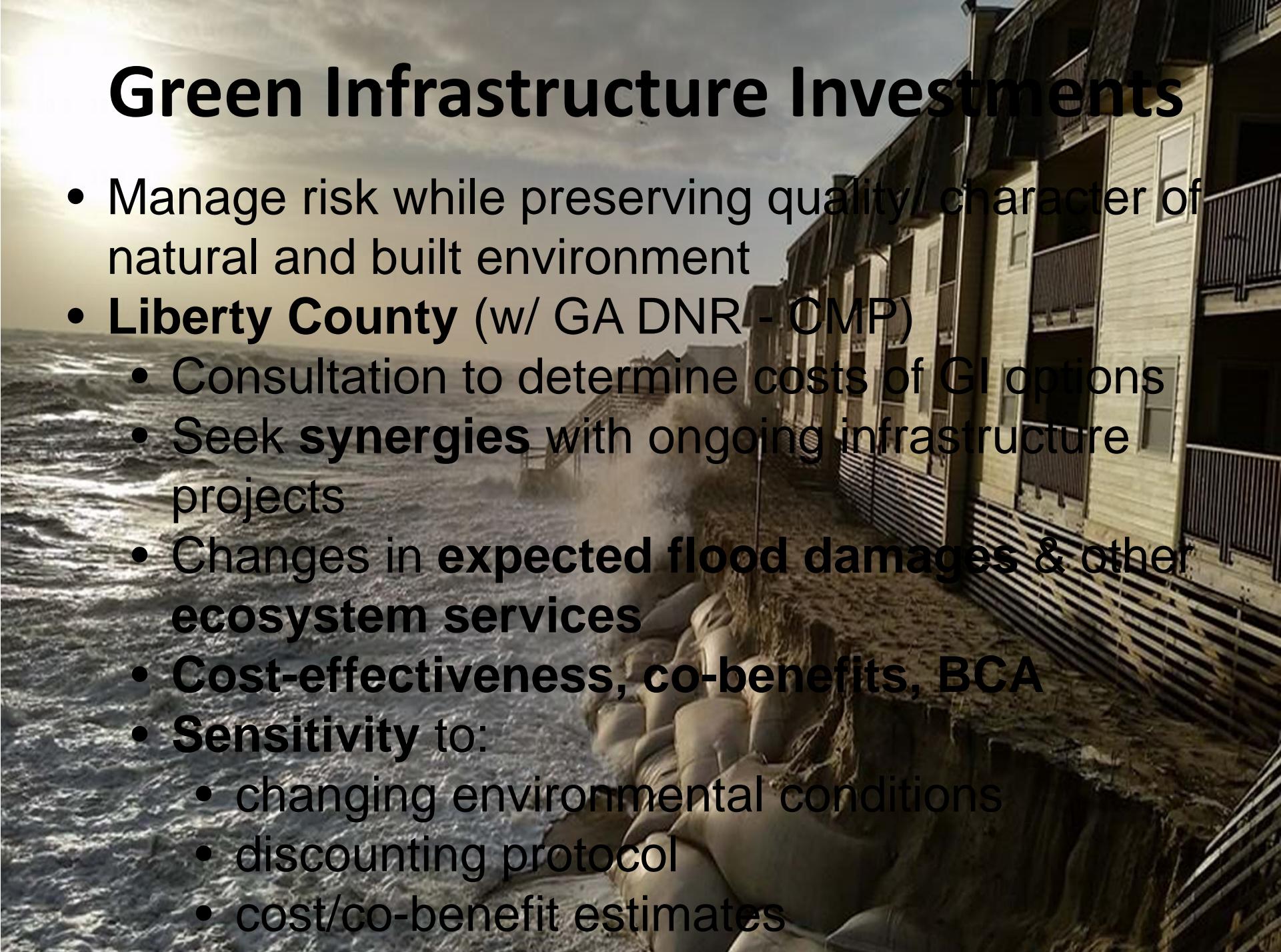
# Tourism and Recreation Demand

- **Travel cost** as the “price” of a beach trip
  - Economic value of trip over-and-above what is paid to make the trip (**WTP**  $\approx \$200/\text{trip}$ )
  - Site quality influences economic value
- **North Carolina Sea Grant** study (2014)
  - We estimate median **WTP** = **\$0.22 - \$0.47** per additional meter of beach width
  - Visitors and Non-visitors exhibit larger economic values for **Beach Nourishment** and **Shoreline Retreat** (relative to **Shoreline Armoring**)
  - Sizable non-use value for Shoreline Retreat
  - Visitation creates **Economic Impact** (e.g. *IMPLAN*)

# Recreation Demand in Coastal Georgia

- Destination Image, sense of place, ease of access
- Environmental Quality and Management Decisions can influence demand
- **Research Questions:**
  - How might accessibility problems affect tourism demand?
  - Are there innovative management & adaptation strategies that might bolster tourism destination image?
  - How to preserve environmental quality while providing for access and amenities?

US80 DURING A KING TIDE EVENT, OCTOBER 2015 *Credit: Tybee Island Police Department*



# Green Infrastructure Investments

- Manage risk while preserving quality/ character of natural and built environment
- **Liberty County** (w/ GA DNR - CMP)
  - Consultation to determine costs of GI options
  - Seek **synergies** with ongoing infrastructure projects
  - Changes in **expected flood damages & other ecosystem services**
  - **Cost-effectiveness, co-benefits, BCA**
  - **Sensitivity** to:
    - changing environmental conditions
    - discounting protocol
    - cost/co-benefit estimates



# Community Ratings System

- Voluntary flood hazard mitigation program (1990)
- Offers flood insurance discounts in participating communities (5% - 45% in SFHA, lower outside)
- **Research Questions:**
  - What political, demographic, economic, environmental & historical factors influence participation in CRS and activity choice?
  - What are the induced co-benefits or costs of CRS activities?
  - How effective is CRS in reducing storm damage and fatalities?
  - Historical CRS data!



Thanks.

Comments/questions/complaints: [calandry@uga.edu](mailto:calandry@uga.edu)