

# The Economics of Natural and Nature Based Coastal Adaptation – Separating Fact from Fiction for Resilience Decision-making

**Wednesday, March 29, 2017**

9:00 am – 4:45 pm

Hugh Gregg Center Great Bay National Estuarine Research Reserve  
89 Depot Road, Greenland, NH

**Registration, directions and more information found here:**

[wellsreserve.org/trainings](http://wellsreserve.org/trainings)

*How are the benefits and costs of coastal adaptation measured?*

*How do economists measure trade-offs in coastal restoration and protection, and how can/should these results be used to inform decisions?*

*How do people react to coastal flood risk and shoreline armoring when they buy a home? Do these effects change after storms or as a result of flood insurance?*

*Does increased flood risk make a home less valuable? Does the presence of coastal armoring make people feel “more protected” and willing to pay more for a property? Or, does armored shoreline look unattractive and cause people to pay less?*

*How and why is this relevant to coastal adaptation?*

Assessments of the economic outcomes of coastal hazard adaptation can help communities choose actions with desirable consequences. However, the economic benefits and costs of adaptation actions are often poorly understood. This lack of understanding can obscure the difference between economic fact and fiction. In the absence of accurate information, local planning decisions are often made based on faulty assumptions (or fictions) about economic benefits and costs. For example, vulnerability to and damage from coastal hazards can influence property values and tax bases in coastal communities, but the extent of these effects is almost always unknown. Instead, many decisions are based on “damage cost” or “replacement cost” estimates for private property. These estimates provide little insight into long-term effects on the value of coastal property, or on true economic benefits and costs to coastal communities.

Sharing key findings from economics research led by Dr. Robert Johnston of Clark University, this workshop explores the differences between economic fact and fiction for resilience decision-making, and why these differences matter. Additionally, research findings from a NOAA-funded study of Hurricane Sandy impact will be presented. Collectively, these studies provide an overview of how economists measure the benefits

and costs of coastal vulnerability and adaptation, and the primary differences between accurately measured costs/benefits and the potentially misleading estimates often used as a basis for coastal decision-making.

To illustrate some of these differences, Dr. Johnston and his research team and NOAA economist Pete Wiley will share the results of multiple projects that provide information on economic benefits and costs coastal adaptation in New England, including results that characterize the effects of vulnerability and adaptation on property values across different New England states, as well as results that illustrate what adaptation outcomes provide the greatest value to coastal communities. Adaptation professionals and policymakers participating in this workshop will learn how the economic benefits and costs of climate change adaptation are measured (including property value and tax base impacts), and how this information can be used to compare nature-based approaches with alternatives.

Registration will be available beginning December 8th. For more information, contact Chris Feurt, Director Coastal Training Program, Wells National Estuarine Research Reserve 207-646-1555 x 111; [cfeurt@une.edu](mailto:cfeurt@une.edu) or Annie Cox Coastal Training Program Coordinator, Wells NERR [acox@wellsnerr.org](mailto:acox@wellsnerr.org) 207-646-1555 x 157 or Steve Miller Coastal Training Program Coordinator Great Bay NERR [Steve.Miller@wildlife.nh.gov](mailto:Steve.Miller@wildlife.nh.gov) 603-294-0146.

## Workshop Agenda

8:30 Check-in: Coffee and pastries/fruit

9:00 Welcome and Participant Introductions

10:00 How do economists think about coastal adaptation? (Robert Johnston, Clark University and Pete Wiley, NOAA)

- Tradeoffs between hard versus natural adaptation approaches
- Different ways to measure adaptation benefits and costs
- Why replacement and damage costs can be misleading
- How and why economic information is relevant
- **Discussion:** Applying these perspectives to your adaptation work

11:00 Break

11:15 A Study of Property Value and Coastal Adaptation in New England (Robert Johnston, Clark University and Klaus Moeltner, Virginia Tech)

- Estimating the effects of flood risks and adaptations on property values—a summary of data and methods
- What are effects of flood risk on property values across New England?

- What are the effects of shoreline armoring on property values across New England?
- What are the implications of these regional findings for tax bases and distribution of tax burden?

12:30- 1:00 Lunch Provided

1:00 Continued: A Study of Property Value and Coastal Adaptation in New England (Robert Johnston, Clark University and Klaus Moeltner, Virginia Tech)

- **Q&A** with Johnston and Moeltner
- **Discussion**: What do these findings mean for municipal and state planning?

1:45 Hurricane Sandy and the Value of Trade-offs in Coastal Restoration and Protection (Pete Wiley, NOAA)

2:45 Break

3:00 Measuring the Co-Benefits of Nature-Based Adaptation: The Value of Riparian Buffers – A Case Study at Great Bay NERR (Dana Bauer, Clark University)

3:45 The Economics of Coastal Adaptation – Participant Discussion

- Applying research findings for successful adaptation outcomes
- Barriers to using economics research in adaptation planning and implementation
- Overarching questions and concerns
- Next steps, needs for additional information, tools and services

4:30 Workshop Evaluation

4:45 Workshop Adjourns

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