Adaptation Solutions and Ecosystem Service Benefits at Cape May Meadows

Elizabeth Schuster
Environmental Economist
CEER 2014
Natural systems = Multiple benefits
“After closer investigation, it’s become clear that we need to enter more than one value.”
Evaluating project options
Making decisions on nature-based projects
Ecological restoration in Cape May County, New Jersey
Lower Cape May Meadows ecosystem restoration
Finding the intersection between economics and conservation goals?
Lower Cape May Meadows project completed in 2007
Economic analysis of Lower Cape May Meadows

Mixed methods analysis and data:

1) Flood reduction benefits

2) Ecotourism benefits
Average damage (in $) per storm with storm surge above 2.5 feet

Damage before the restoration: $143,700

Damage after the restoration: $3,100
<table>
<thead>
<tr>
<th></th>
<th>Damage ($)</th>
<th>Storm surge (ft)</th>
<th>3-day Precipitation (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nor’easter of January 1992</td>
<td>$727,000</td>
<td>3.22</td>
<td>0.6</td>
</tr>
<tr>
<td>Superstorm Sandy</td>
<td>$6,290</td>
<td>3.24</td>
<td>10</td>
</tr>
</tbody>
</table>
Total flood reduction benefits

$9.6 million over 50 years in damage costs avoided
Ecotourism and birding analysis
Access at Cape May Meadows

BEFORE

AFTER
Economic impact from birding

1) Visitors from outside of the area
2) Brings new revenues that would not otherwise occur
3) Spending per birder
Economic impact for Cape May County

$313\text{ million} = \text{TOTAL}$
Economic impact for Cape May County

$313 million = TOTAL
$200 million = PROJECT IMPACT
Economic impact for Cape May County

$313 million = TOTAL

$200 million = PROJECT IMPACT

$5.5 billion = Tourism in Cape May County
LESSONS LEARNED AND OPPORTUNITIES
Lessons learned

• **Natural systems provide multiple benefits**
• **Better baseline data**
• **Mixed-method analysis**
## Lessons learned

<table>
<thead>
<tr>
<th>Damage ($)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nor’easter of January 1992</strong></td>
<td><strong>$727,000</strong></td>
</tr>
<tr>
<td><strong>Superstorm Sandy</strong></td>
<td><strong>$6,290</strong></td>
</tr>
</tbody>
</table>
Thank you!

Elizabeth Schuster
Environmental Economist
Nature Conservancy, New Jersey
eschuster@tnc.org