Economic Benefits of the Chesapeake Bay Clean Water Blueprint

KEY-LOG. economics LLC

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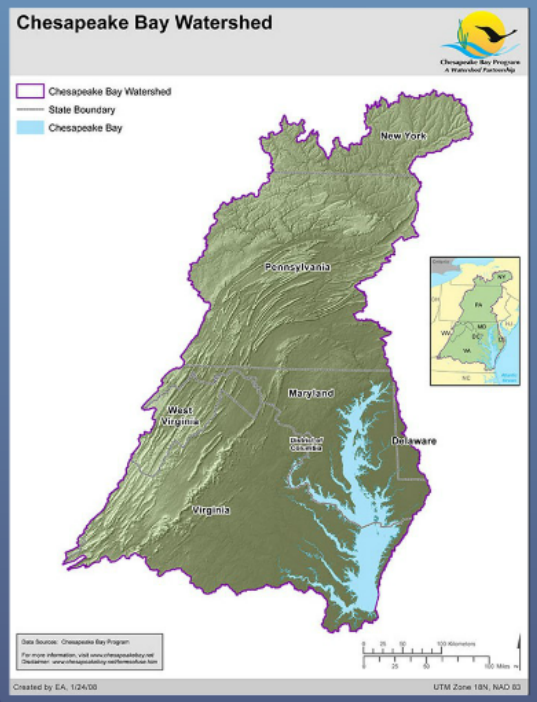
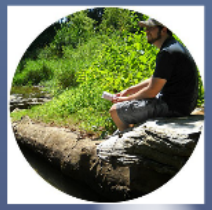
What is cleaning up the Bay Worth?



...on the Bay

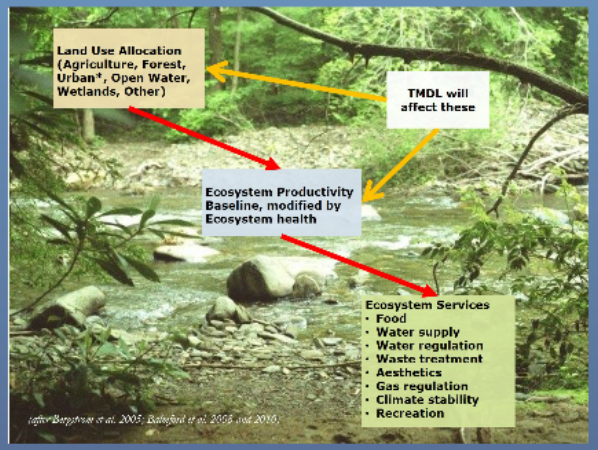
...along rivers

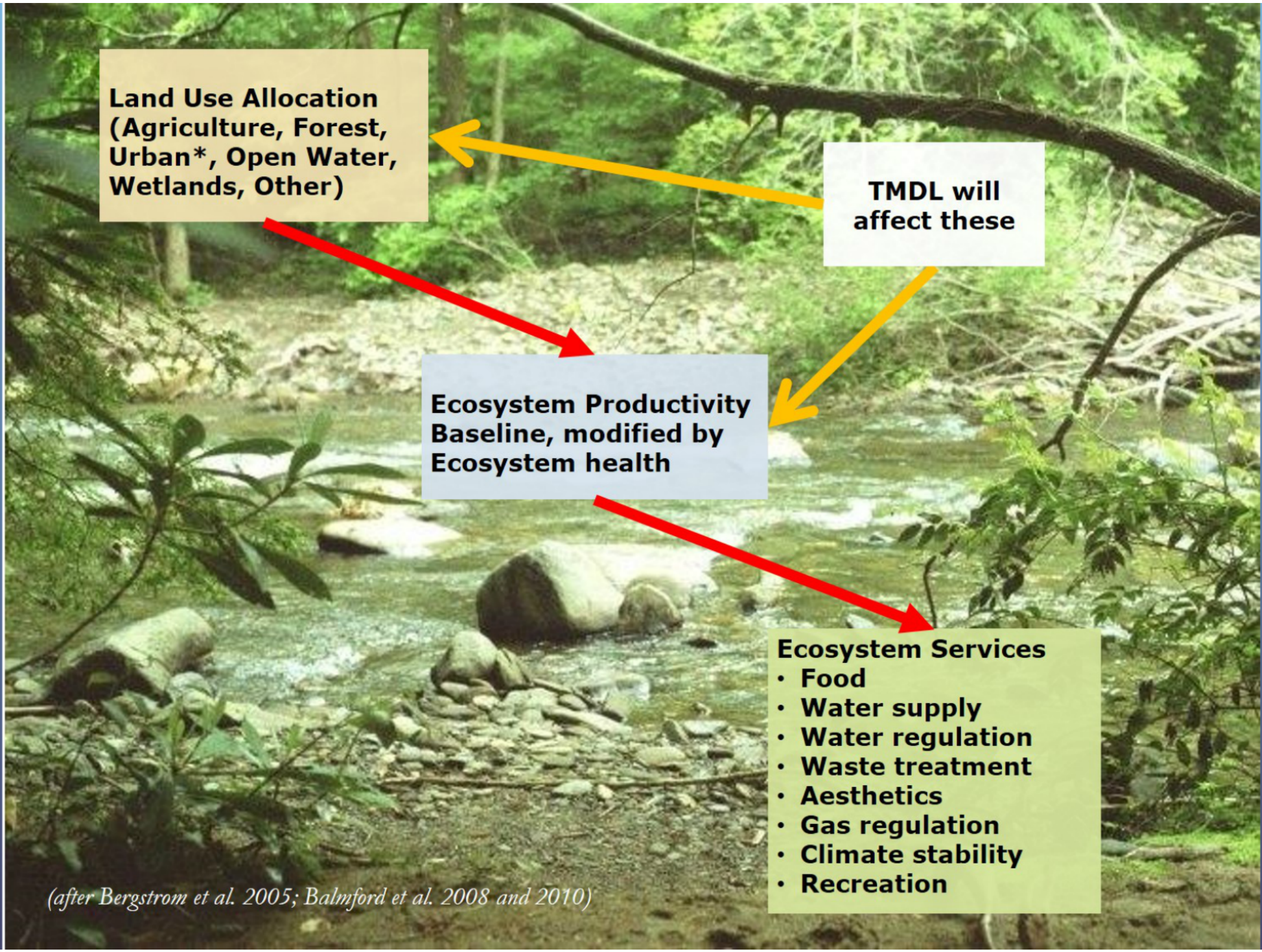


...and upland throughout the watershed

Ecosystem Services

The benefits
that nature provides
to people.




Land Use Allocation (Agriculture, Forest, Urban*, Open Water, Wetlands, Other)
TMDL will affect these
Ecosystem Productivity Baseline, modified by Ecosystem health
Ecosystem Services
• Food
• Water supply
• Water regulation
• Waste treatment
• Aesthetics
• Gas regulation
• Climate stability
• Recreation
(after Bergstrom et al. 2005; Balmford et al. 2008 and 2010)

Method

Enhanced Benefits Transfer:

- Assess land use (baseline and projected)
- Assess land health (baseline and projected)
- Apply "comps" to Chesapeake Bay Land and Water

Land Use

From CBP projections
- 7 classes
- >1,100 River Segments

Comps

$/Acre/Year
- 8 Services
- Specific to Land Use

EARTH ECONOMICS
ecosystem valuation toolkit

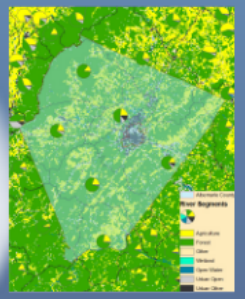
Land Health

Modified Index of Wildness

Land Use

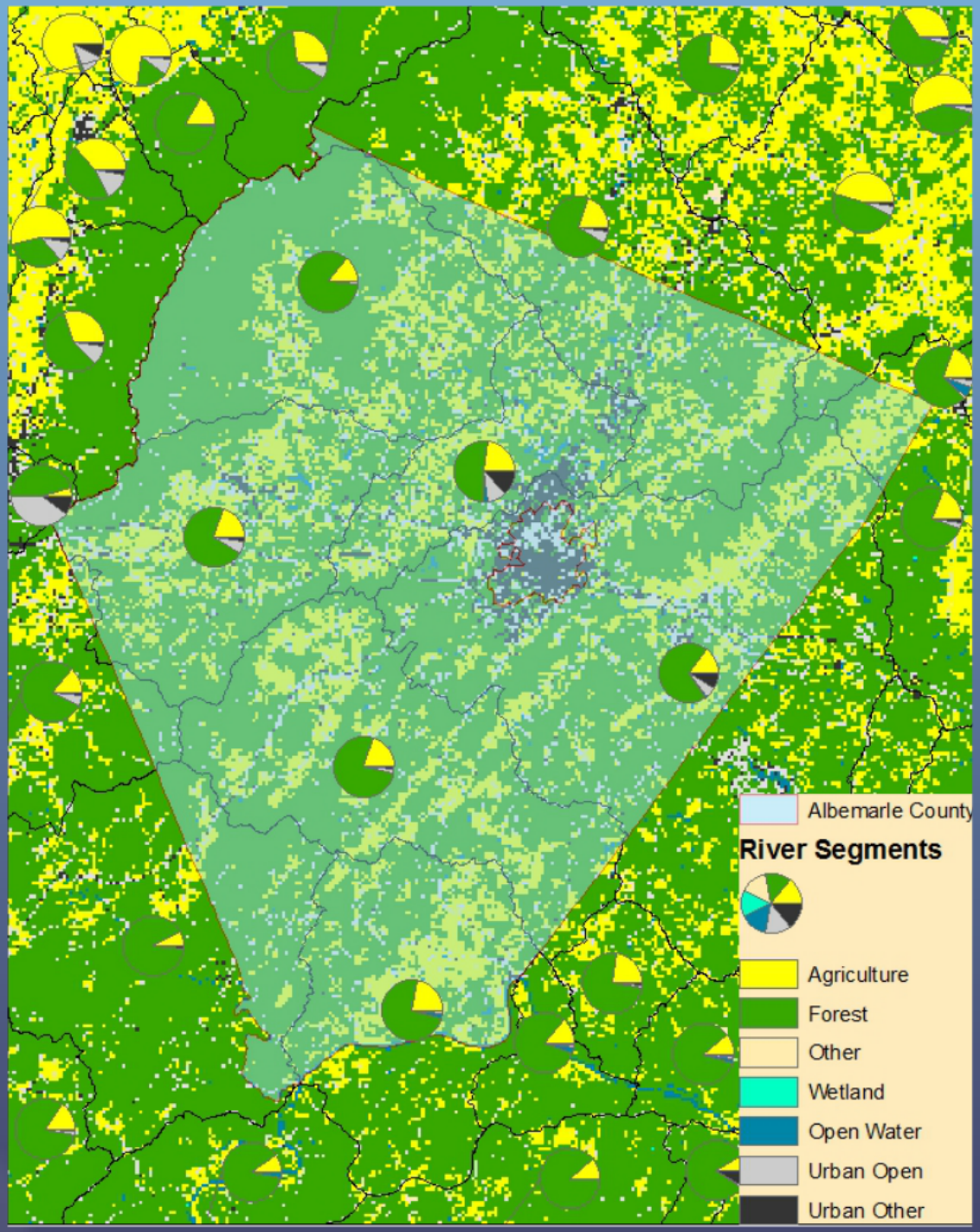
From CBP projections

- 7 classes
- >1,100 River Segments



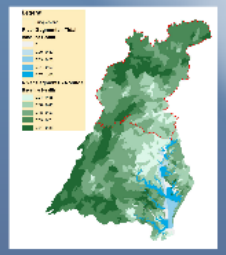
Land Use Categories

Land Use Categories

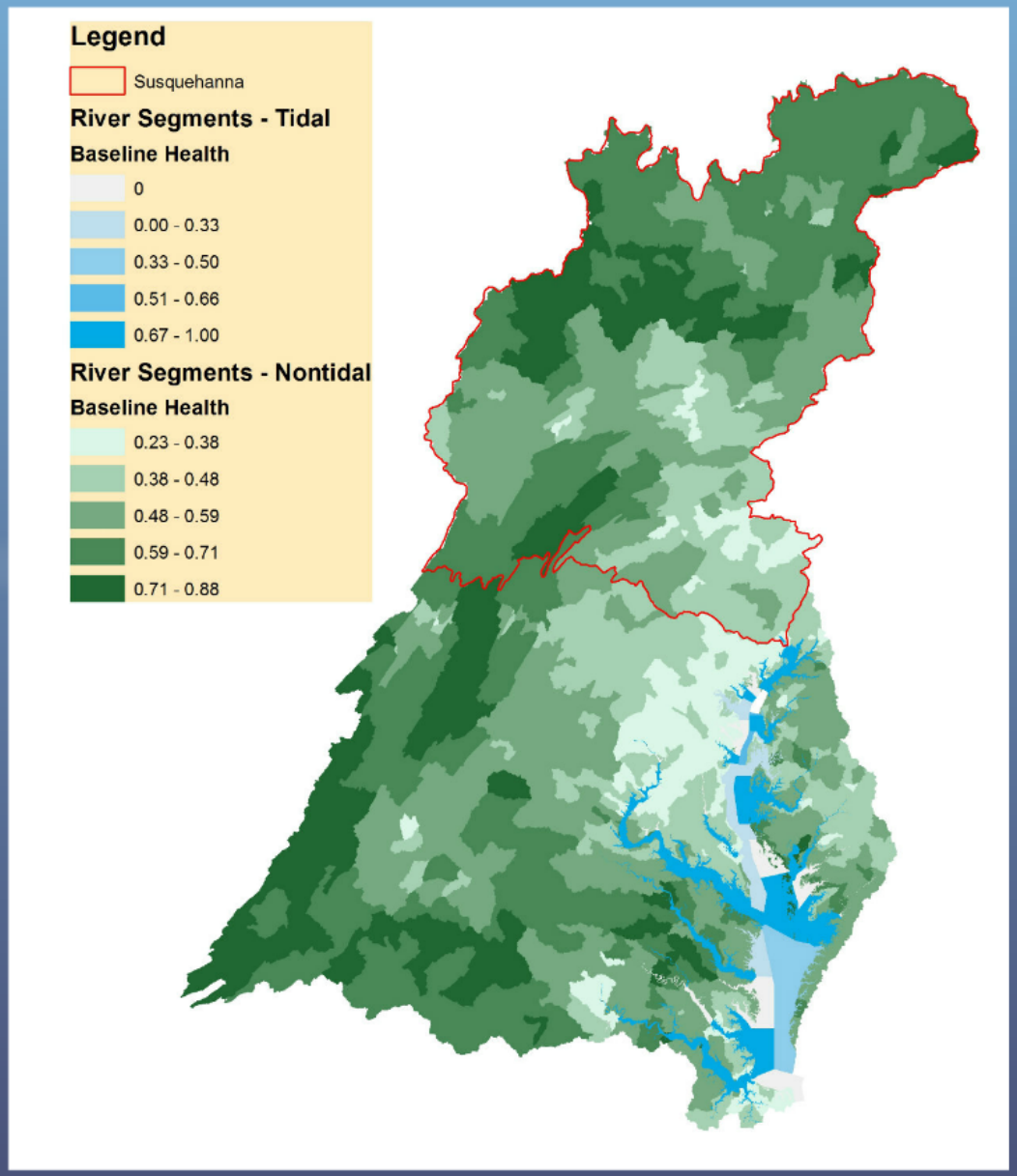


Land Health

Modified Index of Wildness



Distance from Roads (+) & Pollution (-) & Population Density (-)



Distance from Roads (+) & Pollution (-) & Population Density (-)

Comps

$/Acre/Year

- 8 Services
- Specific to Land Use

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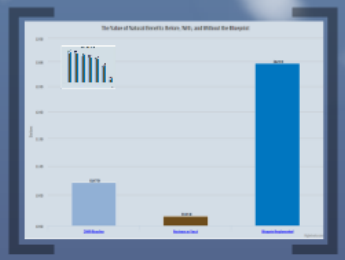
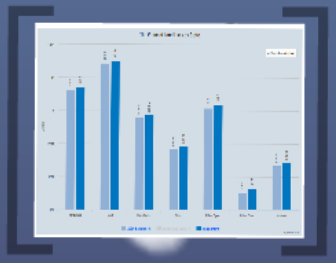
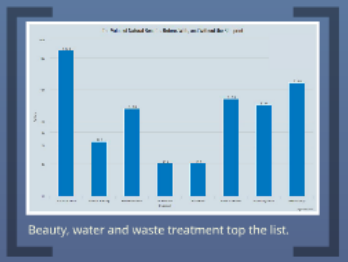
ecosystem valuation toolkit

Results

- $107.2 billion annual benefits (baseline)
- +$22.5 billion under the blueprint
- -$5.6 billion under business as usual
- Gap between Blueprint and BAU will grow



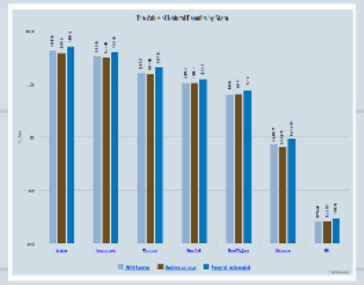




Beauty, water and waste treatment top the list.

Cleaning up the Chesapeake Bay and its rivers and streams makes environmental and economic sense.
Economists say a saved Bay is worth nearly $130 billion– an increase of
$22 Billion per year for generations.
Our house will be worth more.
Clean waters will attract more recreation.
Our farms and waters will be more productive.
SAVE THE BAY
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure
It just makes cents.
Learn more at cbf.org/economicbenefits.

The Value of Natural Benefits Before, With, and Without the Blueprint



Dollars

135B
130B
125B
120B
115B
110B
105B
100B

$107 B

$101 B

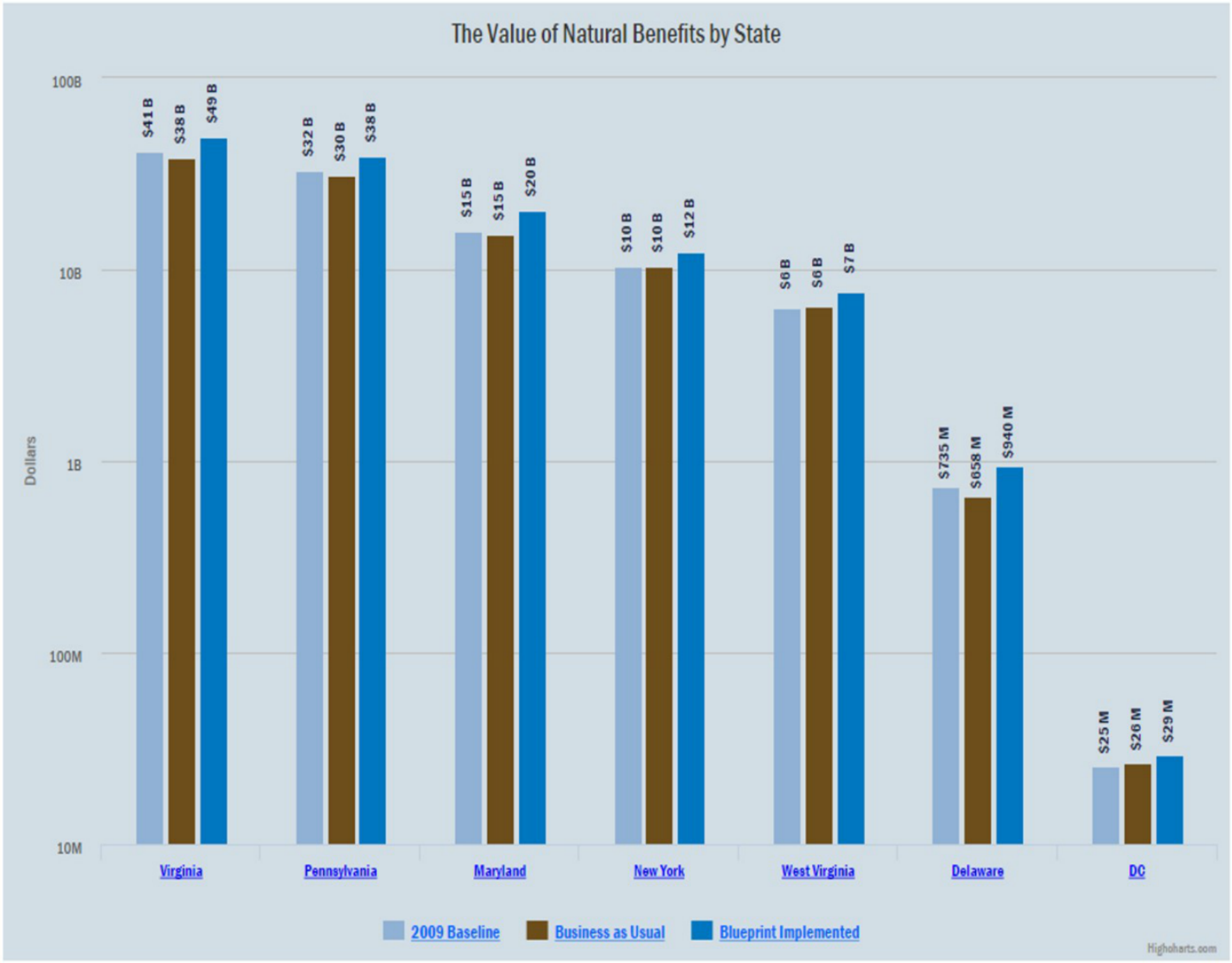
$129 B

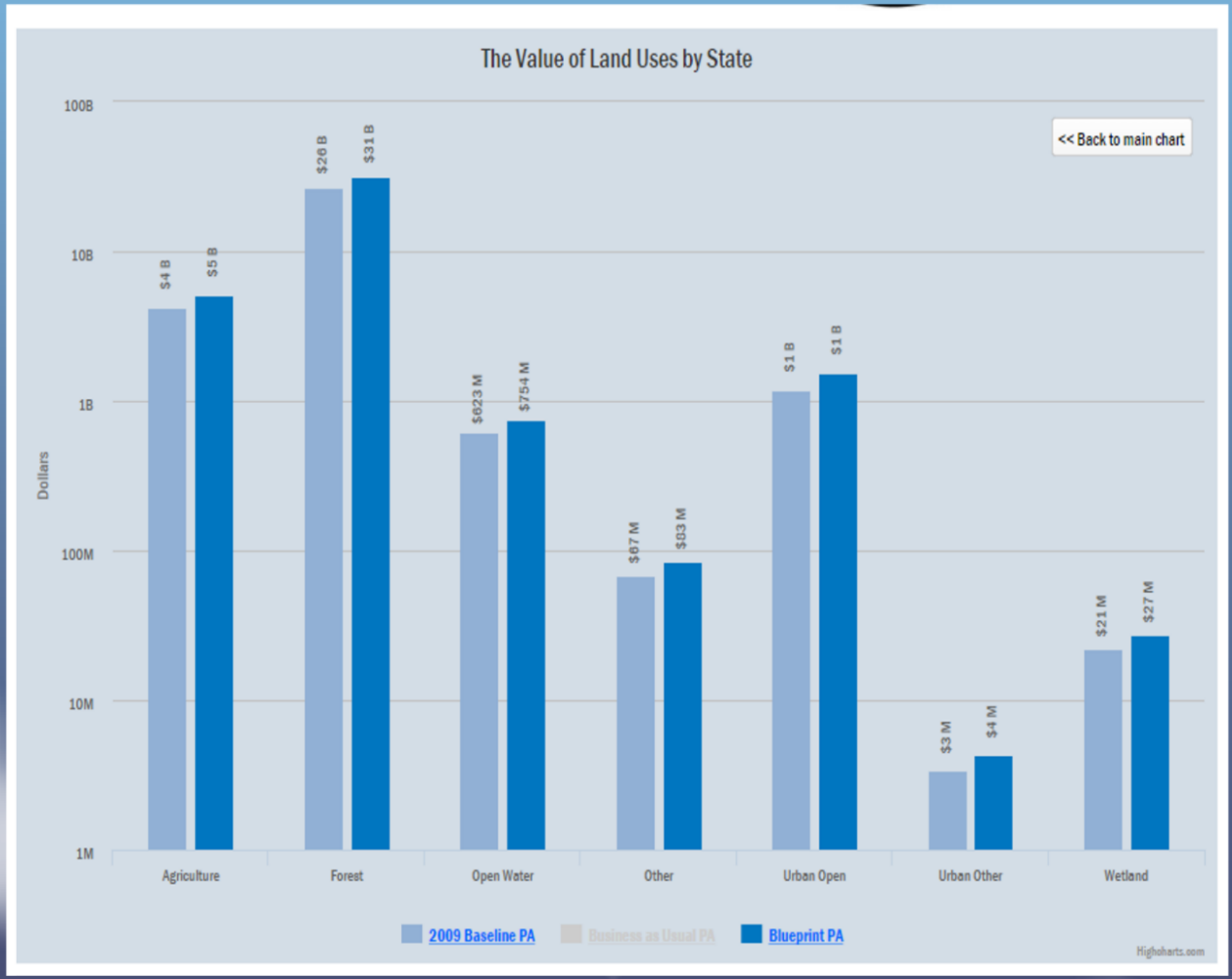
2009 Baseline

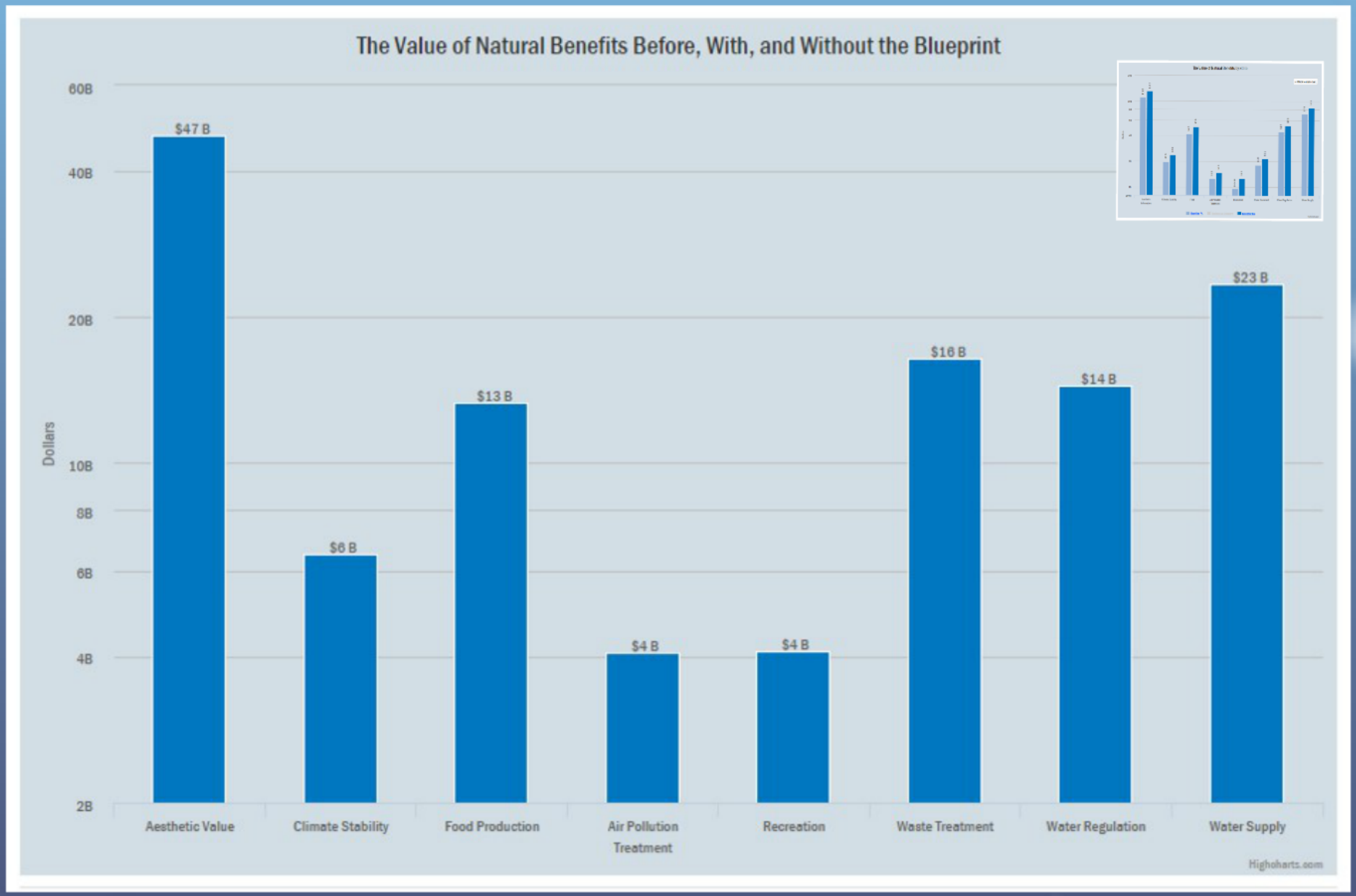
Business as Usual

Blueprint Implemented

Highcharts.com


The Value of Natural Benefits by State
100B
10B
1B
100M
10M
Dollars
$41 B
$38 B
$49 B
$32 B
$30 B
$38 B
$15 B
$15 B
$20 B
$10 B
$10 B
$12 B
$6 B
$6 B
$7 B
$735 M
$658 M
$940 M
$25 M
$26 M
$29 M
Virginia
Pennsylvania
Maryland
New York
West Virginia
Delaware
DC
2009 Baseline
Business as Usual
Blueprint Implemented
Highcharts.com


The Value of Land Uses by State
<< Back to main chart
100B
10B
1B
100M
10M
1M
Dollars
$4 B
$5 B
$26 B
$31 B
$623 M
$754 M
$67 M
$83 M
$1 B
$1 B
$3 M
$4 M
$21 M
$27 M
Agriculture
Forest
Open Water
Other
Urban Open
Urban Other
Wetland
2009 Baseline PA
Business as Usual PA
Blueprint PA
Highcharts.com



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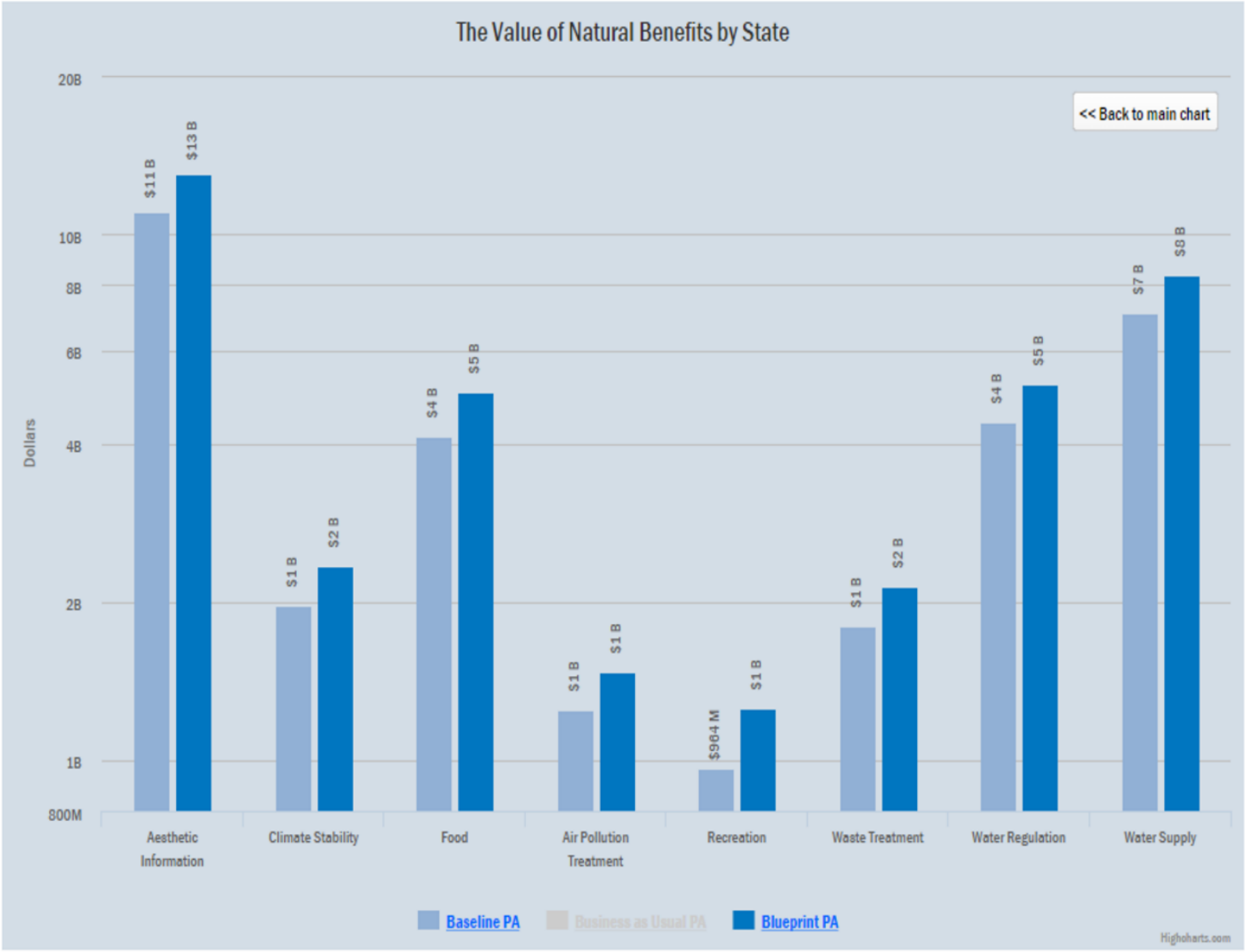
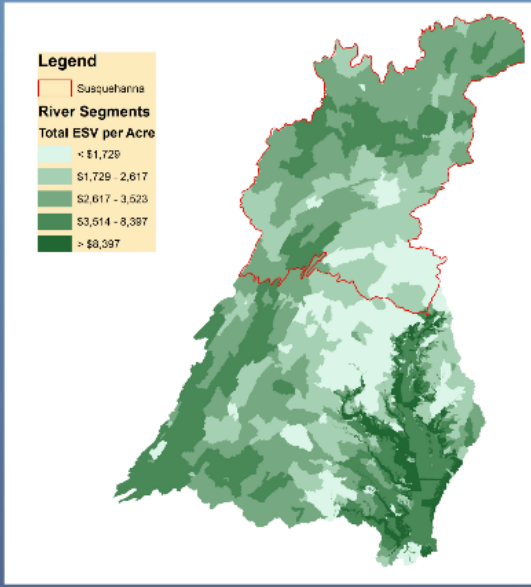

The Value of Natural Benefits by State
<< Back to main chart
Dollars
20B
10B
8B
6B
4B
2B
1B
800M
$11 B
$13 B
$1 B
$2 B
$4 B
$5 B
$1 B
$1 B
$964 M
$1 B
$1 B
$2 B
$4 B
$5 B
$7 B
$8 B
Aesthetic Information
Climate Stability
Food
Air Pollution Treatment
Recreation
Waste Treatment
Water Regulation
Water Supply
Baseline PA
Business as Usual PA
Blueprint PA
Highcharts.com

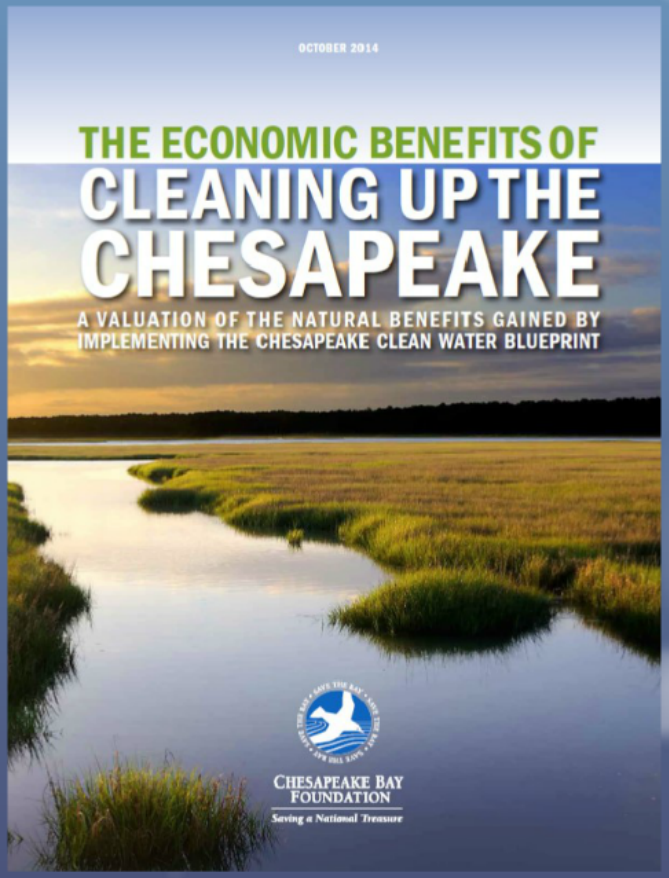
Next steps / Extensions



- Input to B-C analysis
- Prioritize specific restoration efforts
  - bang for the buck
- Identify partnership and funding opportunities
  - PES programs
  - joint marketing
  - cost share

For More:

http://www.cbf.org/EconomicBenefits



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