

Getting Buy-in: Making the Economic Case for Watershed Planning

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Watershed Planning and Protection

- Obvious environmental benefits
- But how much does it cost?
- Need to convey economic arguments





Who cares about an economic argument?

- Economic developers
- Real estate developers
- Property owners
- Local businesses
- Elected officials
- Town, city, county staff



Economic Benefits of Watershed Planning

- Lower water treatment costs
- Property values increase
 - Lot premiums
 - Greater marketability to future residents and businesses
 - Lower construction costs
- Lower utility costs
- Increase in tourism & recreation
- Tax base increase



By the Numbers – Preserving Forestland

Table 2. Forest cover and predicted water treatment costs based on 27 US water supply systems^a

Share of water- shed forested	Treatment costs per 3,785 m ³	Average annual treatment costs	Cost increase over 60% forest cover
60%	\$37	\$297,110	_
50%	\$46	\$369,380	24%
40%	\$58	\$465,740	57%
30%	\$73	\$586,190	97%
20%	\$93	\$746,790	151%
10%	\$115	\$923,450	211%

Source: Adapted from Ernst (2004).

By the Numbers – Land Use Regulations

- Limits on development can create positive amenity and scarcity effects
- Land use restrictions near Chesapeake Bay
 - Containing development to already developed areas (scarcity)
 - Requirement of new shorefront development to conform to landscape requirements, setbacks, and surface restrictions (amenity)
 - Shorefront houses increased by 46-62% compared to control area
 - Houses without water frontage increased by 14-27%
 - Houses near but not in designated critical area increased by 13-21% (Parsons 1992)

By the Numbers - Cluster Development

- Minimize lots size, reduce impervious cover, and increase conservation of natural areas and recreation access
- Reduce capital cost of subdivision development
- Lower cost for storm water conveyance and treatment
- Cluster home values in Massachusetts appreciated 12% faster than conventional subdivisions over a 20-year period (Lacey 1990)



By the Numbers – Storm water Mgmt. Practices

- Storm water ponds and wetlands create a valued waterfront effect
 - Developers charge premium up to \$10,000 for homes next to well-designed storm water ponds and wetlands (EPA 1995)
 - Office parks and apartments leased or rented at a premium and a faster rate (EPA 1995)
 - Sale prices 1/3 higher for Minnesota homes with view of storm water wetland compares to homes without any "waterfront" influence (Clean Water Partnership 1997)
 - Minnesota homes near storm water wetlands sold for prices nearly identical to those homes bordering a high quality urban lake (Clean Water Partnership 1997)
- Grassed bioswales and bioretention areas reduce size and cost of conventional storm drains, eliminating need for costly manholes, pipes, trenches and catchbasins (Liptan and Kinsella-Brown 1996)

Methods - Cost Avoidance Studies



* Figures represent 2006 U.S. dollars.

Source: Kenny 2006; Wieland et al. 2009; Chesapeake Bay Commission 2004; Corps of Engineers 2003.

Methods - Contingent Valuation Studies

- Survey assesses willingness to pay for a change in an environmental good or service
- Help gauge community's interest in conservation practices
- Platform for community outreach and education



Methods - Contingent Valuation Studies

Catawba River Basin, NC (Eisen-Hecht and Kramer 2002)

- Residents willing to pay \$139/taxpayer for five years (\$340 million in total) to protect current levels of water quality
- Water quality protection achieved with:
 - Upgrade and improvement of wastewater treatment plants
 - Nutrient, land use and storm water mgmt planning
 - BMPs on farms, construction sites, and residential areas
 - Water quality buffers
 - Setting aside critical tracts of land



Methods - Property Value (Hedonic) Studies

- In Pigeon River watershed, houses in subwatersheds with impaired rivers had lower values than houses in otherwise comparable subwatersheds with unimpaired river s (Cho et al. 2011)
- Home sales in Wake County, NC from 1992-2000 (Phaneuf et al. 2008)
 - Recreation access, proximity to lakes increased home prices
 - Urban lakes and streams generated benefits that accrue to a much larger population; total value of area homes appreciated due to recreation access even more so than shorefront house premiums



Methods – Travel Cost Studies

- Survey measures economic value of tourism & recreation
- Mean value per beach visit day: \$38 (USD 2000)
 - Analysis of 170 recreation values studies (Rosenberger and Loomis)



Collaborative Community Research Grants

- Get your watershed plan off the ground
- Partner with university researcher to address coastal issues
- Awards range from \$2,000 to \$25,000
- Applications due January 15th!







Thank you!

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