

# Engaging Social Capital for Decentralized Urban Stormwater Management

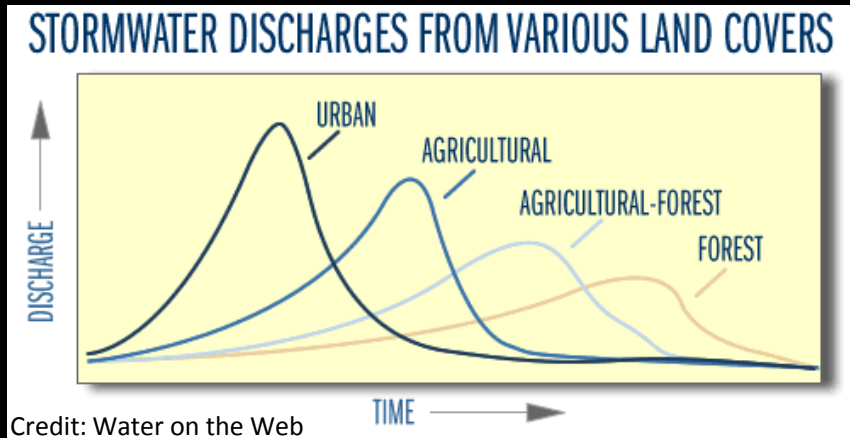
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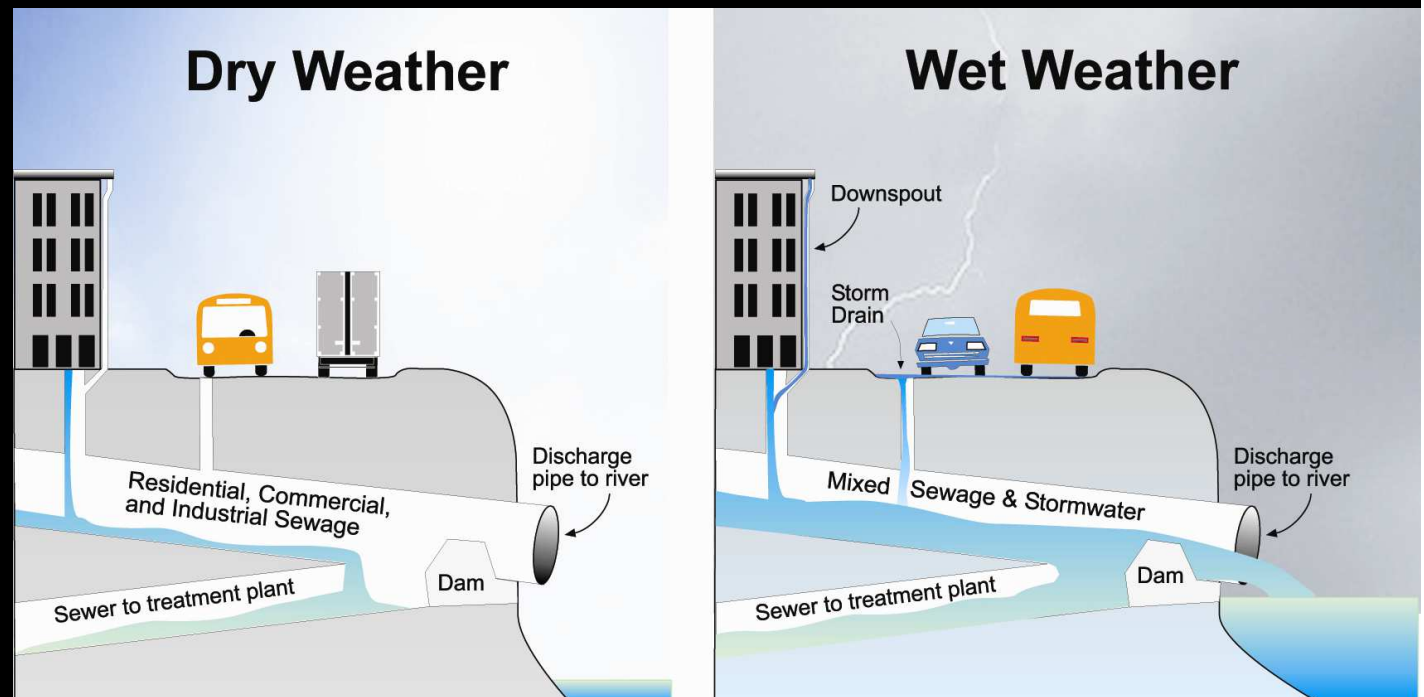
World Sustainability Forum, 2012

# Urban Stormwater

## Impervious Surfaces



## Combined Sewer Overflows



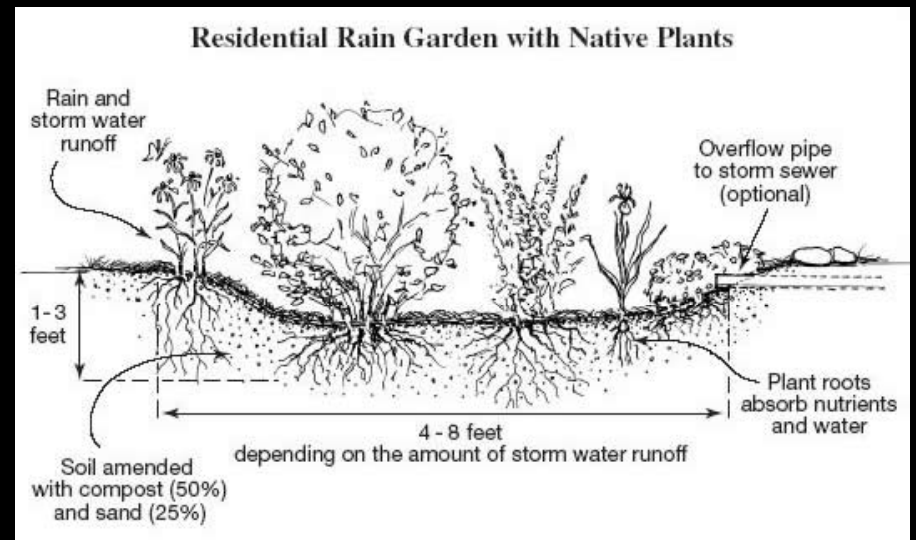
# Shift to Decentralized Solutions

Physical Capital  
(e.g., Portland's Big Pipe)



Credit: Motoya Nakamura/The Oregonian

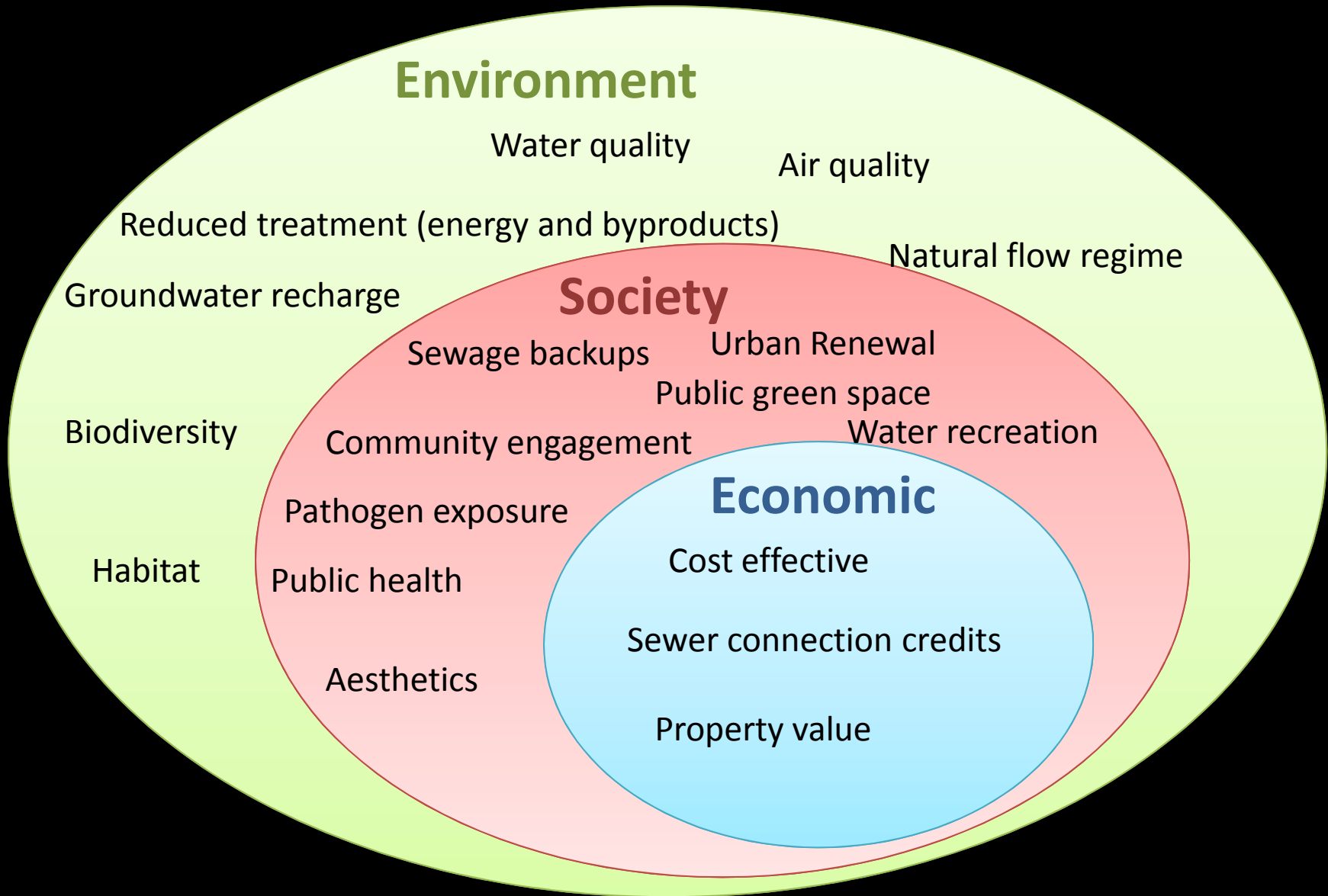
Natural Capital  
(e.g., ecosystem services of rain gardens)



Southeastern Oakland County Water Authority



# Benefits Beyond Water Quantity



# Shepherd Creek Watershed

Cincinnati, Ohio

## Decentralized, Private Property Application of GI

1.8 km<sup>2</sup> area

13% total impervious area

primary stressor =  
stormwater runoff

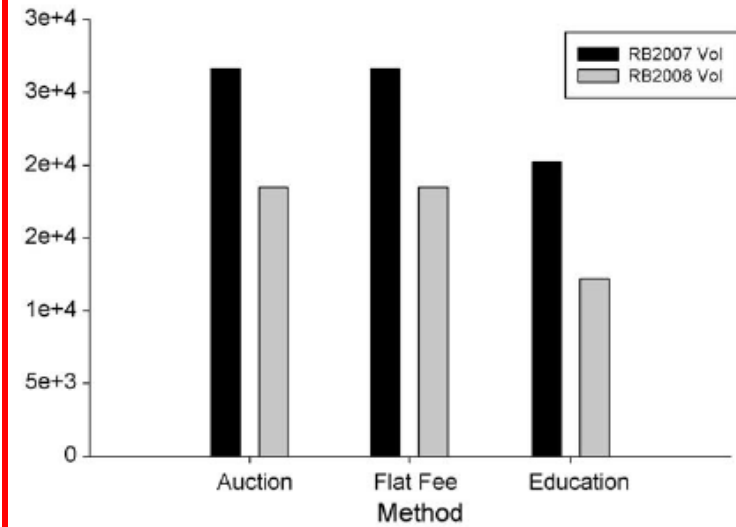
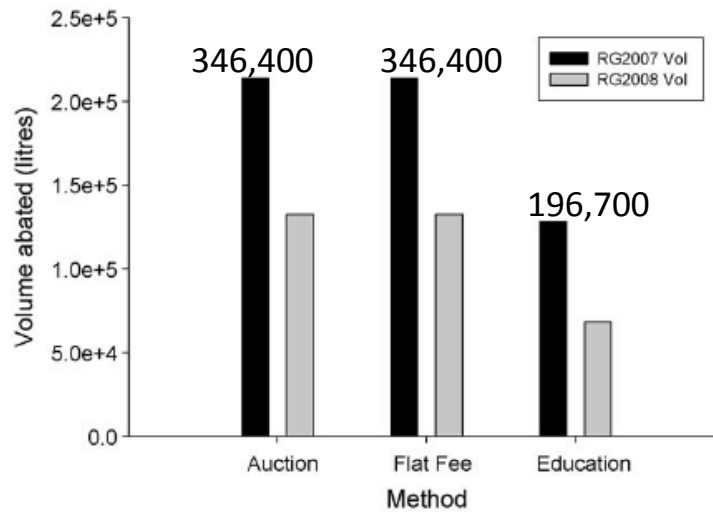


# Comparison of Policy Options

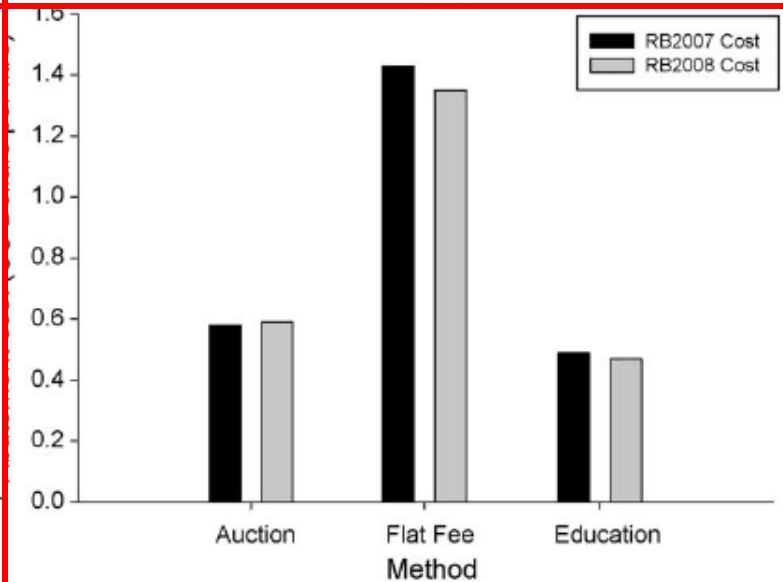
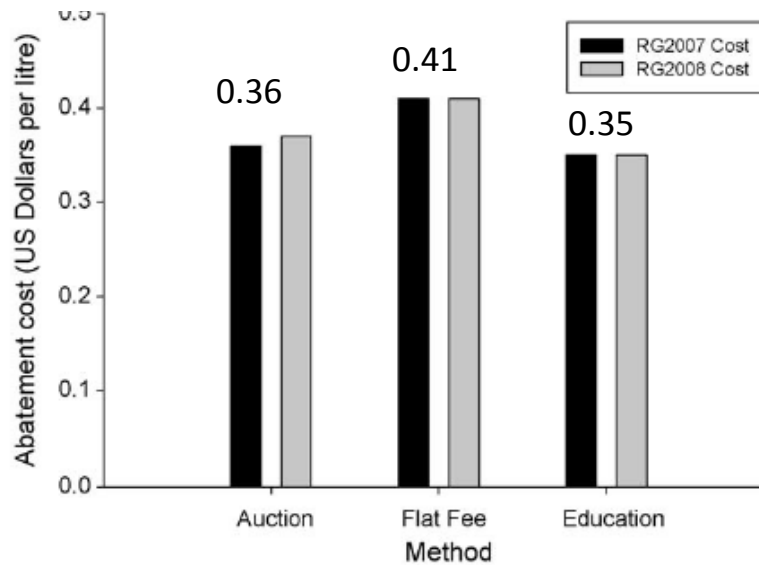
## Rain Garden

## Rain Barrel

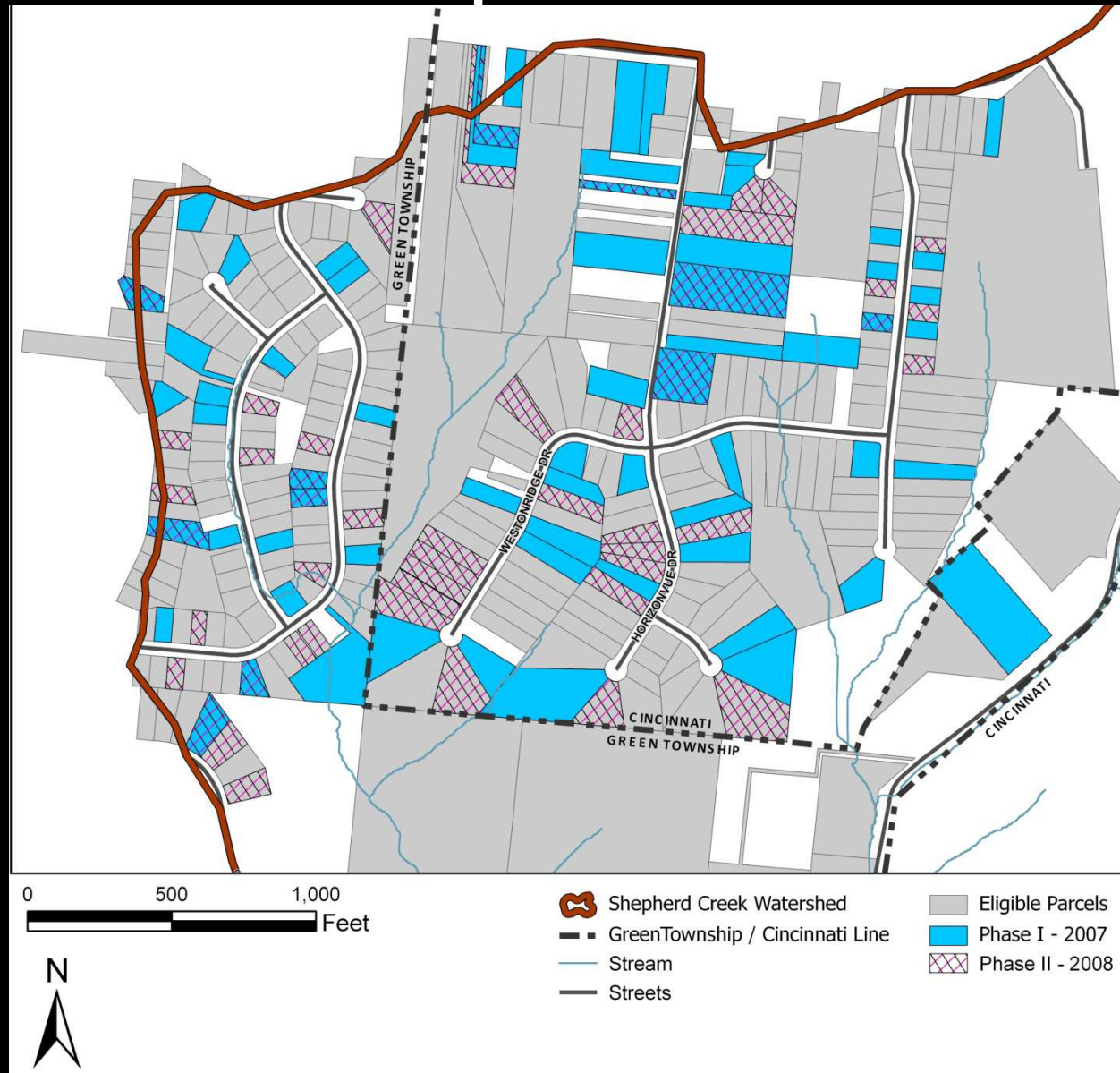
Volume Abated (liter)



Abatement Cost (US\$/liter)

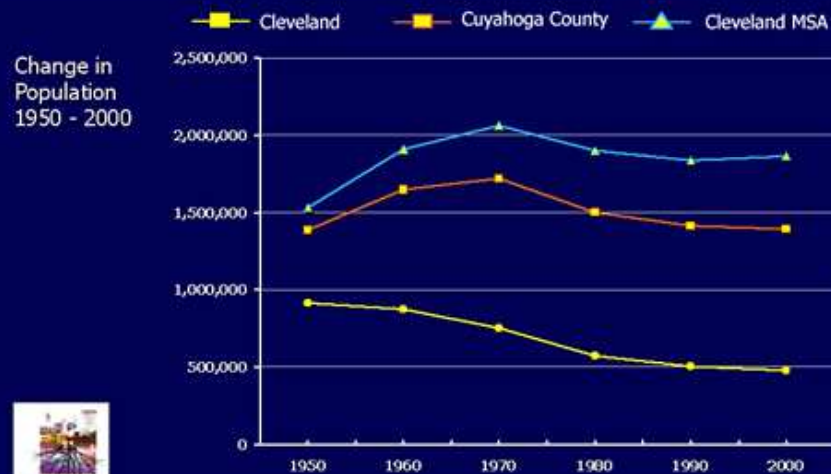


# Social Capital at Work



# Moving Forward: Scaling Up CSOs and Vacant Land in Post-Industrial US Cities

Population decline has also impacted Cuyahoga County despite slight growth in the larger metropolitan area



Credit: City of Cleveland