



Clean Water Challenges

Katherine Baer, American Rivers





American Rivers' Programs

- River Restoration
- River Protection
- Clean Water
- Water Supply
- Hydropower Reform



Innovate



Science



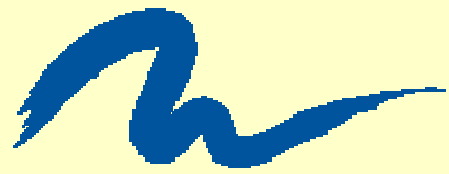
Collaborate



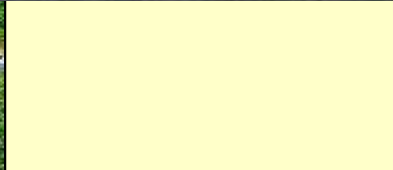
Advocate







Clean Water Program





Chattahoochee River (National Park Service)



Big Vickery Creek (U.S. Geological Survey)



Atlanta

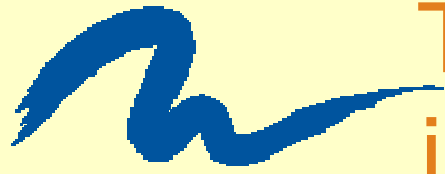
November 2007



Constitution

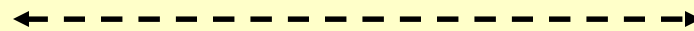
September 2009





The range of "normal" will increase with climate change

Many places will also experience a shifting average.



Dry



Wet

More frequent
and intense
droughts

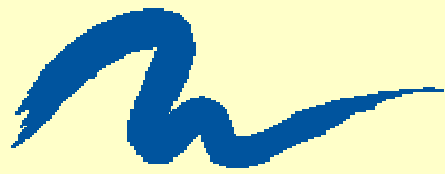
More frequent
and intense
storms



American Rivers
Thriving By Nature



(Atlanta Journal Constitution, 11/13/07)



Climate Change Impacts to Utilities by Region



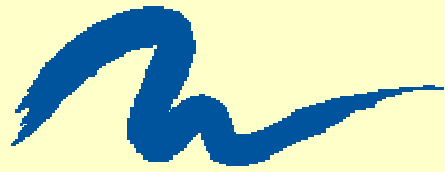
Confronting Climate Change (NACWA/AMWA 2009)



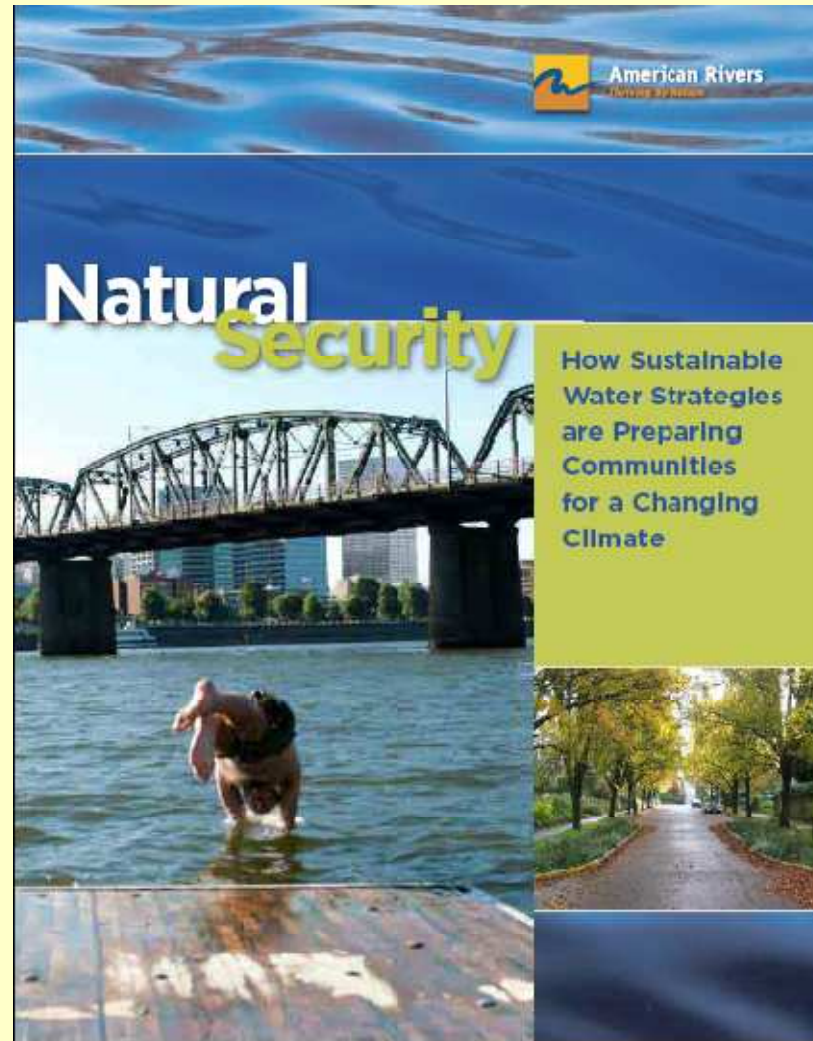
But the closer you get...
the more *uncertain*...

- More flexible, multiple benefit solutions
- Avoid static, cost and energy intensive projects





Climate Adaptation



www.americanrivers.org/naturalsecurity



Protect



Restore

Replicate

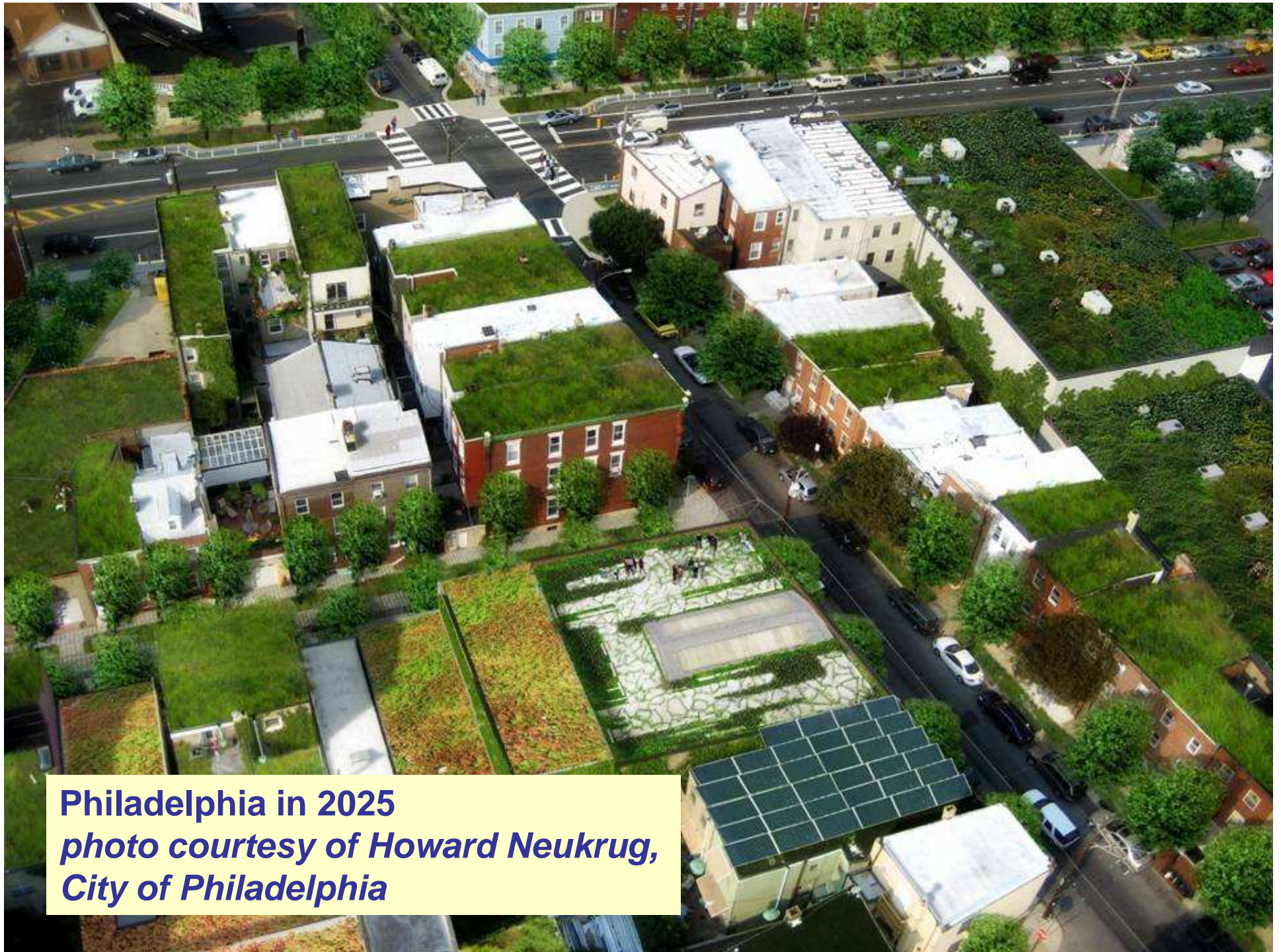


Clayton Co., GA water recycling wetlands



Philadelphia





Philadelphia in 2025
*photo courtesy of Howard Neukrug,
City of Philadelphia*

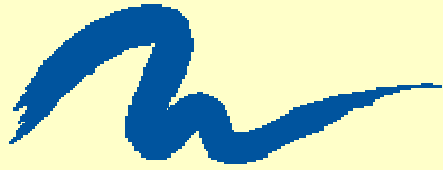


Philadelphia Triple Bottom Line Analysis

Benefits of Green Approach

- Recreational use
- Energy savings
- Improved air quality
- Fewer heat related fatalities
- Less time spent in traffic
- Green jobs

Triple Bottom Line Assessment of Traditional and green Infrastructure Options for Controlling CSO Events in Philadelphia's Watersheds, Stratus Consulting (2009)



“The problem with a traditional pipes and plants approach

is that the public doesn’t get any direct enjoyment with this type of hidden infrastructure... You can’t hold a picnic or a tailgate party in a Deep Tunnel...”

Milwaukee Mayor, Tom Barrett





PREPARING FOR CLIMATE CHANGE

A Guidebook for Local, Regional,
and State Governments



Written by
Center for Science in the Earth System (The Climate Impacts Group)
Joint Institute for the Study of the Atmosphere and Ocean
University of Washington
King County, Washington
With an Introduction by King County Executive Ron Sims





"...water and wastewater utilities should consider climate change impacts in their planning for facilities and operations sooner – rather than waiting for additional impacts and higher costs."

Confronting Climate Change
(NACWA/AMWA 2009)



Water Infrastructure Funding – adaptation priorities

- No more subsidies for sprawl



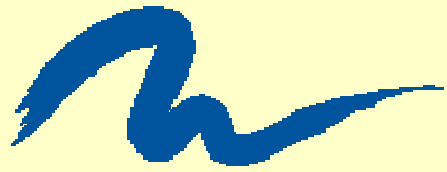


Water Infrastructure Funding – adaptation priorities

- Priority for flexible, green solutions
 - Green Reserve – second round \$700 million

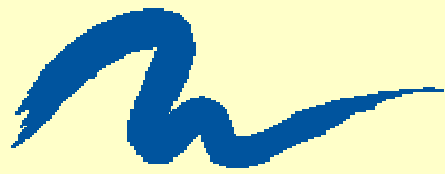


Permeable pavement installation



Climate bill

- Funding for adaptation – including water systems
- Priority for flexible, green, non-structural solutions
 - Not to the exclusion of others
- Consistency among adaptation provisions

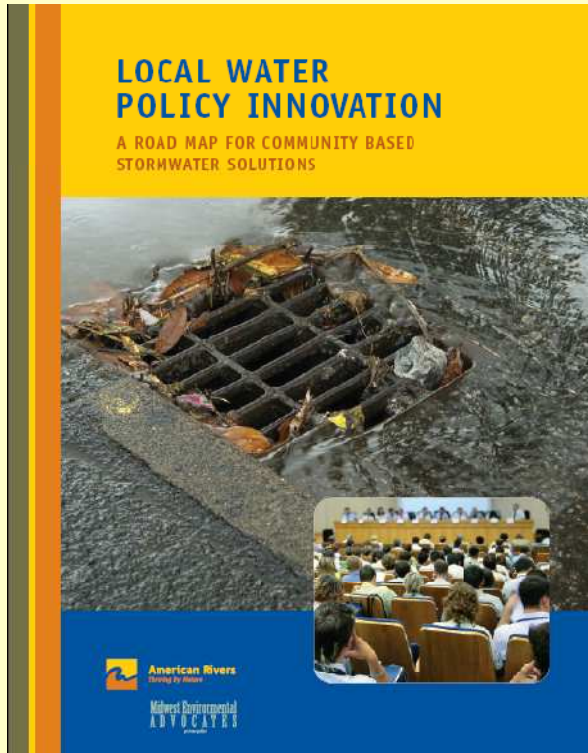


Toledo, Ohio





Toledo, Ohio





Clean Water Adaptation to-do list

- Incorporate climate considerations in all decisions;
- Look first to flexible approaches that protect, restore and replicate natural function;
- Incorporate these approaches into existing and renewed permits;
- Align water infrastructure funding with this approach to adaptation



Building Raingardens – Friends Community School (2009)



American Rivers

Thriving By Nature

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