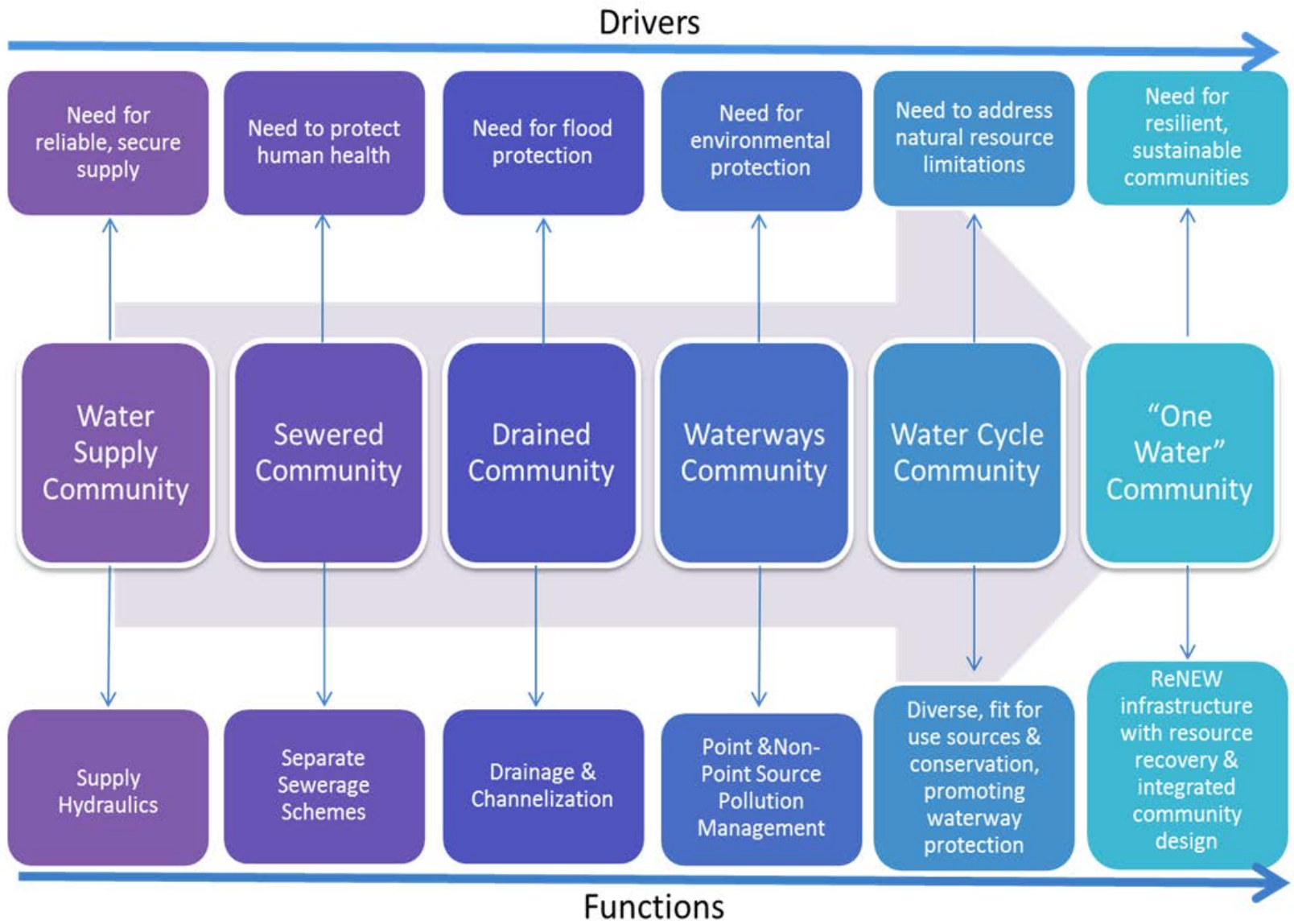


Integrated 'One' Water Management

Dr. Kenneth Williamson
Director, Regulatory Affairs

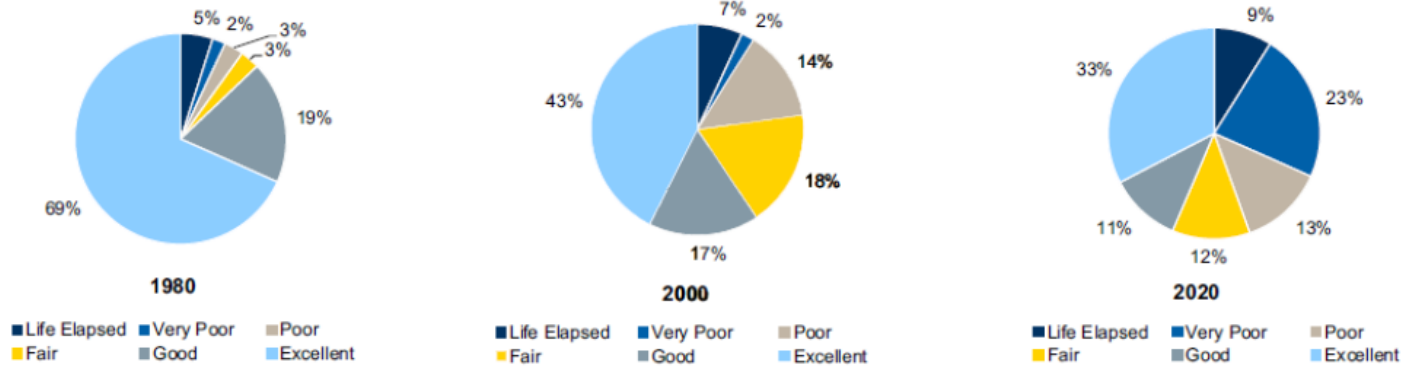


The Path Forward....

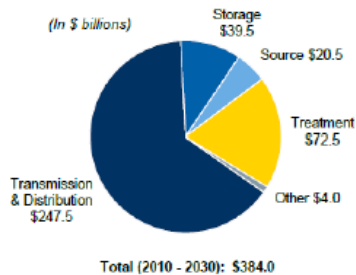
- Theresa's Integrated "One" Water Management is not where we should go, but where we will have to go.....
- Reflections from NACWA summer meeting....

What is attractive to investors about Water and Wastewater Utilities?

Condition of Pipes in the U.S. by Classification¹



EPA Estimate of Water Infrastructure Investment²



Investment Needs in Water Sector Per Region³

(In billions of 2010 dollars)

	Replacement	Growth	Total
Northeast	\$155	\$23	\$178
Midwest	242	37	279
South	394	492	887
West	159	250	409
2011 - 2050 Totals	\$951	\$802	\$1,754

July 13, 2015

¹ U.S. Environmental Protection Agency, "The Clean Water and Drinking Water Infrastructure Gap Analysis," 2002.

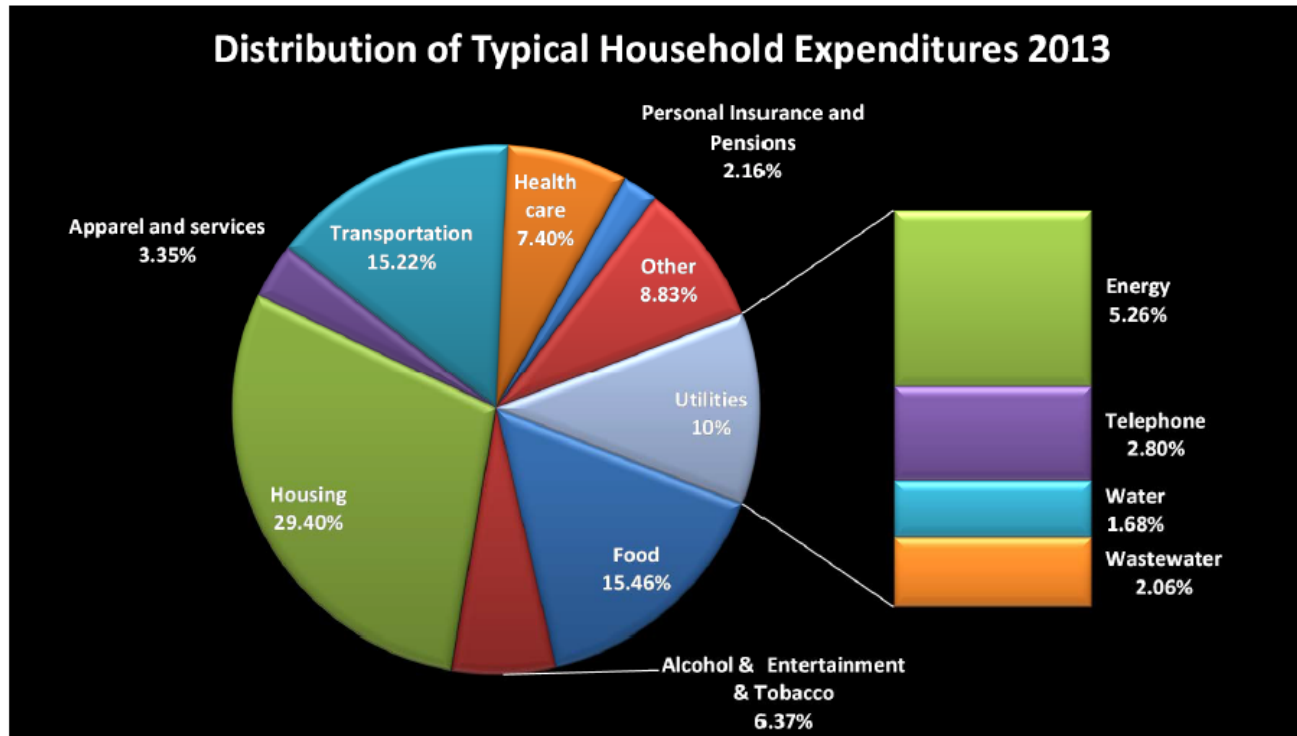
² U.S. Environmental Protection Agency, "Needs Survey, 2013."

³ American Water Works Association, "Buried No Longer: Confronting America's Water Infrastructure Challenge."

Richard Warren, Hunton & Williams LLP

How Do Households Divide Up the Expenses

(National Average – Lowest Quintile)



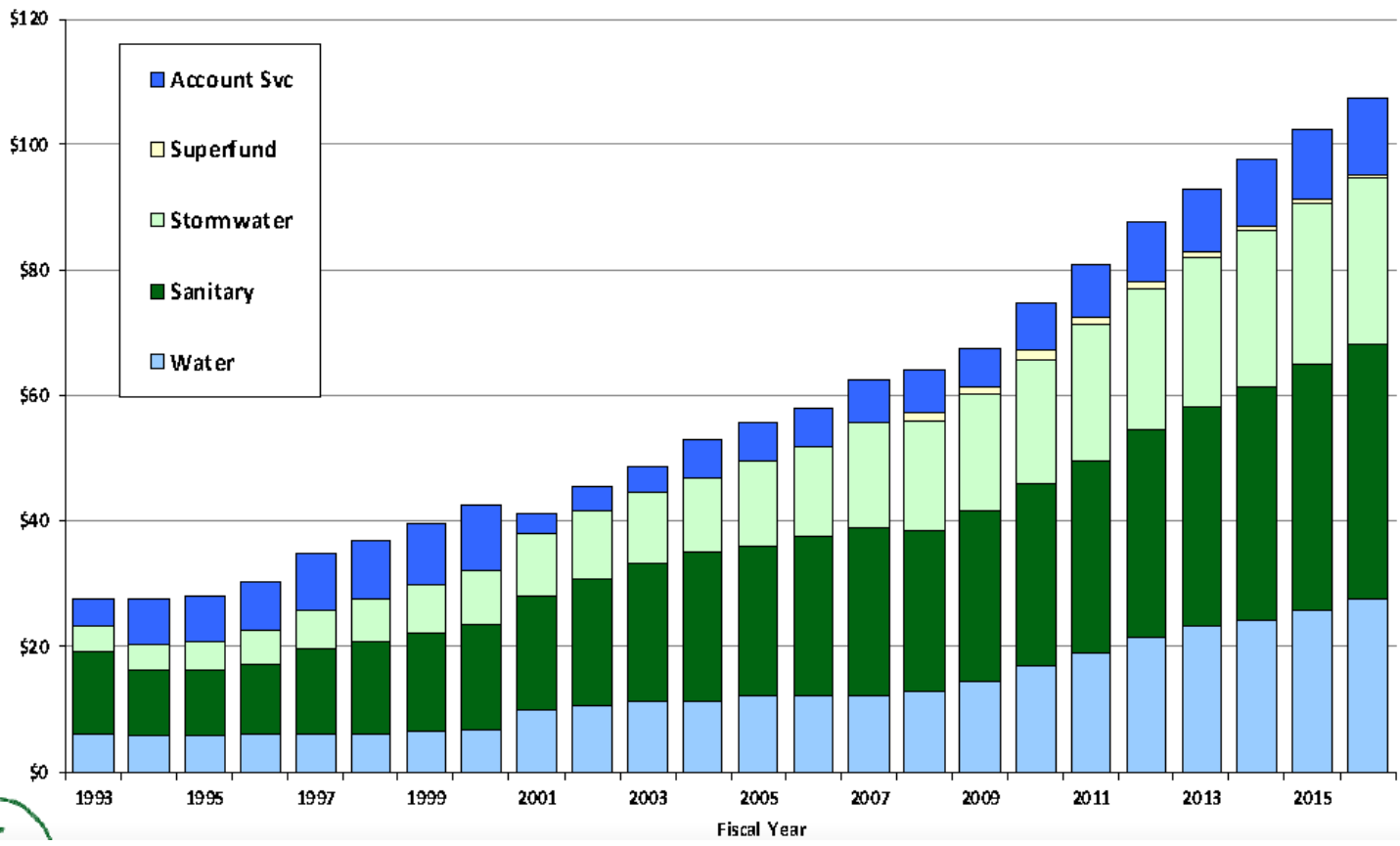
David Rager,
Northern Kentucky
Sanitary
Commission

Source: Consumer Survey, U.S. Dept. of Labor



Increasing Utility Rates

Monthly City Utility Bill for Typical Portland Household



Vicki
Grudzenski,
BES





Discharge Requirements

- Discharge requirements will increase.....
 - New standards (ammonia, Cu, Cd, Al, etc.)
 - New health methodology
 - New assessment tools (BLM)
 - New standards for viruses
 - Roll out of Oregon's toxic standards into permits

Discharge Requirements

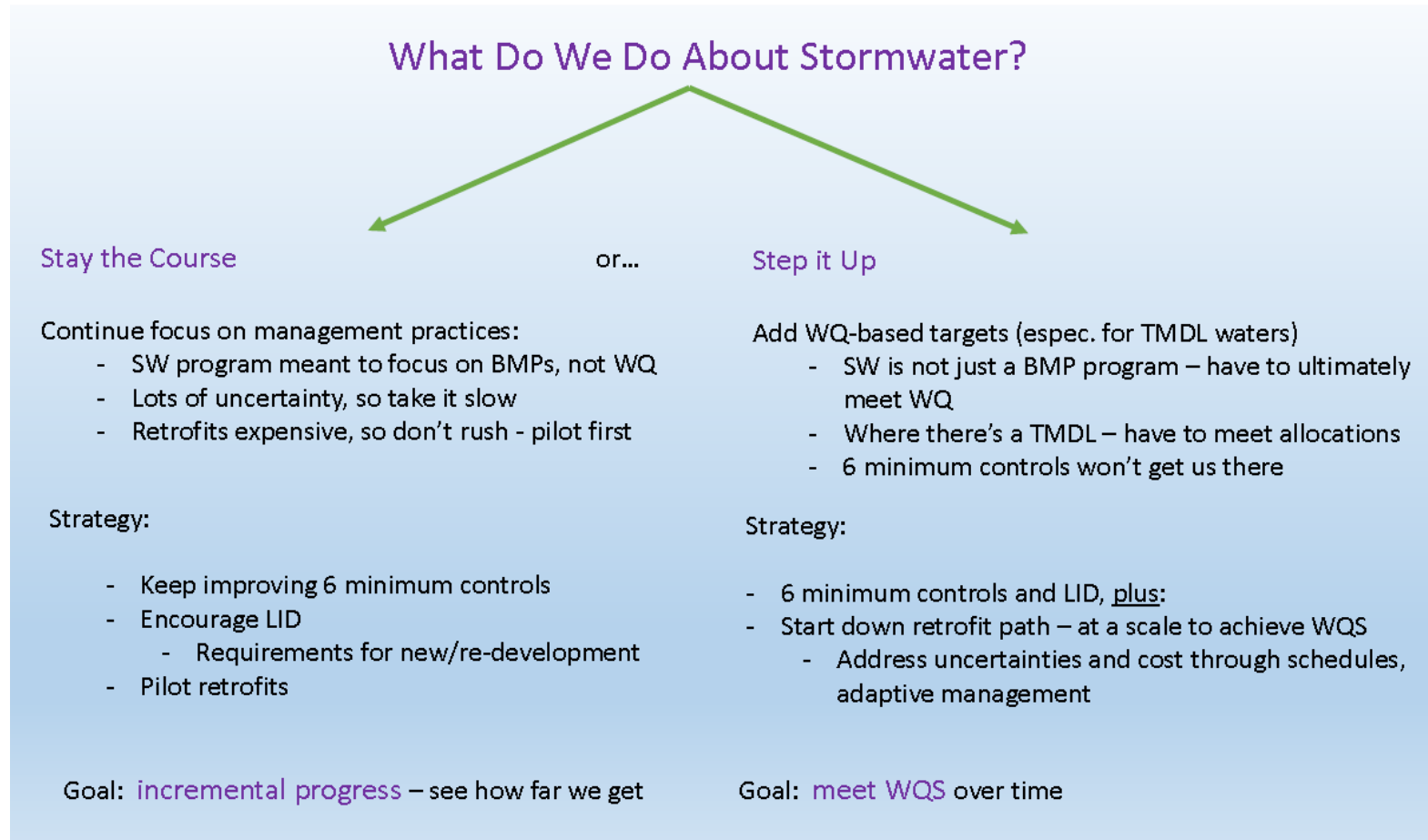
- EPA is pushing for tighter requirements.....

Even more concerning to NACWA is that, by coercing the state to promulgate standards that conform to EPA's approach, EPA is essentially eliminating judicial review. NACWA is concerned that this behavior by EPA violates the spirit and letter of the *Administrative Procedures Act*, and is contrary to the Agency's stated commitment to work more cooperatively and transparently with states and the regulated community.

This process of influence by EPA has reached concerning new levels with the development, review, and approval of Oregon's human health criteria and EPA's March 23, 2015 comments on the Washington proposal. In both cases EPA Region 10 has employed coercive pressure to ensure that the states only submit approvable programs that are effectively identical to federal preferences, guidelines, and policies.

Ken Kirk, NACWA letter to EPA Region 10, May 13, 2015

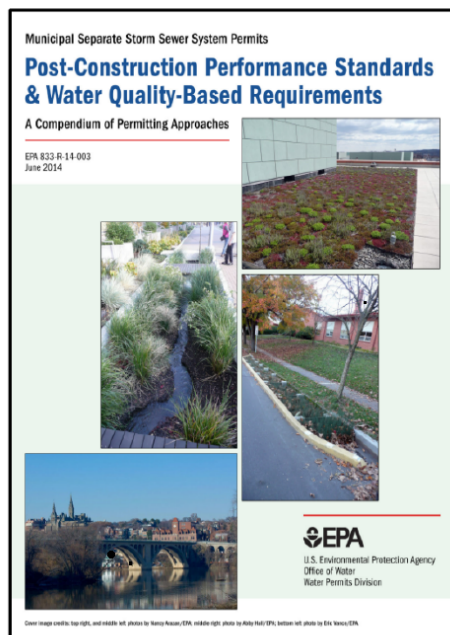
Stormwater Requirements to Increase



Ken Moraff, Deputy Director of Office of Ecosystem Protection, EPA

Stormwater Requirement to Increase

POST-CONSTRUCTION PERFORMANCE STANDARDS & WATER QUALITY-BASED REQUIREMENTS



Retention standards

18 states and DC have standards based on retention of a certain volume of stormwater (as of 2011)

Requirements for impaired waters

clear, specific, and measurable permit requirements and, where feasible, numeric effluent limitations as necessary to meet WQS

Available at: www.epa.gov/npdes/pubs/sw_ms4_compendium.pdf 5

Deborah Nagle, Director of the Water Permits Division, EPA



Start “doing”

- Watershed approach
- Integrated planning, integrated permit
- Coordinated capital planning
- Resource recovery, energy efficiency
- Strong regulatory leadership
- Community engagement, community support
- Partner with other agencies
- Simplify treatment technology wherever possible