Welcome to Tuesdays at APA|DC

July 14, 2015
Source Water Protection

Rachel Carlson is an environmental protection specialist in the Drinking Water Protection Division, Office of Ground Water and Drinking Water, U.S. EPA. She assists with geospatial analysis and outreach in a variety of projects to protect sources of drinking water and participates in the Source Water Collaborative, a group of 26 national organizations including APA that are dedicated to protecting source water.

Jim Taft is executive director of the Association of State Drinking Water Administrators, which supports the efforts of drinking water program administrators in states, territories, the District of Columbia, and the Navajo Nation as they implement the provisions of the Safe Drinking Water Act. Previously, Taft worked for the U.S., the U.S. Agency for International Development, the Virginia Department of Environmental Quality, the Ocean County (New Jersey) Utilities Authority, and the Ohio River Valley Water Sanitation Commission.
Using your land to protect your water

July 14, 2015

Source Water Protection Through Land Use Planning

Rachel Carlson, Office of Ground Water & Drinking Water, U.S. EPA

Jim Taft, Association of State Drinking Water Administrators
Sources of drinking water are in jeopardy

- Impaired waters
  - 23% of waters designated for public drinking water supply are considered “impaired”

- Point sources of contamination
  - Upstream chemicals (300,000 residents and businesses without water in Charleston, WV in January 2014)

- Nonpoint sources of contamination
  - Harmful algal blooms (400,000 people without water in Toledo in August 2014)
  - More than 60 cities in Iowa affected by high nitrate (Des Moines, Cedar Rapids, others) and 260 are susceptible
American Planning Association
American Water Works Association
Association of Metropolitan Water Agencies
Association of State Drinking Water Administrators
Association of Clean Water Administrators
Association of State and Territorial Health Officials
Clean Water Fund
Environmental Finance Center
The Groundwater Foundation
Ground Water Protection Council
National Association of Counties
National Association of Conservation Districts
National Environmental Services Center
National Ground Water Association
National Rural Water Association
North American Lake Mgmt Society
River Network
Rural Community Assistance Partnership
Smart Growth America
Trust for Public Land
USDA – Farm Service Agency
USDA – Forest Service
U.S. Environmental Protection Agency
U.S. Geological Survey
Water Systems Council
A Call to Action

1. Update/improve source water assessments and protection plans to prioritize risks and actions, by leveraging new data and tools.

2. Take priority actions to protect sources, working with key partners.

3. Coordinate, plan, and communicate in advance with key partners as well as within water utilities to help ensure that, in an event, rapid emergency notification is provided to facilitate activation of mitigation measures.

Our Vision
All drinking water sources are adequately protected. As a result, the nation gains profound public health advantages as well as economic benefits.
Why act?

- **Source water protection is inexpensive:**
  - $1 spent protecting sources of drinking water can save $27 in public treatment costs.

- **Source water protection is popular:**
  - In 2012, voters passed 81% of local measures for land conservation to protect drinking water. Measures approved bonds or tax increases, raising an estimated $767 million.

- **Source water protection connects communities:**
  - Strafford (NH) Regional Planning Commission works with local water district, rural water association, forest owners, and other partners in the Salmon Falls Watershed
  - Leveraged over $1 million USDA funding to protect local source of drinking water
What can you do?

Long-range visioning

- Include ground and surface water experts and water utilities in visioning exercises
- Scenario analysis based on source water assessments, water budget data
- Green infrastructure goals? Climate resilience? Link to source water!
  - Land conservation
  - Urban nonpoint source reduction
Tools and examples

- Capitol Heights, MD worked with local LID Development Center
- Developed green street master plan
- Goals:
  - Green infrastructure
  - Sustainable stormwater management
- Funded by Chesapeake Bay Trust and EPA Region 3

![Diagram showing woodlands, wetland buffer, boardwalk, and trail.](image)
What can you do?

Plan-making

- Develop stormwater management plan to keep pollutants out of drinking water
- Include “sensitive areas” element in comprehensive plan
- Map aquifers and surface waters to synthesize with land use planning
Tools and examples

- Map aquifers and surface waters to synthesize with land use planning
What can you do?
Regulations and incentives

- Riparian buffers, underground storage tank safety regulations, etc.
- Compact settlement patterns
- Non-regulatory tools to spur smart growth
  - Permit streamlining
  - Tax incentives
  - Developer incentives
  - Technical assistance
  - Public private partnerships for stormwater management
Tools and examples

- Kansas City adopted stream setback ordinance
  - Prohibits floodplain development
  - Preserves riparian areas through development controls, LID, development incentives
- Goals:
  - Stabilize streams
  - Protect infrastructure from flood hazards
  - Improve recreational opportunities, property values
- Benefits: incentives (high development density in less sensitive areas), high property values, climate resilience
- 13 ordinances in MO, KS in past decade
- 87% public support for ordinance

The location of the stream in the watershed dictates the setback width or “buffer width.”
What can you do?

Development review and public investment

- Require applicants for development to submit information on drinking water sources
- Include source water experts like utilities in technical review committees
- Public investments (roads, transit, buildings) sensitive to source water
- Advocate for bond issues to support land conservation, green infrastructure
Tools and examples

Information on low impact development techniques and strategic planning. www.lowimpactdevelopment.org

Learn how to use GIS Tools to link land use decisions to water resource protection. A Brief from National Association of Counties, www.naco.techassistance under "Water Resources Management"

Education for local officials on land use and natural resource protection. Nonpoint Education for Municipal Officials (NEMO), nemo.uconn.edu


Assistance on planning for and financing land conservation. The Trust for Public Land, www.tpt.org/lier2_kad.cfm?folder_id=3129
You’re not alone!

- Partner with others to
  - Leverage funding and expertise
  - Invite diverse perspectives, disciplines,
  - Bring together those with authority and connections to a wider community

- Camden SMART Initiative
  - Transformed abandoned industrial site into public park
  - Partners: Municipal Utilities Authority, City of Camden, Cooper’s Ferry Partnership, Rutgers University, local Tree Foundation, New Jersey DEP, The Nature Conservancy

- Niles, IL Rain Garden
  - Transformed vacant lot into permeable garden. Annual volume runoff captured: 5.46 million liters
  - Partners: Coca-Cola North America, City of Niles
Funding is available

- State Revolving Loan Funds
- Farm Bill funding
- Local grants and funds
- Tax and bond measures
- CWA Section 319 grants
- Public-private partnerships
- Much more!
A final example...

- New York City uses economic incentives to encourage land conservation and watershed protection in Croton and Catskill-Delaware watersheds
- NYC used $27 million from Clean Water State Revolving Fund as well as voter-supported bond and real estate tax measures to fund projects

Which led to...

- Clean water supply during Hurricane Sandy
- Recreational opportunities and revenues
- Safeguards against sediment, fertilizers, salts, oil and other toxic substances in drinking water