



Regional Water Security Initiatives

Presented to: Potomac River Basin Drinking
Water Source Protection Partnership

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COG Region



- 4.6 million people
- 95% on public water
- 90% from Potomac River
- Withdrawals 350 – 500 mgd

Regional Water Systems

Service Areas for Washington Metropolitan Region Water Suppliers & Distributors

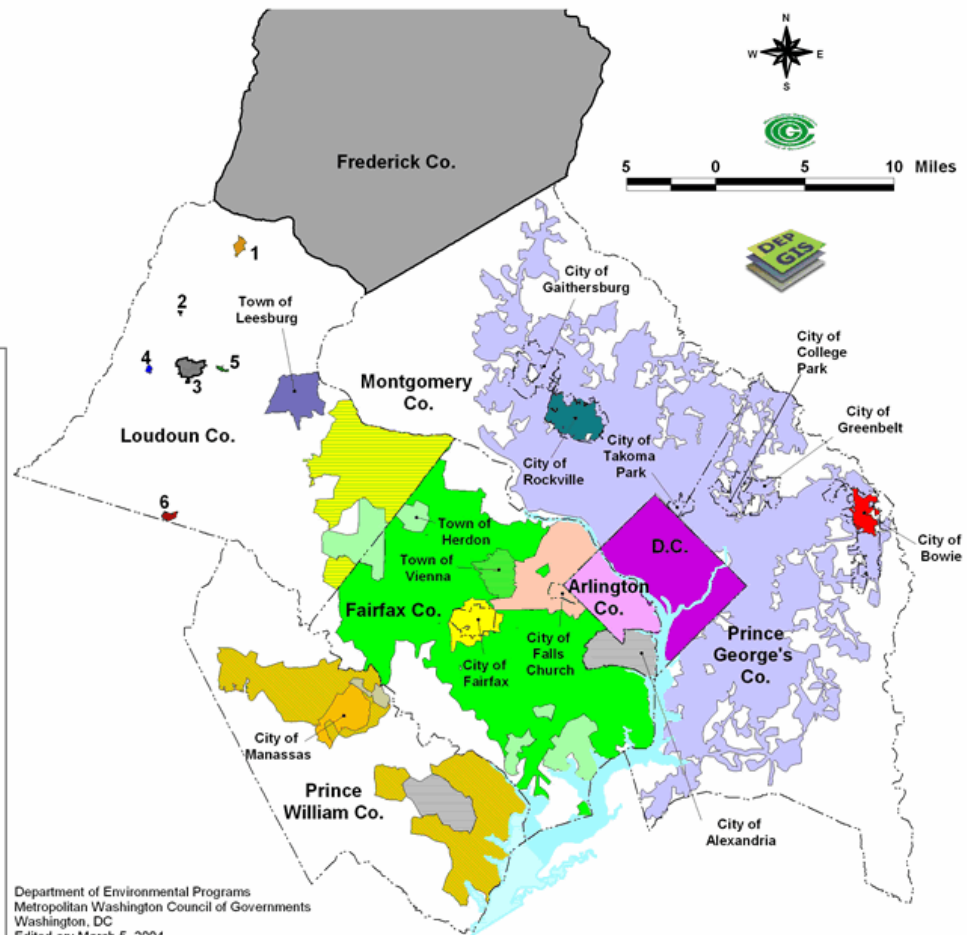
The various colored areas depict the extent of the areas in which water from the water supply and distribution agencies are available. These distribution areas should be interpreted with the following caveats:

- there may be people living in the colored distribution areas who derive water from ground water wells.
- people living in the non-colored areas outside of the distribution regions may derive their water from groundwater wells or small community systems
- the boundaries of most distribution areas were last updated in ICPRB in 2000 Supply/Demand study

Business or residents should not use this map to establish whether they derive water from a particular treatment agency.

LEGEND

- Jurisdictional Boundaries
- Drinking Water Suppliers & Distributors
- City of Bowie DPW
- Fairfax County Water Authority
- Fairfax County Water Authority (Small Wholesale)
- Loudoun County Sanitation Authority
- Prince William County Service Authority
- Virginia-American Water Company
- Vienna DPW
- City of Fairfax DU
- Loudoun County Sanitation Authority
- City of Manassas DU
- City of Manassas Park DPW
- 1 Town of Lovettsville
- 2 Town of Hillsboro
- 3 Town of Purcellville
- 4 Town of Round Hill
- 5 Town of Hamilton
- 6 Town of Middleburg
- Town of Leesburg
- Washington Aqueduct (COE)
- Arlington DPW
- District of Columbia Water and Sewer Authority
- Falls Church DES
- Washington Suburban Sanitary Commission
- City of Rockville
- Frederick County Utilities and Solid Waste
- Areas not served by public utility



Department of Environmental Programs
 Metropolitan Washington Council of Governments
 Washington, DC
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Homeland Security Background

- NCR Homeland Security planning process established through COG shortly after 9/11
- Built on 2 decades of regional emergency planning - including water supply
 - e.g., NCR Water Supply Emergency Plans date back to 1970s (address water outage, water shortage, contamination)
 - e.g., Mutual Aid agreements



Background...

- Regional Homeland Security Process
 - All major stakeholders included
 - State HS Directors/EMA Directors
 - Federal Agencies/DHS ONCRC, MDW
 - COG Local Governments-CAOs, EMAs
 - Private sector, Non-profits, universities
- **Regional Emergency Coordination Plan** (adopted 9/11/02)
 - Strengthens regional communication and coordination in the event of a regional incident or emergency
 - Supported by Functional Area Emergency Support Work Groups facilitated by COG



Regional Emergency Support Functions

- 1) Transportation
- 2) Communication Infrastructure
- 3) Public Works & Engineering**
- 4) Firefighting
- 5) Information & Planning
- 6) Mass Care
- 7) Resource Support
- 8) Health

- 9) Urban Search & Rescue
- 10) Hazardous Materials
- 11) Food
- 12) Energy
- 13) Law Enforcement
- 14) Media Relations & Community Outreach
- 15) Donations/Volunteer Mgt.



Public Works & Engineering Functional Area

- Includes water, wastewater, and solid waste
- **Water Supply Emergency Plan** (WSEP *in final draft*), is an annex to the to Public Works and Engineering Functional Area
 - Provides regional communication and coordination guidance in the event of a regional water incident or emergency
 - Incidents/Emergencies Covered include:
Quantity, Quality and Threats
- Solid Waste Plan (annex) being developed



RICCS –

What is it? What does it do?

- RICCS is the **centerpiece** of the RECP
- RICCS is primarily a virtual system
- RICCS' primary functions include notification and conferencing
- Other RICCS functions are coordination of decisions (generally away from the incident), creation and dissemination of common messages, incident tracking and assessment, media and public information support
- The RICCS is integral to each R-ESF



RICCS - Status

- DC-EMA is functioning as the primary RICCS (24/7) for notification and conferencing
- Testing of notification on-going
- Uses Roam Secure's REACTecn software
- Notification database of 800+
- 4 Additional Backup RICCS Sites



Water Security Enhancement

- July 2003 COG and EPA Region III sponsored a Drinking Water Reliability and Security Workshop
 - Sessions:
 - System Vulnerability
 - Water Supply Monitoring and Forecasting
 - Monitoring/modeling
 - Water Supply System Redundancy
 - Interconnections/power supply
 - Resulted in the development of a water security prospectus



Water Security: Regional Priorities

1. Early warning event detection for water supply

- Potomac raw water, distribution system finished water

2. Modeling capability

- To support event response and decision-making, to evaluate risk, to identify optimal monitoring locations

3. Regional water system vulnerability reduction

- Reduce vulnerability and enhance emergency response capacity – via emergency interconnections, power and storage redundancy
- Complement/support individual utility plans



NCR Regional Water Security Project – *Monitoring*

○ **Monitoring**

- Potomac River - raw water
- Distribution system – finished water
 - Pilot test existing technology (“HACH” monitors, “Ft. Detrick” Biomonitor) at 3 locations

○ **Purpose of Monitoring Pilots**

- Demonstrate technology
- Develop baseline
- Understand management/maintenance requirements and costs
- Develop regional communication protocols for events
- Potentially use in exercises
- Recommend further installations – will be informed by modeling



NCR Regional Water Security Project – *Modeling, Vulnerability Reduction and Redundancy, Exercises*

○ **Modeling**

- Potomac River – enhance ICPRB toxic spill model (River Spill Model)
- Distribution system - apply PipelineNet
 - Model to assist in determining location and number of monitors
 - Modeling during actual events

○ **Vulnerability Reduction and Redundancy**

- Emergency interconnection assessment
- Power redundancy
- Storage redundancy

○ **Exercise(s)**

- Test Water Supply Emergency Plan
- Participants – Water Utilities, local, state, federal agencies, health officials, emergency managers
- Tabletop and/or virtual



Questions?
