Water Management Solutions for Local Governments

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#### Carrie Blankenship, PG

Senior Project Geologist Draper Aden Associates RRRC Planning Workshop 2014: Water Resources Rappahannock-Rapidan Regional Commission, Culpepper , VA

#### Overview

- Water Supply Plans
- Drought Response & Contingency Plans
- Groundwater Management Plans
- Ordinances

A **Water Supply Plan** is a living document, consulted often as a Planning Tool

Identifies **Critical** users and resources, timing of withdrawals

**Benefits** to a **Regional** WSP approach compared to Individual Local WSPs

# Comprehensive WSP includes Documentation of:

- Current Water Sources
- Current Water Use
- Water Resource Conditions
- Projected Water Demands
- Water Management Actions
- Statement of Need
- Alternatives Analysis
- Drought Contingencies
- Plan Adoption by Participating Entities
- A record of public involvement

## A Drought Response & Contingency Plan addresses the unique characteristics of the water source and beneficial uses

Establishes **actions** and **procedures** for managing demand and evaluating supply during drought conditions

Typically three or four **graduated stages** of **response** to onset of drought conditions









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# Current and Future GW Use

Largely residential

50% of residents rely on individual wells

Residential demand vs **Peak** demand

# Current and Future GW Use

20 agricultural wells – average 40,000 gpd
 Used approximately 6 months of year

**Drought conditions** often occur during **SUMMER** months that correspond to agricultural and golf course demand



## **Management Tools**

**Delineation** of protection zones (wellhead or aquifer recharge area

**Identification** and **control** of potential contaminant resources

Yield, impact and quality **testing** for new wells

Site planning standards

Land use restrictions, where appropriate

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# **GW Management Initiatives**

**Capacity** and **Availability** of public water supplies

## Economic development priorities

Alternative strategies for groundwater protection

- Minimum
- Moderate
- High Level

Protection Strategies					
Objective	Actions	Benefit			
	Designate wellhead protection area				
Protect existing wells in low priority utility expansion areas	Require testing for new large withdrawals (>300K gpm)	Protect wat quantity from e wells adjacer large propos withdrawa	er xisting nt to sed Is		

Protection S	trategies		Moderate	e
Objective	Actions	Benefit		
Protect existing wells in low priority utility expansion areas	Minimum level requirements			
Assess existing risk	Contaminant source inventory for wellhead protection zones and aquifer recharge zone	Limited with resp effort required implement	ect to I to	
Discourage development of high- risk wells	Hydrogeological testing for new residential development >25 lots			

	Protection Strategies					
	Objective	Actions	Benefit	t		
	Protect existing wells	Moderate level requirements	Multifacet	ted		
	Discourage development relying on wells	Overlay zone to enhance protection in aquifer recharge area	program of a protection growth cor	and antrol		
	Assess existing risk	Verify reliability of source & compatibility with existing wells	Ordinanaa			
		Require new development within specified distance of public water line to connect to the line	Ordinance to implement Plan			

# **Ordinance Recommendations**

Conditional Use Permits or Special Exceptions for certain proposed land uses **within** the **Fall Zone** 

Conditional Use Permits or Special Exceptions for certain proposed land uses **within 1,000 feet** from an existing or proposed community water supply wells

Performance of **hydrogeologic testing** and modeling of proposed groundwater withdrawals ≥300K gpm.

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# Stafford County Summary

- Developed in response to extended drought of 2001 through 2003
- Protect water **quantity** and **quality** of the groundwater resources
- · Plan was used in development of WSP

#### Summary

#### Water Supply Plan

- balance water demands
- support Economic Development
- · protect water resources
- mitigate conflicts

# Summary

#### **Groundwater Management Plan**

- evaluate the resource
- propose management strategies to protect quantity
   and quality of the resource
- incorporate into Water Supply Plan
- keep details in the Plan

#### Ordinance

- · references the Plan
- provides an enforcement mechanism to implement
  Plan

