

Hampton Roads Regional Water Supply Plan

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Presentation Outline

Key issue: Each locality in Virginia must submit a local or regional water supply plan to DEQ by November 2, 2011.

Presentation will discuss the following:

- When and why the regulation was established.
- Required elements of the water supply plan.
- HRPDC's role and Memorandum of Agreement among Hampton Roads localities.
- Content of Hampton Roads regional plan.
- Local approval process.
- State approval process and creation of State Water Supply Plan.

When and why the regulation was established?

Local and Regional Water Supply Planning Regulation (9 VAC 25-780) November 2005

In 2002, Virginia experienced severe drought conditions. Some localities were not prepared.

Realization that Virginia is likely to face some water use conflicts and all beneficial uses were not represented in the planning and permit processes.

Daily Press

City Officials Say Water Ban Has Raised Public Awareness

By FRED CARROLL Daily Press | September 11, 2002

Water Restrictions

August 6, 2002

Rain, Rain, Don't Go Away

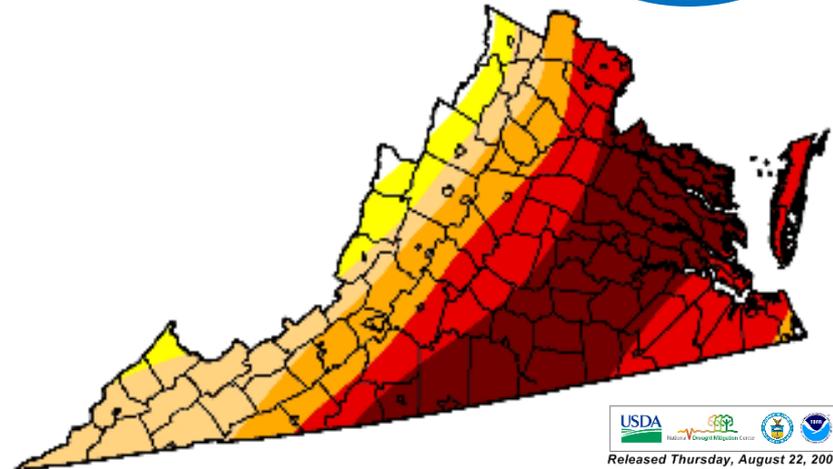
By MICHAEL HINES Daily Press | July 16, 2002

The Virginian-Pilot

Drought Hastens Exit of Norfolk, Va.-Area Farmers

U.S. Drought Monitor
Virginia

August 20, 2002
Valid 7 a.m. EST



USDA
National Drought Mitigation Center

Released Thursday, August 22, 2002
Author: Scott Stephens/Richard Helm, NOAA/NCDC

Drought Severity

D0 - Abnormally Dry

D1 Drought - Moderate

D2 Drought - Severe

D3 Drought - Extreme

D4 Drought - Exceptional

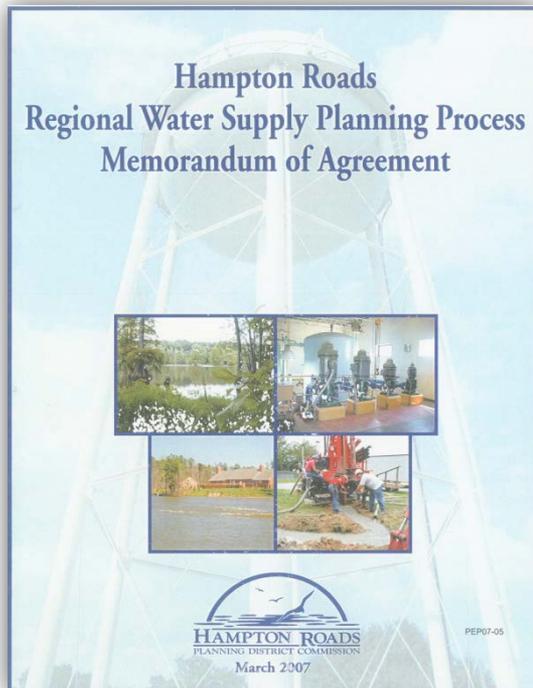
Required Elements of Water Supply Plan

- Description of existing water sources, uses, and water resource conditions
- Assessment of projected water demand
- Description of water management actions and drought response
- Statement of need (compare supply versus demand)
- Alternatives analysis that identifies potential alternatives to address projected deficits in water supplies



HRPDC's Role and Memorandum of Agreement

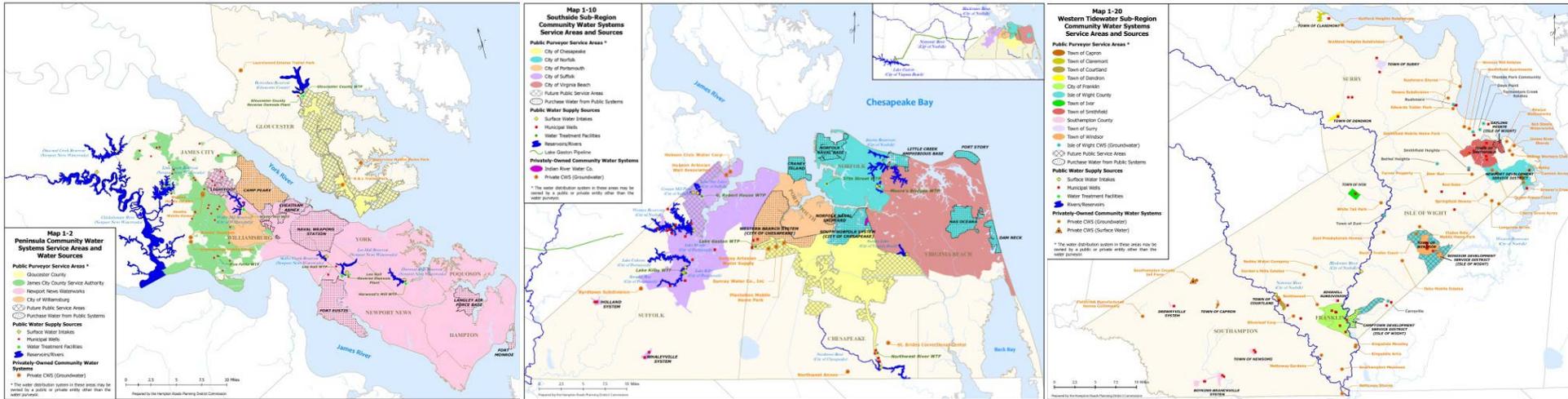
Localities in the Hampton Roads region signed a Memorandum of Agreement in 2007 agreeing to develop a regional water supply plan.



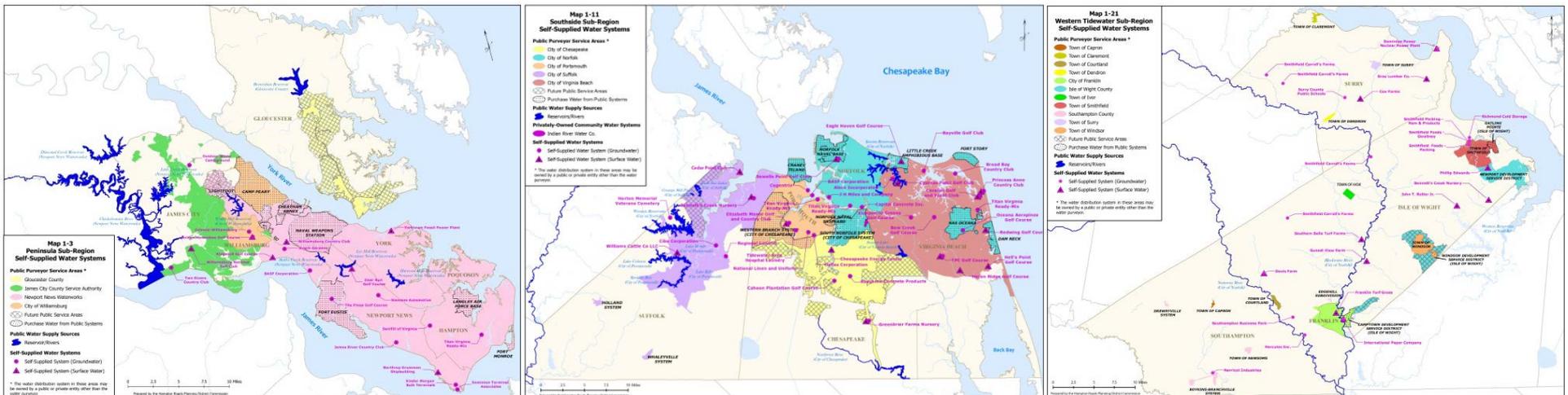
- City of Chesapeake
- City of Franklin
- City of Hampton
- City of Newport News
- City of Norfolk
- City of Poquoson
- City of Portsmouth
- City of Suffolk
- City of Virginia Beach
- City of Williamsburg
- Gloucester County
- Isle of Wight County
- James City County
- Southampton County
- Surry County
- York County
- Town of Boykins
- Town of Branchville
- Town of Capron
- Town of Courtland
- Town of Ivor
- Town of Newsoms
- Town of Smithfield
- Town of Windsor

HRPDC's Directors of Utilities Committee reviewed the data, assumptions, and draft report chapters throughout the development of the plan.

Hampton Roads Plan: Systems & Sources



Maps of Community Water Systems & Self-Supplied Users over 10,000 gallons/day



Hampton Roads Plan: Supply vs. Demand

Statement of Need: Adequate water is available to meet 2040 demands for community water systems.

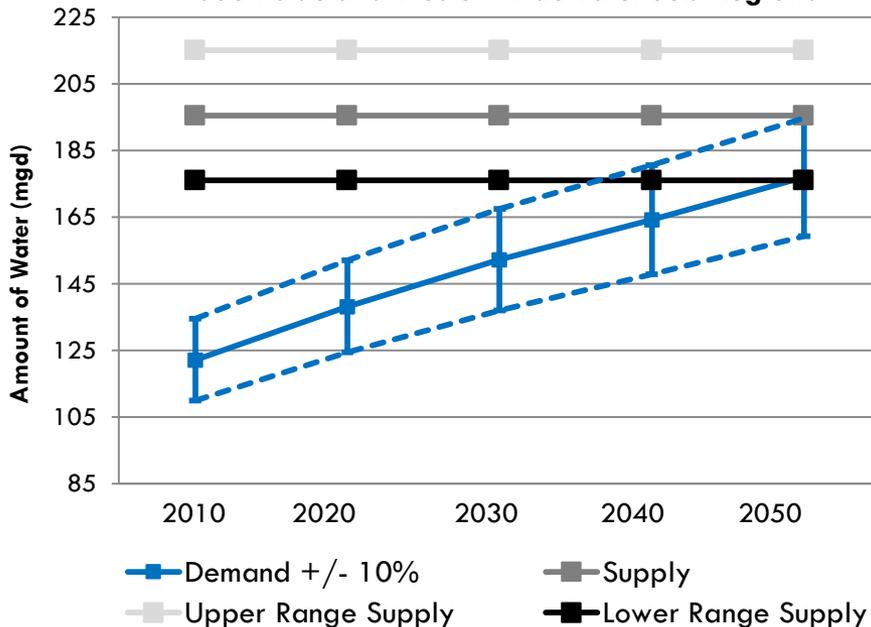
Supply uncertainties:

- Availability of groundwater
- Climate change

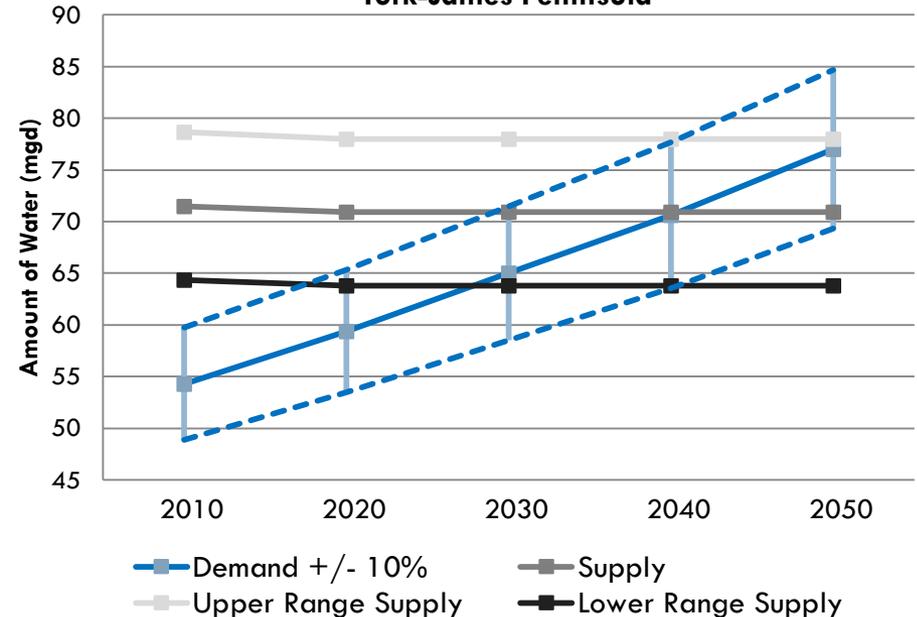
Demand uncertainties:

- Increases or decreases in commercial & industrial demands.
- Increases or decreases in conservation rates.

Water Supply Compared to Projected Demands for Southside and Western Tidewater Sub-Regions



Water Supply Compared to Projected Demands for the York-James Peninsula

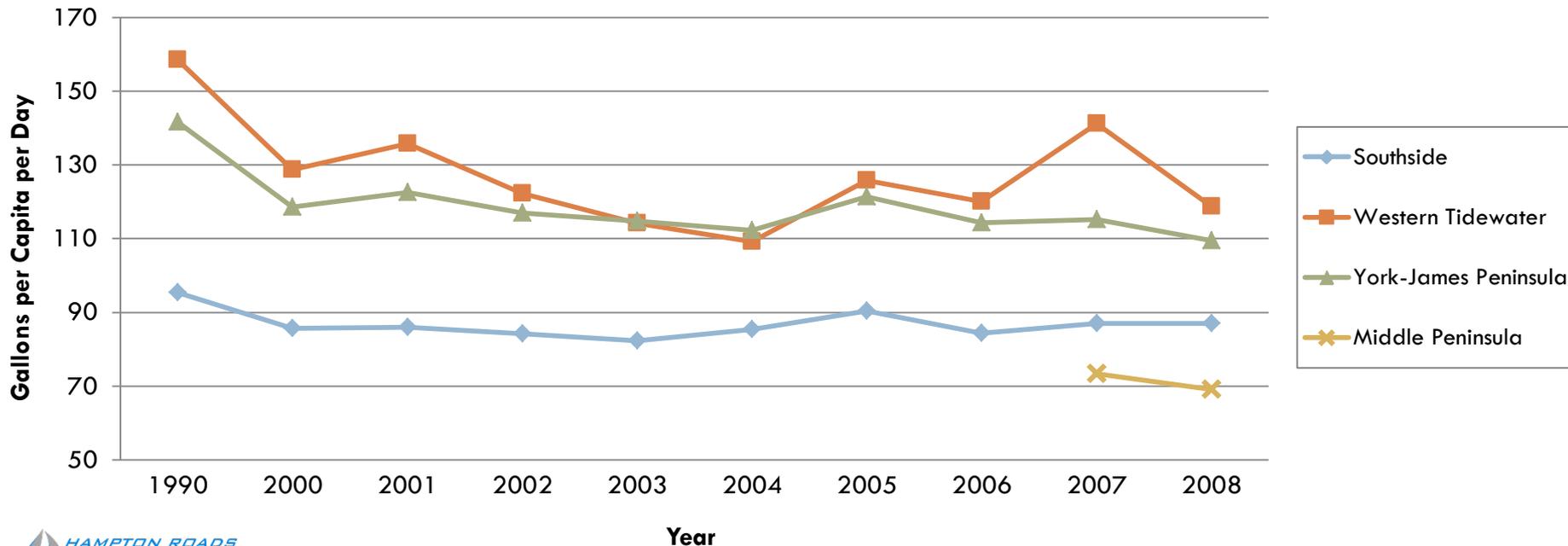


Hampton Roads Plan: Alternatives

Alternatives described:

- Surface Water Storage
- Groundwater Withdrawal
- Aquifer Storage & Recovery
- Desalination
- Conservation
- Southside–York-James Peninsula Interconnect
- Water Reuse
- System Optimization

Historical Demand in Hampton Roads



Hampton Roads Plan: Self-Supplied Users

Types of self-supplied users:

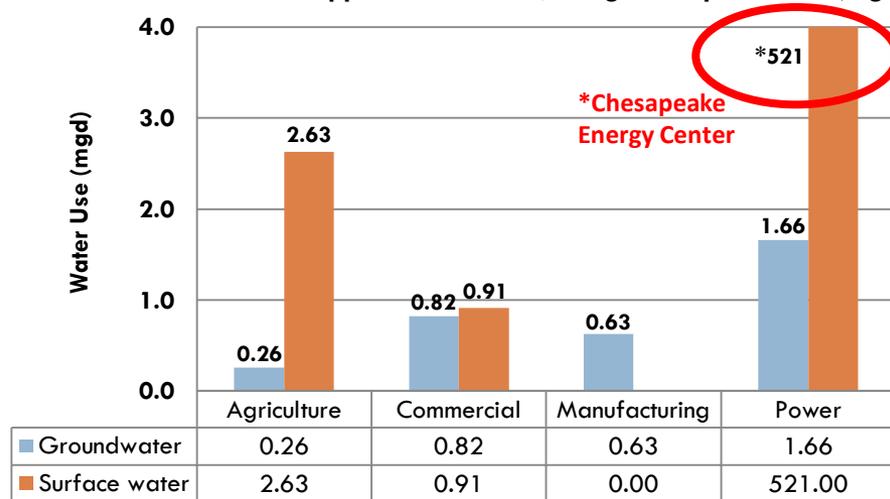
- Commercial and industrial users with wells or river intakes.
- Agricultural users with wells or ponds.
- Homes with private wells.

Major commercial/industrial uses:

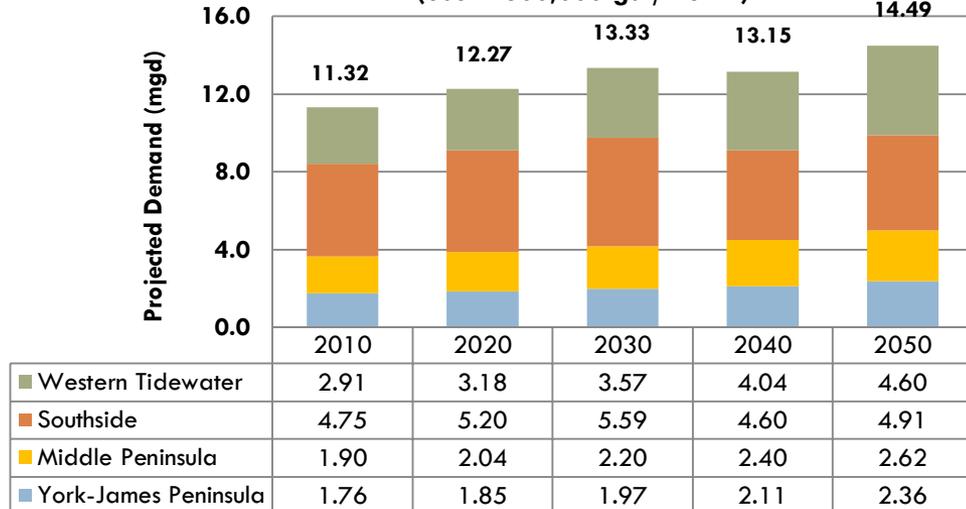
- Energy production - cooling water is returned to rivers (non-consumptive).
- Golf courses - irrigation.
- Agriculture - irrigation.

- ❖ *Self-supplied demand assumed to be constant for next 40 years.*
- ❖ *Most self-supplied users rely on wells.*
- ❖ *Groundwater availability requires further study.*

2007 Southside Self-Supplied Use > 300,000 gallons per month (mgd)



Projected Water Demands for Small Self-Supplied Users (use < 300,000 gal/month)



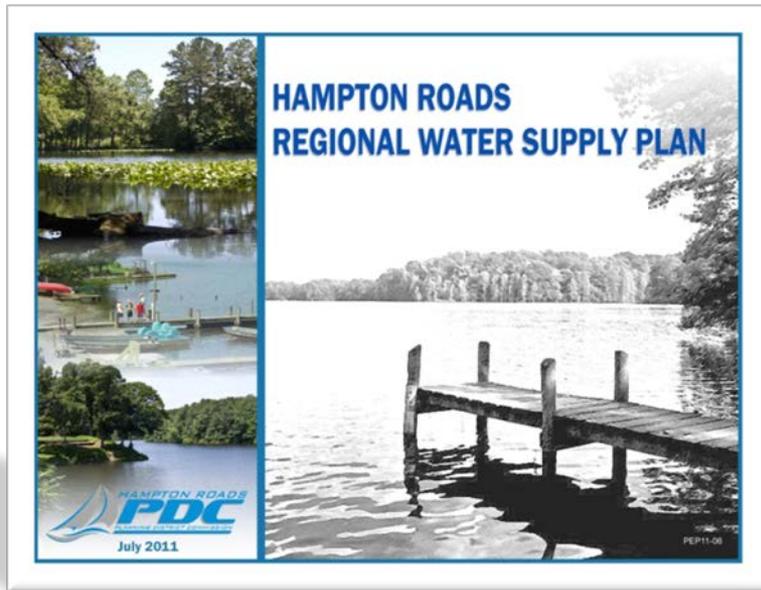
Hampton Roads Plan: Drought Response Management

Drought Stage	Local Government Action
Stage I: Drought Watch moderate but limited supplies of water are available	Increased public awareness and request voluntary water conservation.
Stage II: Drought Warning very limited supplies of water are available	More stringent mandatory water conservation and restricts or limits certain actions.
Stage III: Drought Emergency critically limited supplies of water are available	Combination of mandatory water use restrictions, rate increases and water allotments, as defined by the locality.
Stage IV: Extreme Drought Emergency only crucial supplies of water are available	Further tightening of water restrictions and additional rate increases to quickly and significantly reduce water demand.

Most common restricted water uses are:

1. Watering of shrubbery, trees, lawns, grass, plants, or other vegetation.
2. Washing of automobiles, trucks, or trailers excepting in facilities operating with an approved water recycling system.
3. Washing of streets, driveways, parking lots, service station aprons, office buildings or other outdoor surfaces.
4. Operation of any ornamental fountain or other structure making similar use of water.
5. Filling or refilling of swimming or wading pools after the effective date of the order.
6. The use of water from fire hydrants for any purpose other than fire suppression or essential public purposes.
7. The serving of drinking water in restaurants, cafeterias or other food establishments unless requested by the individual.

Requirements for Local Approval Process



- ✓ **Locality resolution approving the plan** from each town, city, and county party to the plan.
- ✓ **Record of the local public hearing** including copies of all written comments and locality responses to comments.

Send the resolution and record of local public hearing to HRPDC by September 30, 2011.

HRPDC will package all locality documents and submit the regional plan to DEQ by November 2, 2011 deadline.

State Approval Process & State Water Supply Plan

- State Water Control Board has not established a process or criteria to evaluate the local and regional water supply plans.
- DEQ will develop a State Water Supply Plan based on the local and regional plans. The content and format have not been determined.
- DEQ is leading the advisory committee that is developing recommendations for evaluation of local and regional plans and content of State Plan. HRPDC is participating on the advisory committee.

Recommended Action

Recommended Action:

- 1) Accept the Plan as meeting the requirement of the HRPDC Unified Planning Work Program.
- 2) Distribute the Hampton Roads Regional Water Supply Plan to local governments for adoption.

Next Step:

HRPDC staff will collect resolutions and comments from localities and submit regional water supply plan to DEQ by November 2nd deadline.