

# Responding to Washington's 2007 Floods A Case Study

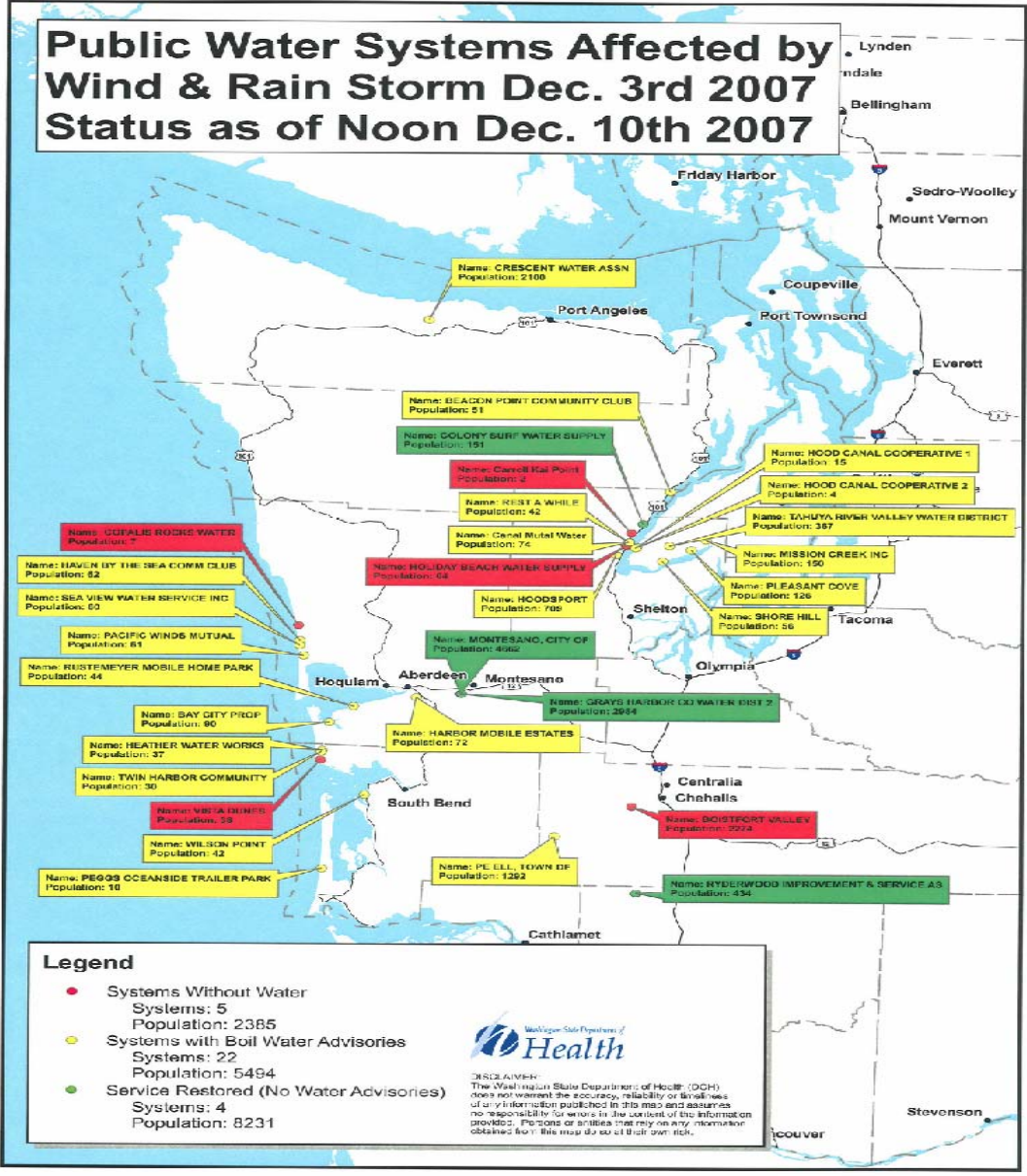
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**Washington Dept. of Health Office of  
Drinking Water**



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

# Public Water Systems Affected by Wind & Rain Storm Dec. 3rd 2007 Status as of Noon Dec. 10th 2007



# Effects of the Storm

- 🔹 **Heavy rains**
- 🔹 **Flooding**
- 🔹 **Landslides**
- 🔹 **High winds**
- 🔹 **Major road closures**

# Effects of the Storm

- 💧 **Extensive damage to:**
  - **Homes**
  - **Businesses**
  - **Public utilities (such as water)**
  - **Public facilities**
  - **Infrastructure**

# Public Emergency Declared

- 💧 **Governor Christine Gregoire proclaimed a State of Emergency for Washington**
- 💧 **Local emergency declaration in several counties**

# Chronology of Events

## 💧 Monday (12/3/07)

- DOH gathers list of affected water systems
- Water systems calling DOH
- I-5 closed in the afternoon

## 💧 Tuesday (12/4/07)

- More calls from systems
- DOH started issuing health advisories
- Began to contact vulnerable systems
- Developed better list of impacted systems







# Boistfort Valley Water

- 💧 **Small Non-Profit Water Association**
- 💧 **~850 connections**
  - **Mostly residential**
  - **Some dairies and schools**
- 💧 **Water source = surface water only**
- 💧 **Both surface water treatment plants are in the flood plain, as is much of the distribution system**

# Boistfort Valley Water

- Both treatment plant intakes were damaged
- Neither treatment plant was useable
- Key distribution lines were washed away or destroyed
- Pumps, motors, treatment equipment were all damaged
- No drinking water for days





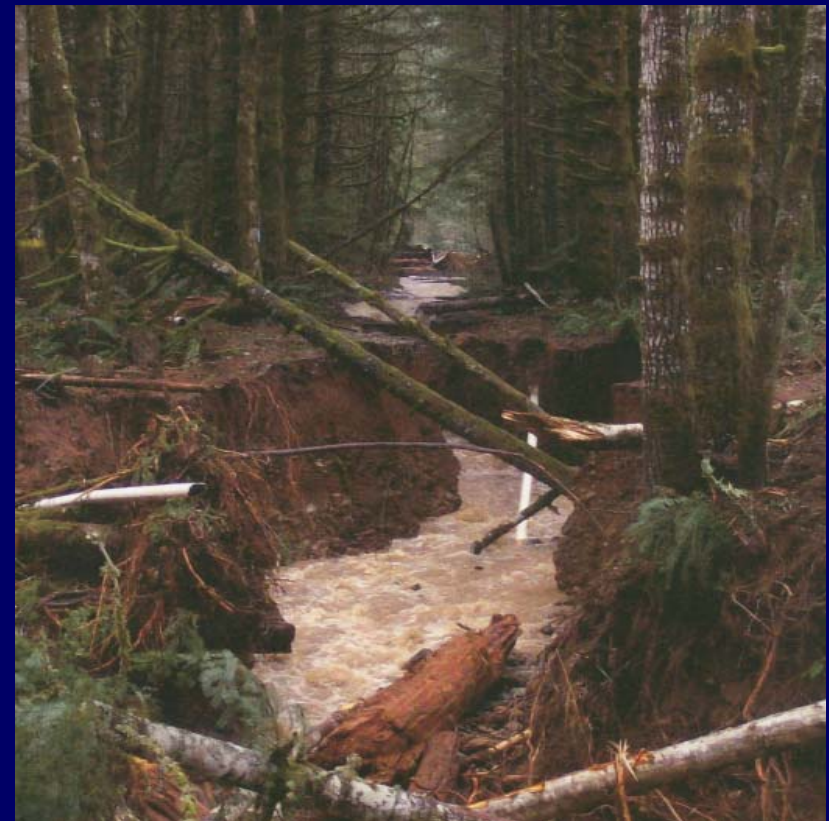
# Boistfort – Little Mill Creek Intake



# Boistfort – Pedestrian Bridge



# Boistfort – Access Road and Little Mill Creek Transmission Main



# Flood Aftermath for Boistfort

- **Temporary emergency repairs made (used entire \$350,000 cash reserve)**
- **Boil water advisory indefinitely (\$3,000 per week for bottled water)**
- **Insurance only covered some costs (not bottled water)**
- **Permanent repairs would cost over a million dollars**
- **Bare bones staff stressed to the point of almost quitting**

# Emergency Funding Alternatives

- 💧 **FEMA**
- 💧 **CDBG Imminent Threat Grant**
- 💧 **PWTF Emergency Loan**
- 💧 **USDA Rural Development**
  - **Emergency Community Water Assistance Grants (ECWAG)**

# DWSRF Assistance Provided

- ◆ **Washington DWSRF program doesn't yet include emergency loans**
- ◆ **Provided technical assistance to:**
  - **seek funding for permanent repairs**
  - **write grant applications**
- ◆ **Helped facilitate coordination among funding agencies**
- ◆ **Working with water system to get them out of the floodplain:**
  - **DWSRF set-asides may be used for feasibility study**
  - **Seeking other future funding**

# Funding Boistfort Has Received

- 💧 Private insurance helped to cover emergency repairs to one treatment plant
- 💧 FEMA Grants- \$563,000  
(75% of \$750,000 allowable costs)
- 💧 CDBG Imminent Threat Grant - \$285,000  
(helped cover bottled water)
- 💧 USDA Rural Development Emergency Community Water Assistance Grant = \$352,000

# Emergency Considerations

- 💧 **Water systems are in “panic” mode**
- 💧 **Operating staff are stretched to the limit:**
  - **Most operators wear several hats**
  - **Dealing with angry or scared customers**
- 💧 **Small water systems need extra help to:**
  - **Manage the media and the message**
  - **Facilitate funding**
  - **Follow up on next steps (ie: getting out of the floodplain, emergency preparedness)**

# Lessons Learned

- 💧 **Small DWSRF emergency loan program for the future**
- 💧 **Need to provide technical assistance on funding right away – don't wait**
- 💧 **Small systems need extra help and hand-holding**
- 💧 **Partnerships are critical for success**

# For more information:

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# Questions?



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**HEALTHIER WASHINGTON**