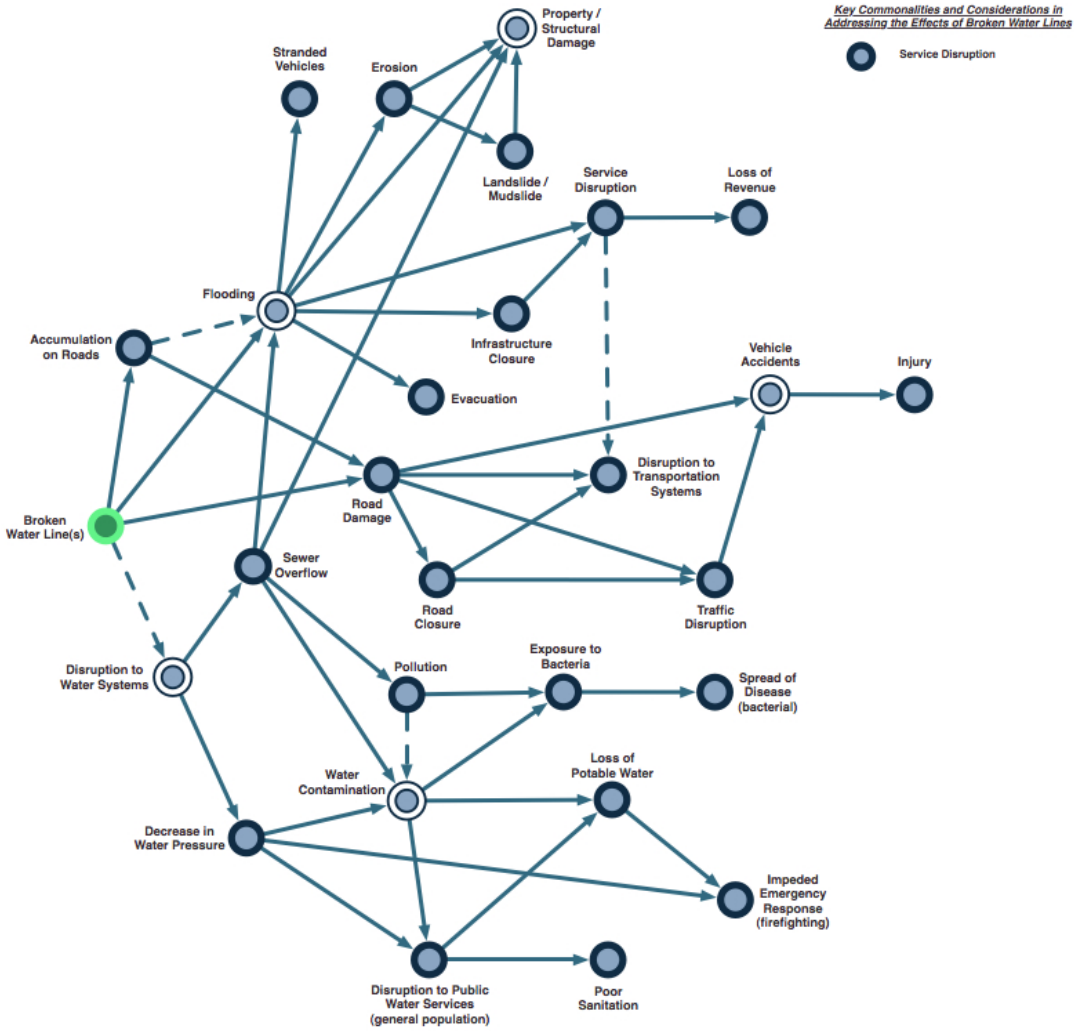
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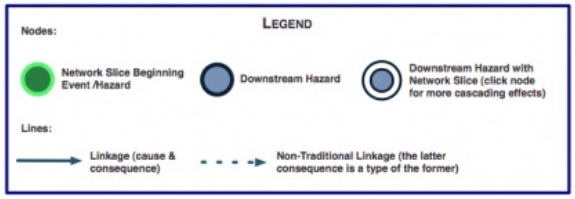
FEMA | The Full-Spectrum Risk Knowledgebase

Broken Water Lines Hazard Network

From The Full-Spectrum Risk Knowledgebase



NOTE: As with all hazard network slices included in The Knowledgebase, the above slice is a working draft and may be updated.



Included in the upper right corner of the hazard network are key commonalities and considerations that users should keep in mind when looking at the network. This list is not exhaustive, but highlights issues of importance as related to the effects of broken water lines.

For added reference, a version of the Broken Water Lines Hazard Network that offers color-coding to indicate causal relationships that may impact Public Health and Safety (including loss of life) and Mission Disruption is available for viewing.

Examples of historical events related to broken water lines and the downstream hazards above may be found in the Historical Events section of The Knowledgebase and in individual event/hazard descriptions.

Narrative Description of the Hazard Network

Below is a list of the hazards and outcomes caused by a broken water line as depicted in the above network slice. Complementing this narrative description is a list of all Linkages pages found on the Broken Water Lines Hazard Network.

- Accumulation on Roads (which may cause)
  - Flooding, which may be synonymous with Accumulation on Roads (which may lead to) *(see also the Flooding Hazard Network)*
    - Stranded Vehicles
    - Erosion (which may result in) *(see also the Erosion Hazard Network)*
      - Property/Structural Damage *(see also the Property/Structural Damage Hazard Network)*
      - Landslide (which may cause)
        - Property/Structural Damage
    - Property/Structural Damage *(see also the Property/Structural Damage Hazard Network)*
    - Service Disruption (which may result in)
      - Loss of Revenue
      - Disruption to Transportation Systems, a type of Service Disruption *(see also the Disruption to Transportation Systems Hazard Network)*
    - Infrastructure Closure (which may result in)
      - Service Disruption (which may cause hazards as previously listed, including Loss of Revenue and Disruption to Transportation Systems, among others)
    - Evacuation
  - Road Damage (which may lead to)
    - Vehicle Accidents (which may result in) *(see also the Vehicle Accident Hazard Network)*
      - Injury
    - Disruption to Transportation Systems *(see also the Disruption to Transportation Systems Hazard Network)*
    - Traffic Disruption (which may result in)
      - Vehicle Accidents (which may cause) *(see also the Vehicle Accident Hazard Network)*
        - Injury
    - Road Closure (which may result in)
      - Disruption to Transportation Systems *(see also the Disruption to Transportation Systems Hazard Network)*
      - Traffic Disruption (which may cause hazards as previously listed, including Vehicle Accidents and Injury, among others)

- Flooding, which may be synonymous with Accumulation on Roads (which may cause) *(see also the Flooding Hazard Network)*
  - Stranded Vehicles
  - Erosion (which may lead to) *(see also the Erosion Hazard Network)*
    - Property/Structural Damage *(see also the Property/Structural Damage Hazard Network)*
    - Landslide (which may result in)
      - Property/Structural Damage
  - Property/Structural Damage *(see also the Property/Structural Damage Hazard Network)*
  - Service Disruption (which may lead to)
    - Loss of Revenue
    - Disruption to Transportation Systems, a type of Service Disruption *(see also the Disruption to Transportation Systems Hazard Network)*
  - Infrastructure Closure (which may lead to)
    - Service Disruption (which may result in hazards as previously listed, including Loss of Revenue and Disruption to Transportation Systems, among others)
  - Evacuation

- Road Damage (which may cause hazards as previously listed, including Vehicle Accidents, Disruption to Transportation Systems, Traffic Disruption, and Road Closure, among others)

- Disruption to Water Systems, of which Broken Water Lines is a type (which may cause) *(see also the Disruption to Water Systems Hazard Network)*
  - Sewer Overflow (which may lead to)
    - Flooding (which may result in hazards previously listed, including Stranded Vehicles, Erosion, Property/Structural Damage, Service Disruption, Infrastructure Closure, and Evacuation, among others) *(see also the Flooding Hazard Network)*
    - Property/Structural Damage *(see also the Property/Structural Damage Hazard Network)*
    - Pollution (which may result in)
      - Exposure to Bacteria (which may cause)
        - Spread of Disease (bacterial)
      - Water Contamination, a type of Pollution (which may cause) *(see also the Water Contamination Hazard Network)*
        - Exposure to Bacteria (which may lead to)
          - Spread of Disease (bacterial)
        - Loss of Potable Water (which may lead to)
          - Impeded Emergency Response (firefighting)
        - Disruption to Public Water Services (general population) (which may lead to)
          - Loss of Potable Water (which may result in)
            - Impeded Emergency Response (firefighting)
          - Poor Sanitation

    - Water Contamination (which may result in hazards previously listed, including Exposure to Bacteria, Loss of Potable Water, and Disruption to Public Water Services (general population), among others) *(see also the Water Contamination Hazard Network)*
- Decrease in Water Pressure (which may lead to)
    - Water Contamination (which may result in hazards previously listed, including Exposure to Bacteria, Loss of Potable Water, and Disruption to Public Water Services (general population), among others) *(see also the Water Contamination Hazard Network)*
    - Impeded Emergency Response (firefighting)
    - Disruption to Public Water Services (general population) (which may cause hazards previously listed, including Loss of Potable Water and Poor Sanitation, among others)

Key Commonalities and Considerations

As noted above, included in the upper right corner of the hazard network are key commonalities and considerations that users should keep in mind when looking at the network. This list is not exhaustive, but highlights issues of importance as related to the effects of a broken water line. These issues include:

Downstream Hazards

- Service Disruption

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