

# Welcome



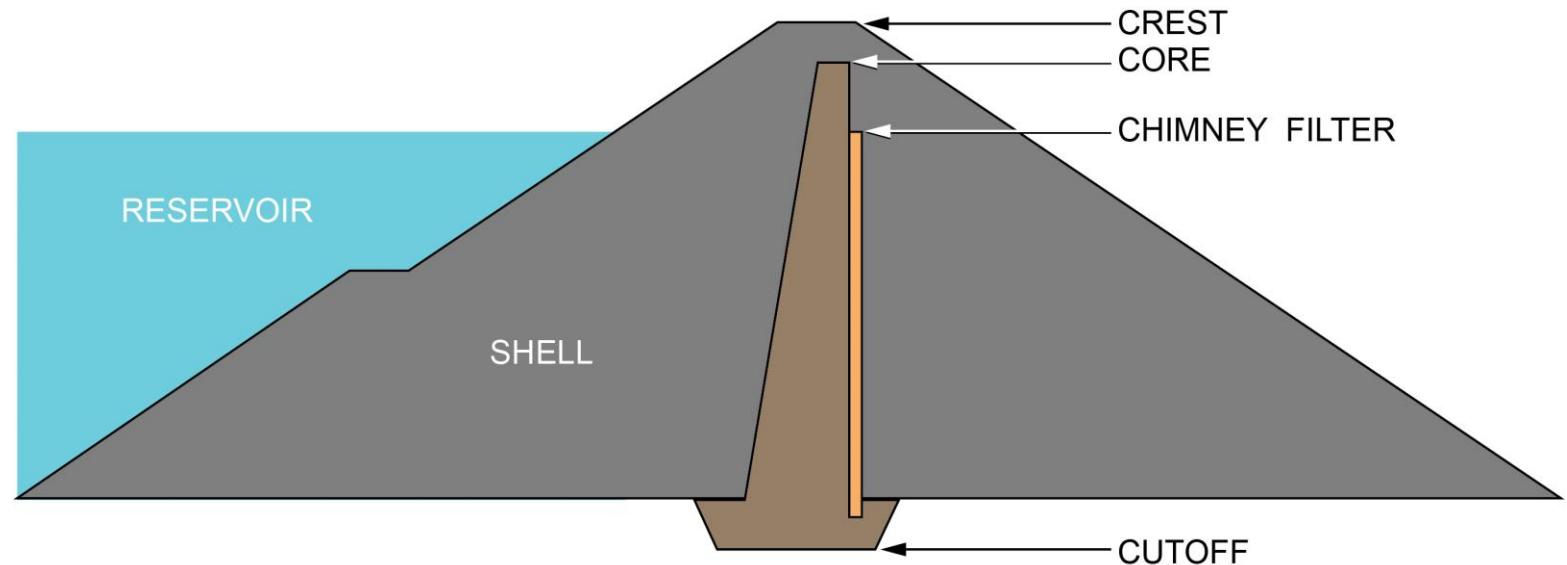
## PINEY RUN WATERSHED STUDY Public Meeting

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February 25, 2020

# Piney Run Dam

- Completed 1974
- Zoned earthen embankment dam
- 73 feet tall, 600 feet long
- 10.6 square mile watershed
- Reservoir Capacity:
  - 290 Acres, 54 foot maximum depth
  - Normal Pool: 1.7 billion gallons
  - At Crest: 3.9 billion gallons
- High Hazard Designation



# Piney Run Dam



# Piney Run Dam Condition

- Inspected annually by County, State (MDE), and NRCS engineers
- Last inspection: November 5, 2019
- Good condition, well-maintained
- No findings in recent visual inspections that raise a safety concern

*Inspection of principal spillway riser*



# Study Drivers

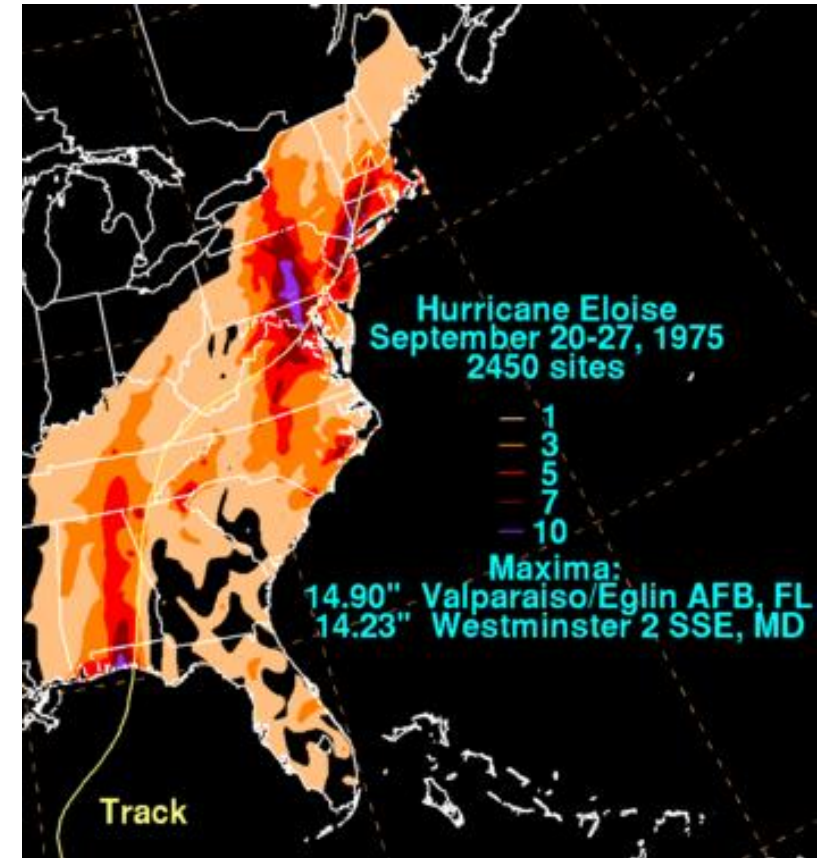
- Regulatory changes
  - Flood performance requirements
  - Auxiliary Spillway performance requirements
- Specific Regulatory Concerns
  - Auxiliary Spillway Capacity
  - Auxiliary Spillway Erodibility
- Current events – Oroville, California



*Auxiliary spillway*

# Spillway Capacity – What is the PMF?

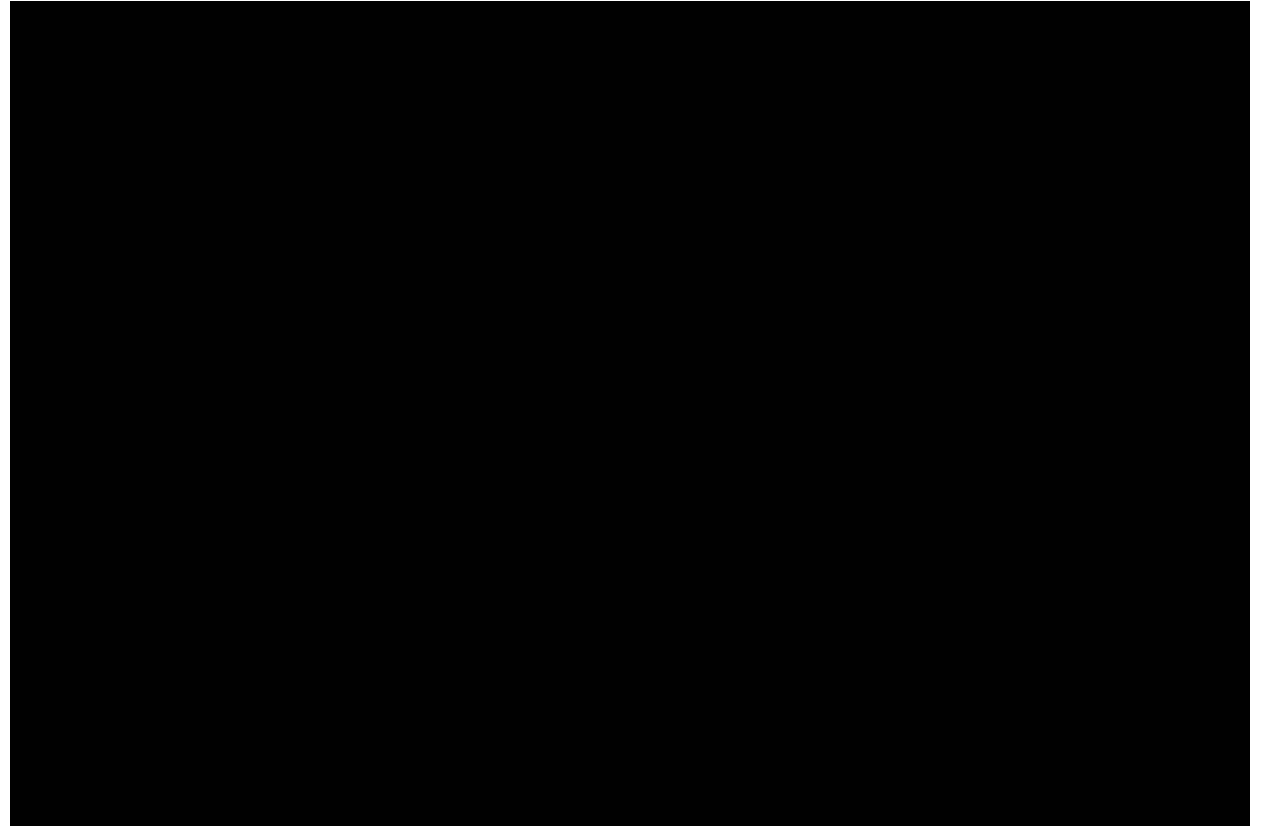
- Probable Maximum Flood: the flood expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in the watershed.
  - ~39 inches in 72 hours
  - Comparison:
    - Hurricane Eloise (1975): ~14.3 inches in 72 hours (Piney Run in service for less than one year)
    - Ellicott City (2016): ~6.6 inches in 2 hours
    - Hurricane Harvey - TX (2017): ~50 inches in 6 days



Storm rainfall totals during Hurricane Eloise, 1975  
(courtesy: NOAA)

# Spillway Capacity – Why the PMF?

- PMF is the required design event for both the state of Maryland and NRCS for a high hazard dam's spillway.
- Inability of the spillway to pass the design event could lead to overtopping of the dam and subsequent failure.
- Overtopping accounts for 1/3 of all dam failures in the United States.



*Courtesy: Association of State Dam Safety Officials and Ohio Dept. of Natural Resources*



# Spillway Erodibility

- Auxiliary spillway constructed on highly weathered rock.
- Forces on the spillway during the PMF are potentially enough to erode the weathered rock.
- Erosion the spillway could lead to a failure



*Black Creek Site 53 (MS) failure from spillway erosion in 1983 (courtesy: NRCS)*



# Study Opportunities

- Fully-funded by the NRCS
- Fresh look at entire dam and reservoir system
- Uses
  - Flood-control
  - Recreation
  - Water supply
- Components
  - Dam
  - Spillway
  - Reservoir
  - Environment



*Piney Run auxiliary spillway during Hurricane Eloise (1975)*



*Principal spillway outlet during Hurricane Eloise (1975)*

# Scope

- Phase I - Field and office investigations
  - Inspections, Modeling, Analyses
  - Purpose and Need
- Phase II - Development and evaluation of alternatives
- Phase III - Watershed Plan/Environmental Assessment



*Inspection of Piney Run water supply conduit rate control vault.*

# Timeline

## Piney Run Watershed Study Project Timeline



Opportunity for Public Input



# Deliverables

- Phase I
  - Investigation and Analysis Reports
  - Purpose and Need Statement
- Phase II
  - Alternatives Analysis
  - Concept Plan for Preferred Alternative
- Phase III
  - Watershed Plan/EA document

## Study Investigations

- Dam Inspections
- Topographic Survey
- Sedimentation Survey
- Geologic/Geotechnical Investigations
- Environmental and Cultural Investigations
- Hydrologic and Hydraulic Analyses



# Submit Your Input

- Complete a comment card and leave it with us this evening
- Submit comments via e-mail to [pineyrunstudy@carrollcountymd.gov](mailto:pineyrunstudy@carrollcountymd.gov)
- Mail comments to:  
Bureau of Resource Management  
225 North Center Street  
Westminster, MD 21157

For project updates, visit the website at  
[carrollcountymd.gov/pineyrunwatershedstudy](http://carrollcountymd.gov/pineyrunwatershedstudy)

