

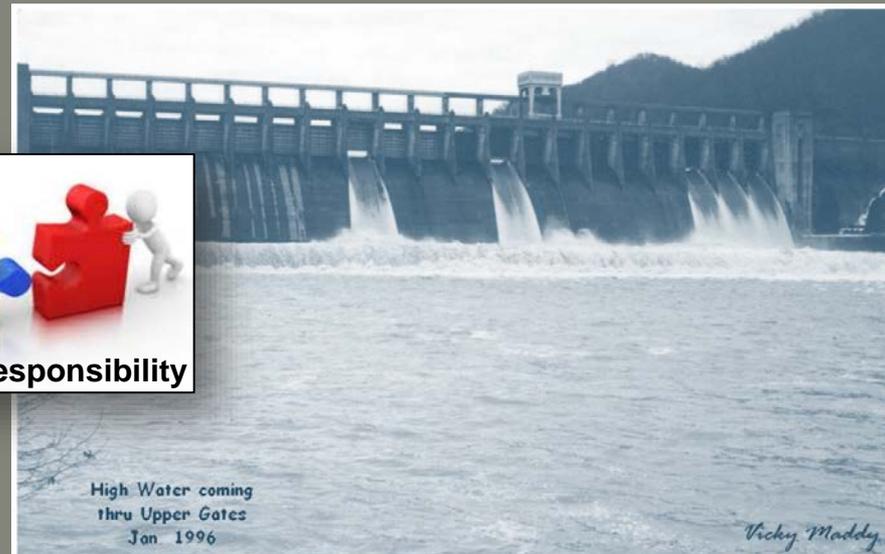
# BLUESTONE DAM

## FLOOD RISK & RESPONSIBILITY

NATIONAL INVENTORY OF DAMS ID: WV08902



**A Shared Responsibility**



Updated 29 Jan 2019

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*"The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."*



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# WHERE IN THE WORLD IS BLUESTONE?



Bluestone Dam



Kanawha Basin

- Bluestone Dam is on the New River, just upstream of the Greenbrier River.
- Bluestone Dam controls a watershed nearly the size of Connecticut
- The New River is renamed the Kanawha River at Gauley Bridge, WV.
- Bluestone works with Summersville & Sutton Dams to reduce flood risk along the New & Kanawha River valleys all the way to Point Pleasant and down the Ohio River.
- ½ the water that passes Charleston, WV comes through Bluestone Dam.

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# WHAT IS BLUESTONE DAM?



- Bluestone Dam is a Straight Concrete Gravity Dam
- Bluestone Dam is approximately 165 feet high
- Bluestone Dam is nearly ½ mile long
- Bluestone Dam impounds an 11 mile long lake on the New River

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# WHERE DOES BLUESTONE DAM REDUCE FLOOD RISK?

**\$5.9B Cumulative Damages Prevented Though-out the New & Kanawha River Valleys**

Hinton to Montgomery to Industry



Charleston to John Amos to Pt. Pleasant



**And beyond on the Ohio River..**

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# BLUESTONE DAM DOES NOT ELIMINATE FLOOD RISK

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- If you live in a river valley:
  - Your life and property are at risk from flooding
  - Regardless if you live downstream of a dam
- A dam reduces flood risks; a dam doesn't eliminate flood risks
- Extreme storms can exceed Bluestone Dam's ability to slow storm waters and reduce flood risk
- Storms occur downstream of Bluestone Dam that cause floods risks

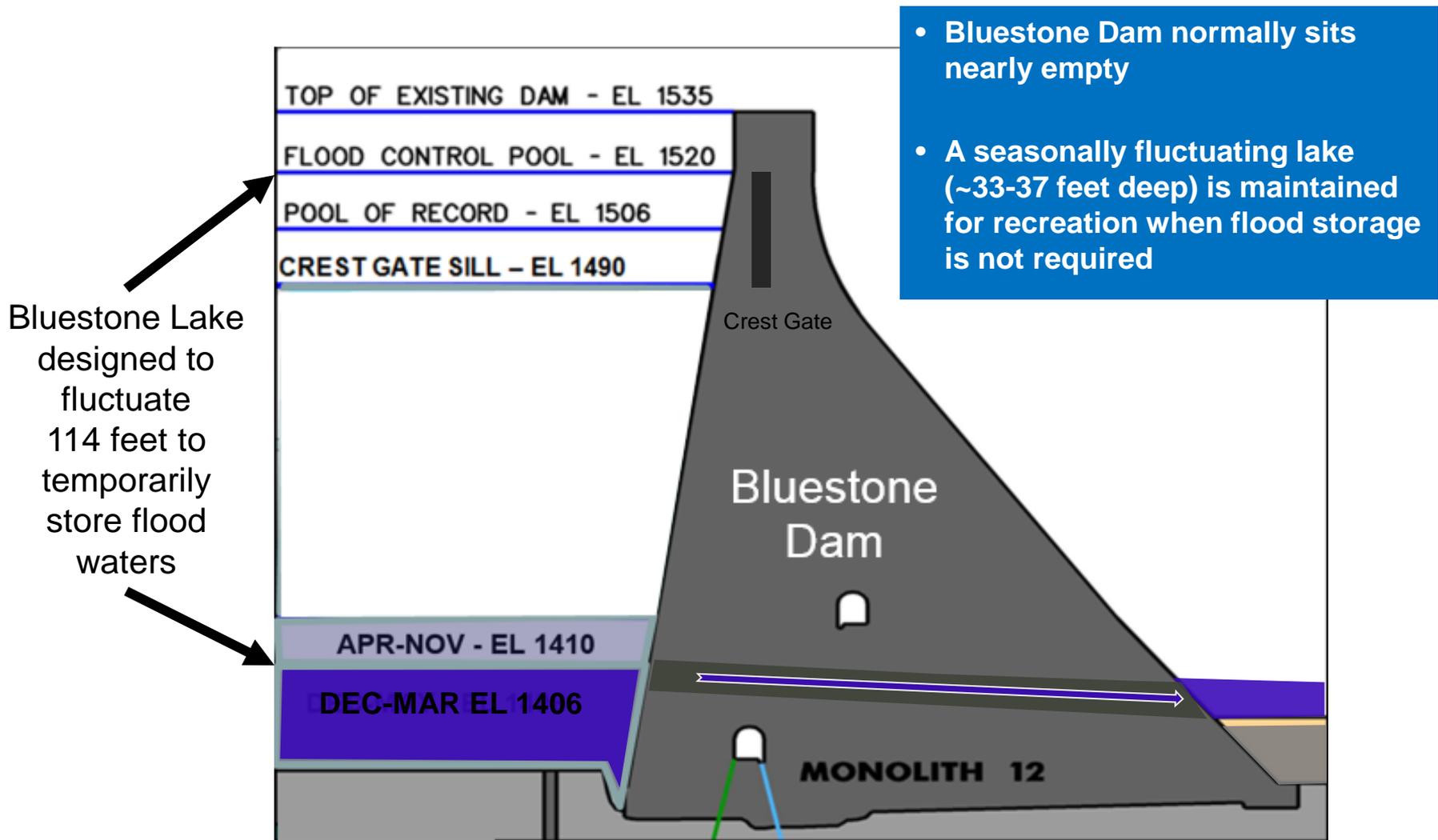
*"You can't argue with a river, it is going to flow.*

*You can dam it up, put it to useful purposes, deflect it, but you can't argue with it."*

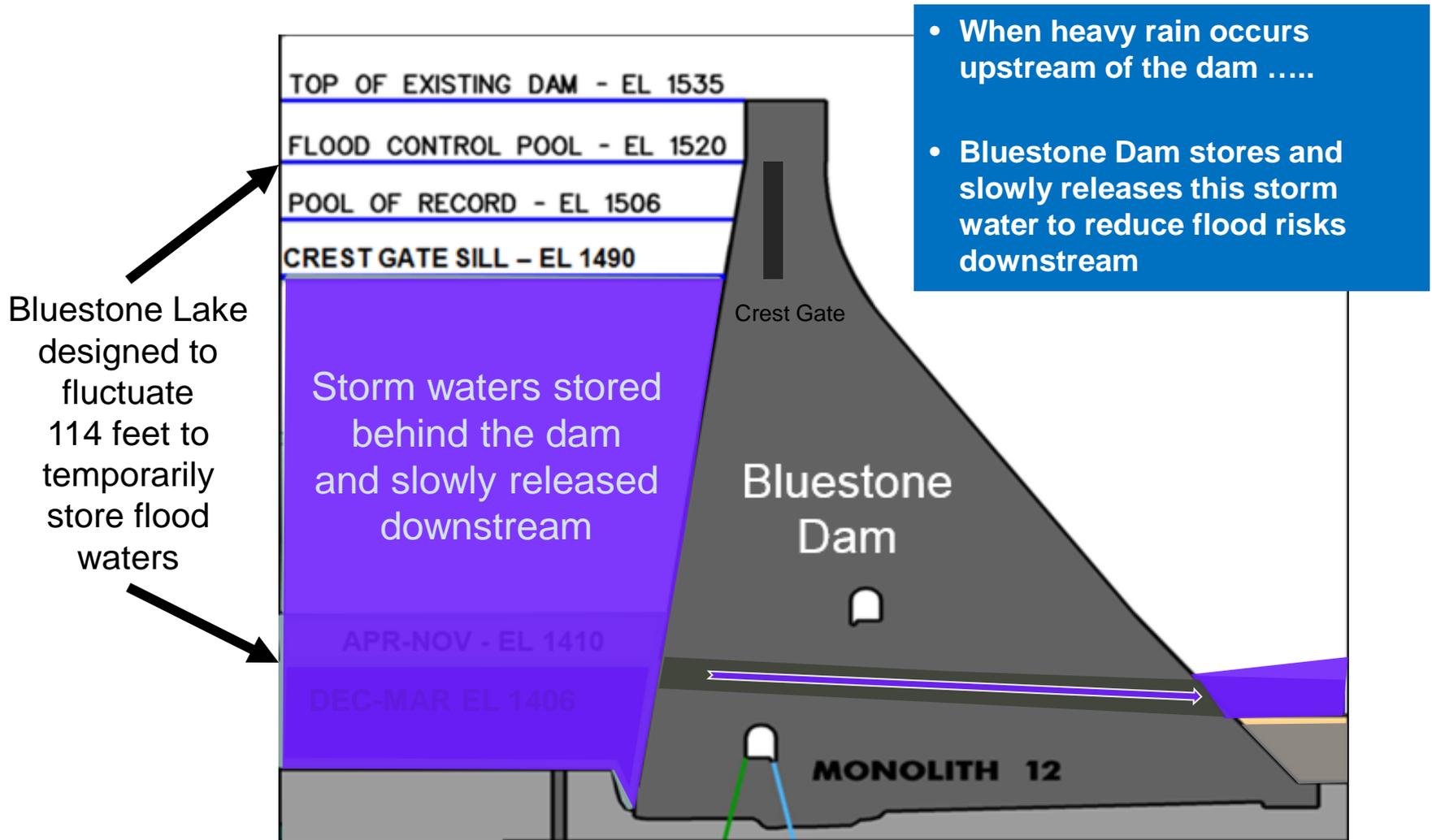
Attributed to: Dean Gooderham Acheson, U.S. Secretary of State (1949-1953)



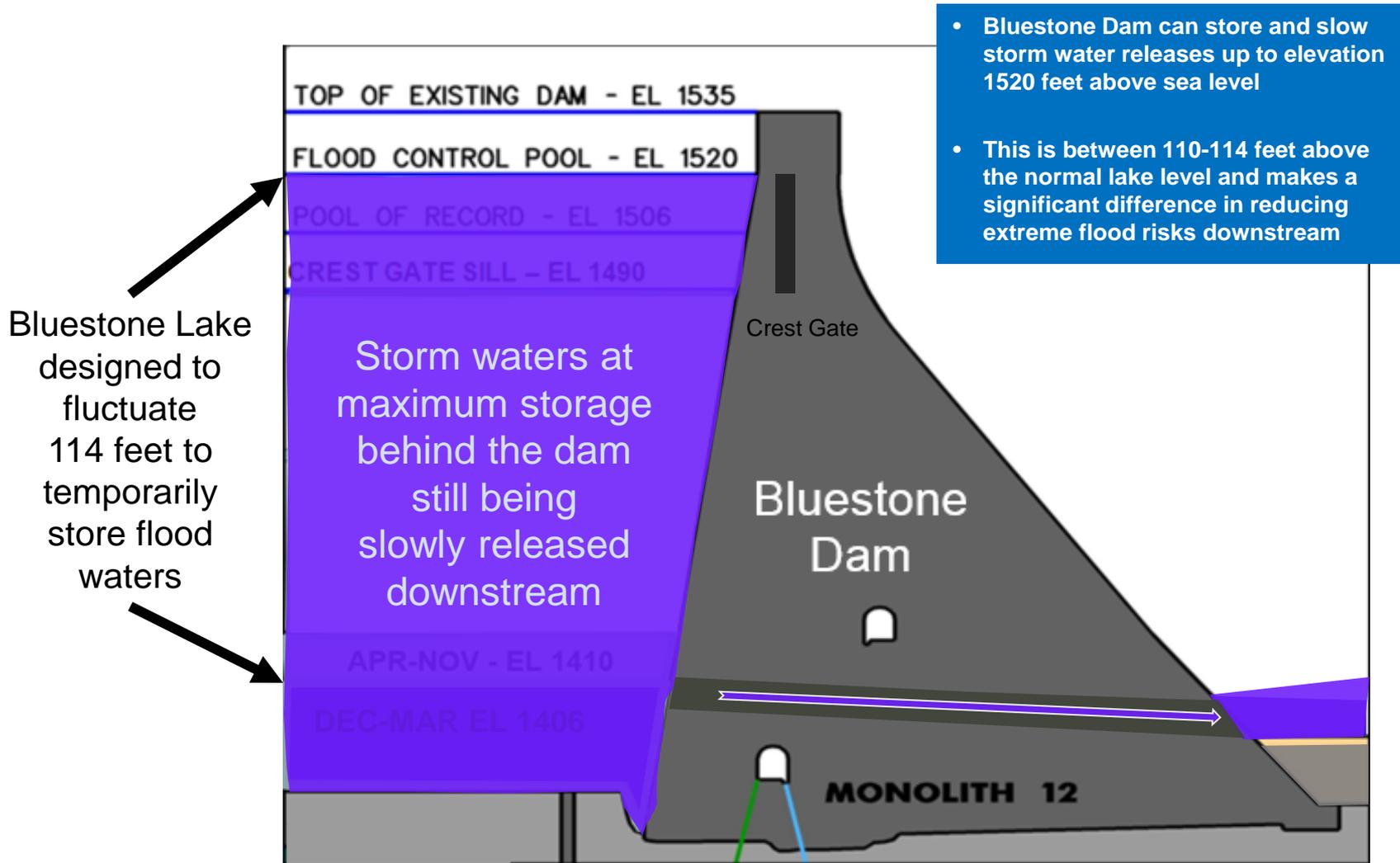
# HOW DOES BLUESTONE DAM WORK?



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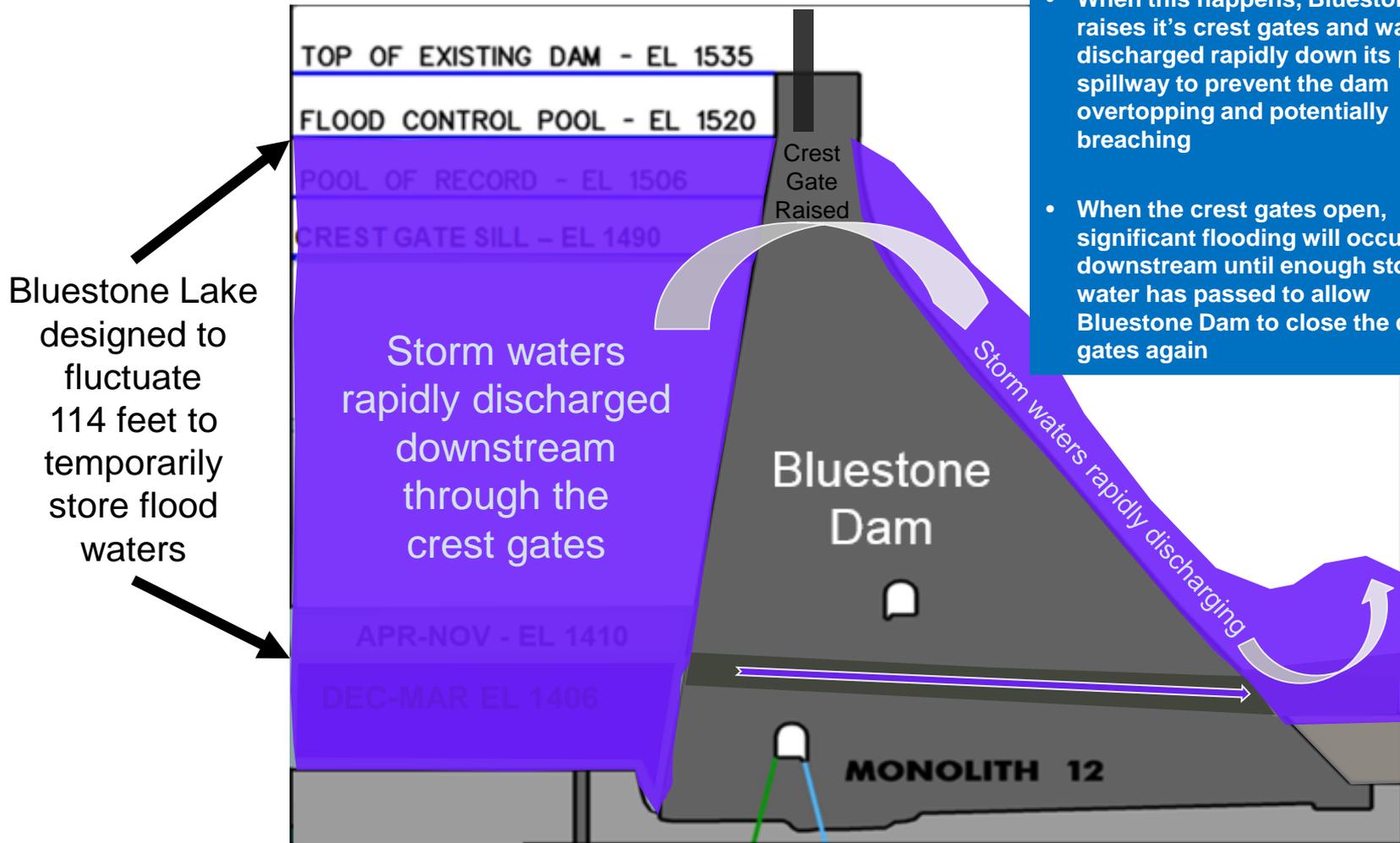


# HOW DOES BLUESTONE DAM WORK?



# HOW DOES BLUESTONE DAM WORK?

- Extreme storms can exceed elevation 1520 feet above sea level
- When this happens, Bluestone Dam raises its crest gates and water is discharged rapidly down its primary spillway to prevent the dam overtopping and potentially breaching
- When the crest gates open, significant flooding will occur downstream until enough storm water has passed to allow Bluestone Dam to close the crest gates again



# BLUESTONE DAM DISCHARGES TO DATE

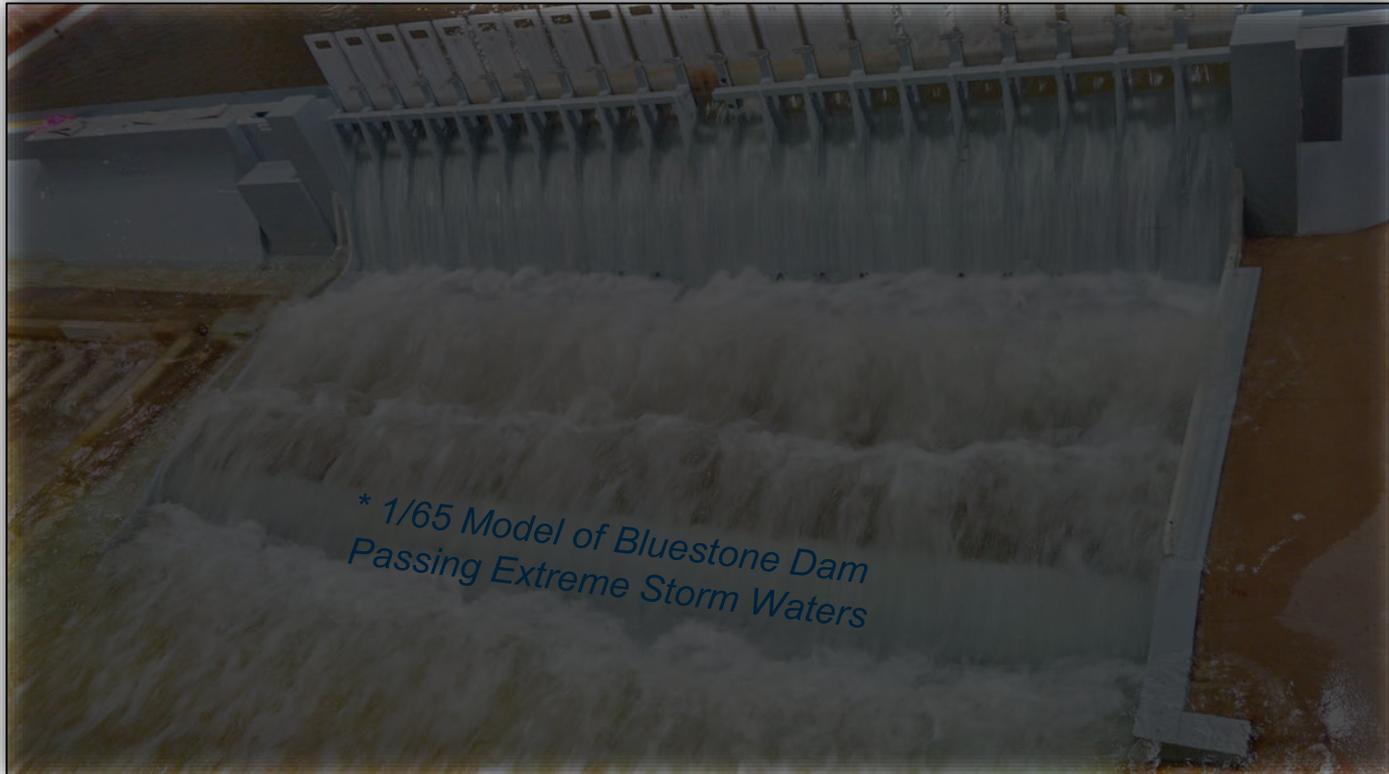


Crest Gates Raising

- To date: Bluestone Dam has only released 60,000 cubic feet per second
- The first control point downstream of Bluestone is 90,000 cubic feet per second
- A cubic foot is about the size of an average beach ball

# BLUESTONE DAM EXTREME DISCHARGES

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- Bluestone Dam may have to pass extreme storm waters
- Passing extreme storm waters will cause significant flooding hillside to hillside in the New & Kanawha River valleys all the way to the Ohio River.
- Water could be 10 or more feet deep through Charleston to Point Pleasant, WV



# RISKS & RESPONSIBILITY

## WHAT CAN YOU DO?

### Reduce Your Risks:

- Encourage Officials to Plan, Plan, Plan, Plan:
  - Install Flood Warning and Alert Systems
  - Have Evacuation Plans with Clear Instructions:
    - Different risks than from a chemical spill
    - Conduct regular emergency drills & exercises
  - Post-flood relief, care and recovery
- Protect Your Life: Evacuate & Avoid Flood Waters
- Protect Your Property: Purchase flood insurance
- Visit [FloodSmart.gov](http://FloodSmart.gov) for more information on what citizens can do



# RISKS & RESPONSIBILITY

## WHAT DOES USACE DO?



- **Operates, Monitors & Communicates:**

- Ensures the dam is maintained and prepared for the next storm
- Provides tools to help emergency planners prepare for flood impacts
- Coordinates closely with federal and state partners as early as possible to model and predict potential flood events to provide advanced warning for emergency action

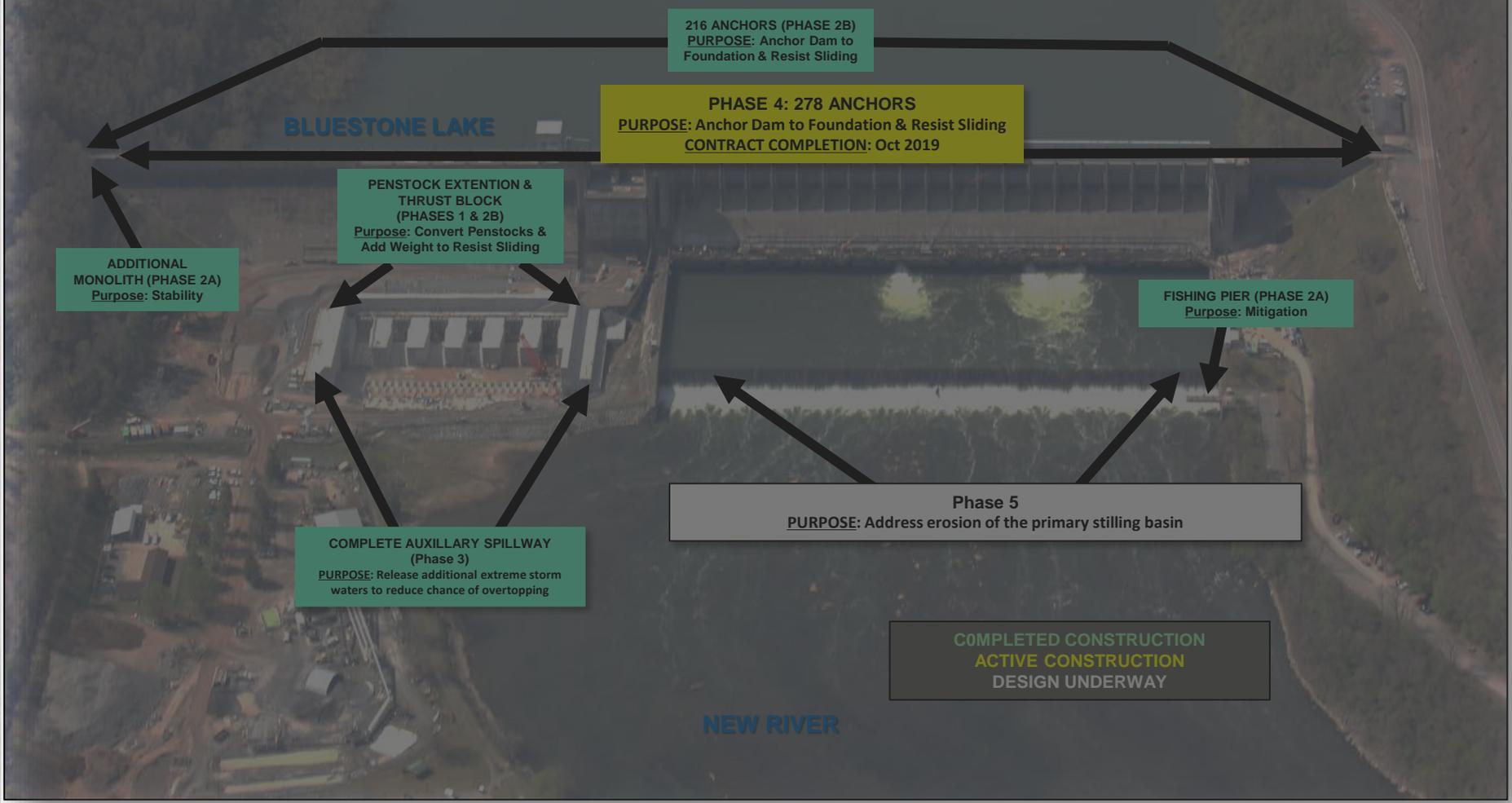
- **Significant Infrastructure Investments To Address:**

- Since 2000, the US Army Corps of Engineers has worked to increase the stability of Bluestone Dam with significant investments to improve it's reliability for future generations



# BLUESTONE DAM: DAM SAFETY ASSURANCE PROJECT 2000-PRESENT

Significant Investment to Reduce Risks of Breach



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# HOW ELSE CAN THE CORPS PROVIDE ASSISTANCE?

## *VARIOUS PROGRAMS AND AUTHORITIES*

### Traditional Civil Works Project:

- New congressional authorization to implement a project to reduce flood risks

### Continuing Authorities Program (CAP)

- Existing authorities to construct certain types of smaller water resource and ecosystem restoration projects without additional or specific congressional authorization

### Planning Assistance to States (PAS – Section 22)

- Technical assistance to support state comprehensive water and related land resource development plans

### Floodplain Management Services (FPMS)

- Information, technical planning assistance, and guidance in identifying the magnitude and extent of flood hazards and planning appropriate use of the floodplains

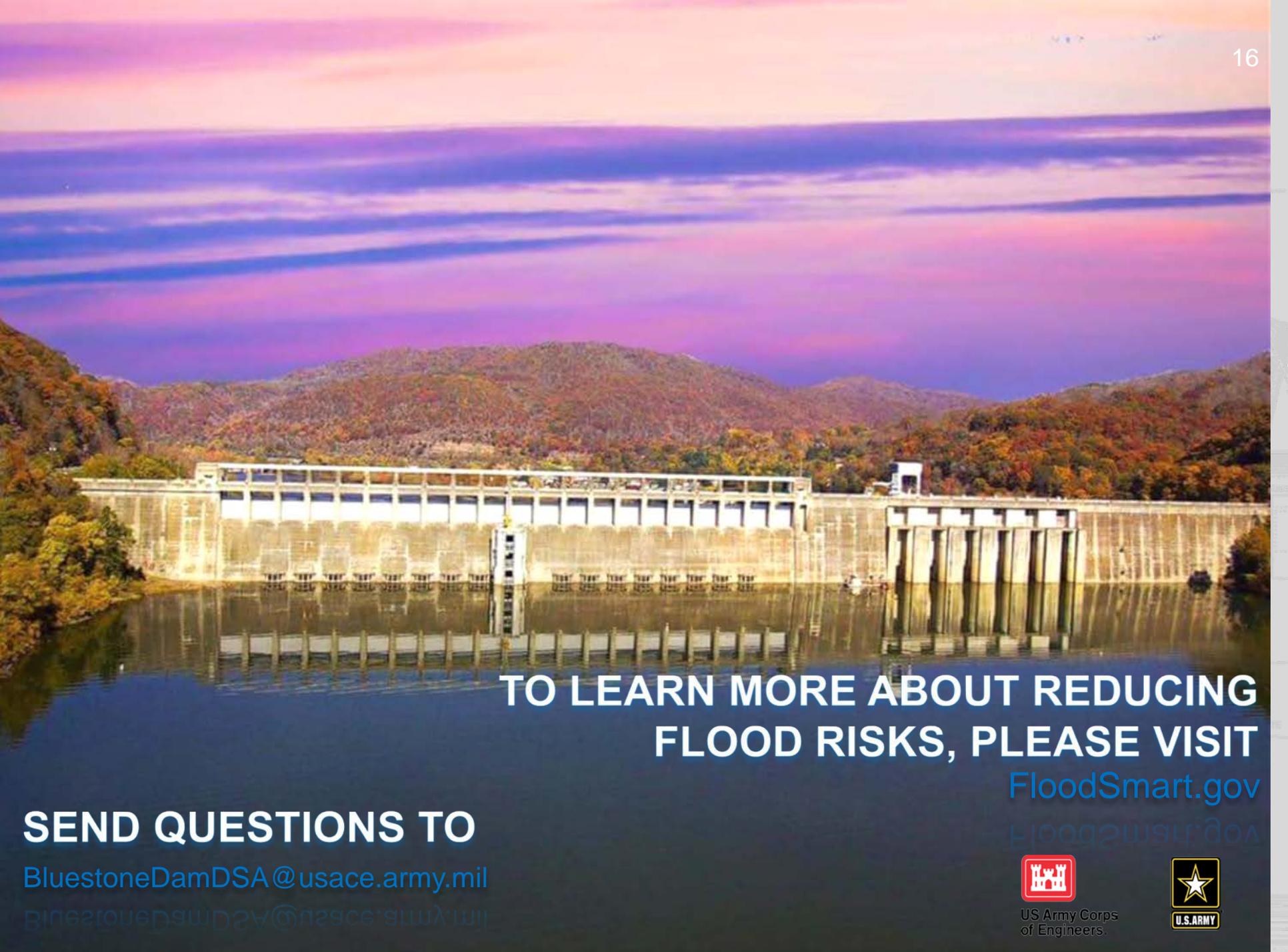
### Watershed Planning (Section 729)

- Watershed planning addresses problems, needs, and opportunities within a watershed or regional context; strives to achieve integrated water resources management; and, results in general, non-project specific, holistic plans or strategies to address those watershed needs



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**TO LEARN MORE ABOUT REDUCING  
FLOOD RISKS, PLEASE VISIT**

[FloodSmart.gov](https://FloodSmart.gov)

**SEND QUESTIONS TO**

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