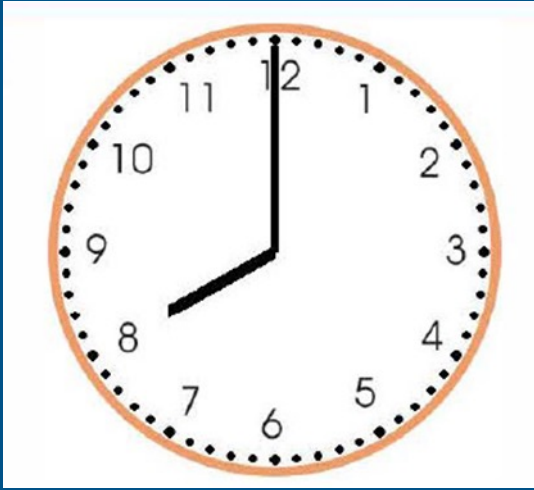


A Day in the Life of a Virginia Dam Safety Official – Mark Killgore, PE

National Dam Safety Program Technical Seminar | 2024



FEMA



First Cup of Coffee and a CTA Telecon

Virginia DCR and Virginia Department of Emergency Management participated in a six-month program with FEMA, emergency managers, dam owners, and municipal officials.

Agenda: What is Collaborative Technical Assistance (CTA)

- Participants engage in a facilitated planning process with community stakeholders to build relationships, develop plans, and collaborate with whole community partners to achieve the goal of increased preparedness to dam-related hazards
- FEMA and their contractors provide subject matter experts, as well as models, tools, and templates to foster the planning process
- Participants present on key aspects of their programs
- Successfully applied in Washington, California, Puerto Rico and other locations



FEMA

Content of the CTA Program for Albemarle/Charlottesville, VA

- Session 1: Communities with Dams: Threats, Hazards, and Risk
- Session 2: Aligning and Integrating Emergency Planning Documents
- Session 3: Risk and Crisis Communications
- Session 4: Dam Inundation Modeling: Informing Impact and Consequence Assessment
- Session 5: Evacuation and Shelter-in Place Concepts for Dam-related Incidents
- Session 6: Dam-incident Tabletop Exercise (TTX)



CTA Goals and Objectives

Goal: Increase Virginia’s state, regional, locality, and community preparedness for responding to dam-related emergencies through increased coordination and collaboration with participating jurisdictions, agencies, and organizations.

Objectives:

1. Leverage available resources, tools, and technology to bring together information to better understand the cumulative hazards, risks, and impacts due to a dam-related emergency (for regulated and known “unknown” dams; for single and multiple dams) within participating regions and localities. Use this information to inform preparedness, planning, mitigation, response, and recovery activities.
2. Better understand the specific roles and responsibilities of the various participating stakeholder groups (at the state and locality level) and build/strengthen relationships among participating stakeholders.



FEMA

CTA Goals and Objectives (2)

3. Create, or update, risk-informed emergency action plans (EAPs) for participating dams and incorporate dam incident planning (including alerts & warnings and evacuation/shelter-in-place) into locality emergency operation plans (EOPs) to support preparedness and response to a dam-related emergency.
4. Collaboratively develop an outreach and engagement strategy to:
 - Improve community awareness and preparedness related to dams and flood risk from dam-related emergencies, specifically leveraging existing VDCR materials and efforts.
 - Increase dam safety compliance by private dam owners through locality participation in the state's known "unknown" dam owner/operator Letter of Engagement campaign that promotes technical assistance and funding support.
5. Conduct an exercise to evaluate and identify areas of strength and areas of improvement in written emergency planning documents and to further enhance working relationships between and among participating stakeholders. Document findings in an After Action Report and create a continuous improvement plan to address areas of improvement.



Agenda: Some Takeaways from Collaborative Technical Assistance

- Added emphasis on evacuation plans and further clarification on best practices.
- Continued evaluation of impacts based on single dam breaks and dam breaks in series.
- Evaluation of geometry and dam break flood impacts from unknown dams and basic emergency plans for such dams
- More collaboration and preparation with federal, state and local officials, and dam owners
- Planning evacuations will need to consider concepts such as roadway capacity, characteristics of the evacuating population, and effective evacuation communications and could be annexes to future plans.
- Sharing Information with competent officials including unknown dams.



FEMA

Why Consider a CTA in Your Jurisdiction?

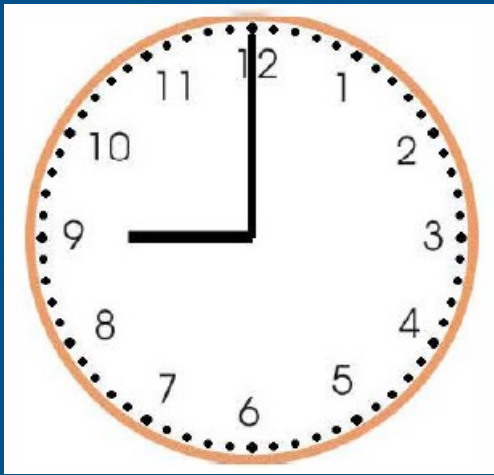


FEMA

CTA Stakeholders All Smiles After a Successful Tabletop Exercise



FEMA



Second Cup of Coffee and Dam Safety Toolbox Update

Colorado's Dam Safety Engineer Jeremy Franz rolls out the live version!

Fundamentals, Management, and Technical Topics





Welcome to the Association of State Dam Safety Officials (ASDSO) Dam Safety Toolbox! This website serves as a repository for current guidelines and recommendations related to dam safety. Website content is written collaboratively by volunteers and approved prior to publication by ASDSO's Dam Design and Construction Committee. Use the search bar above or click on a topic below to start learning! To ask a question or chat with dam safety professionals, please visit ASDSO's Collaborate platform.

Fundamentals

-  PURPOSES OF DAMS
-  TYPES OF DAMS
-  ANATOMY OF DAMS

Dam Safety Management

-  DAM SAFETY PROGRAMS
-  OPERATION & MAINTENANCE

Technical Topics







-  ENGINEERING
-  HYDROLOGY



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More Topics

-  SURVEILLANCE & MONITORING
-  RISK MANAGEMENT
-  PUBLIC SAFETY
-  SITE SECURITY
-  EMERGENCY MANAGEMENT
-  DAM DECOMMISSIONING

-  HYDRAULICS
-  GEOTECHNICAL & GEOLOGY
-  STRUCTURAL
-  SEISMIC
-  CONSTRUCTION
-  ENVIRONMENTAL

Navigate

- [Home](#)
- [About](#)
- [Contribute](#)
- [Best Practice Resources](#)
- [Other Resources](#)

Contact Us

Association of State Dam Safety Officials
239 S Limestone Street
Lexington, KY 40508
859-550-2788



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Synopsis for Each Topic



Log in

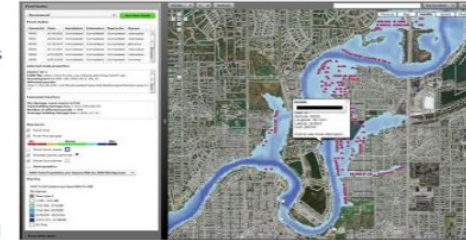
Dam Breach Inundation Analysis

[Home](#) > [Hydraulics](#) > Dam Breach Inundation Analysis

"Safety design includes studies to ascertain areas that would be flooded during occurrence of the design flood and in the event of dam failure. The areas downstream from the project should be evaluated to determine the needs for land acquisition, flood plain management, or other methods to prevent major damage. Information should be developed and documented suitable for releasing to downstream interests regarding remaining risks of flooding." [1]

"The selection of an appropriate model for computing a dam breach is dependent on the type of results needed, the level of effort that can be expended, and the potential for loss of life and economic damages that can result from a dam failure." [2]

"For dams in rural areas where the potential for loss of life is low, a tier 1 level study using simplified methods may be appropriate. For areas where a potential dam breach can result in the loss of life an intermediate tier 2 level or advanced tier 3 should be performed. The intermediate tier 2 level study may be used for areas where more detailed calculations are justified because of the potential for loss of life. Advanced tier 3 level studies may be needed to develop dam breach inundation zone mapping for urbanized areas and for unconfined floodplains." [2]



A flooding inundation map
(Image Source: USGS, 2019)

Required Data

- [Terrain Data](#)
- [Reservoir Data](#)
- [Breach Scenarios](#)



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Nitty Gritty DBIZ Aspects

Required Data

- [Terrain Data](#)
- [Reservoir Data](#)
- [Breach Scenarios](#)
- [Breach Parameters](#)
- [Land Roughness](#)

Types of Analyses

- [Hazard Potential Classification](#)
- [Consequence Analysis](#)
- [Incremental Damage Analysis](#)
- [Inundation Mapping](#)
- [Emergency Action Planning](#)

Best Practices Resources

- [Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures \(FEMA P-946\)](#), FEMA
- [Federal Guidelines for Dam Safety \(FEMA P-93\)](#), FEMA
- [Hydrologic Engineering Requirements for Reservoirs \(EM 1110-2-1420\)](#), USACE

Trainings

- ▣ [On-Demand Webinar: The State of the Practice and Future of Dam Breach Modeling](#)
- ▣ [On-Demand Webinar: WinDAM - Overtopping and Internal Erosion for Earthen Embankments](#)

Citations:

1. [Federal Guidelines for Dam Safety \(FEMA P-93\)](#), FEMA, 2004
2. [Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Dam Failures \(FEMA P-946\)](#), FEMA, 2013

Revision ID: 7332



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Four Essential Teams Keep the Toolbox Functioning

- Leadership Team
 - Overall Direction of Site
 - Prioritize Study Topics and Make Key Decisions & Course Corrections
 - Elevate Issues to ASDSO Staff
 - Settle Disputes
 - Periodic Overall Site Review
- Web Development Team
 - MediaWiki Updates
 - Application Extensions
 - Tools for SMEs and Moderators
 - Periodic Development Projects



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Four Essential Teams Keep the Toolbox Functioning (2)

- Curation Team
 - SMEs Have Mastery of Topic
 - SMEs Review Submitted Content
 - SMEs Ensure Technical Accuracy
 - SNE's Ensure Relevance

- Study Group Teams
 - Moderators - Typically Young Professionals
 - Moderators Help the SMEs Publish Content



FEMA

Agenda: Resources for Toolbox Contributors

- Formatting / Style Guide
- WikiText tips and tricks
- Guidelines and templates for Common Editing Tasks
- Fillable PDF contribution form
- Policies and Procedures Guide
- Media and Copyright Compliance
- Content Moderation Process
- Code of Conduct



What's Next in Improvements?

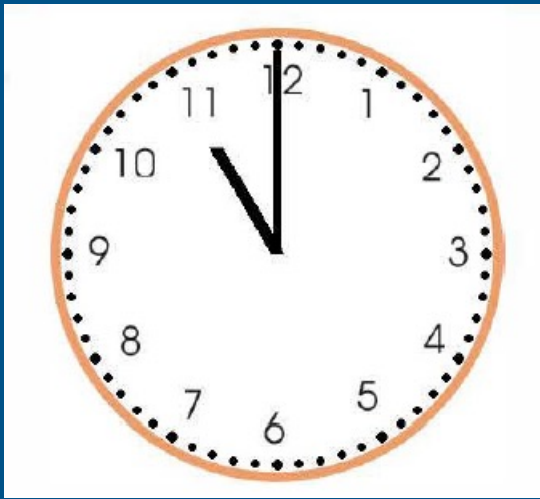
- Maintenance of Existing Content
- Development of New Content
- State Pages
- Site Improvements
- Organization
- Tools for Users
- Tools for Maintenance



Agenda: Some Takeaways from Dam Safety Toolbox

- As baby boomers and soon Gen Xers retire more new entrants are filling positions in the industry and need a source for approved methods of evaluating dam safety tasks
- Specialists are writing the topical sections
- Dam safety subject matter experts are vetting the toolbox content
- Consultants can find resources for dam safety programs in the states





Update Dr Hotchkiss on Virginia's Low Head Dams

Virginia DCR participated in beta testing of the GIS based tool to QA/QC a tool to identify potential low head dam locations for human confirmation and participated in regular meetings.

Police recover remains of women who went missing after Memorial Day accident at Boshers Dam on James River



[Police recover remains of women who went missing after Memorial Day accident at Boshers Dam on James River](#)

A day spent enjoying the outdoors quickly turned into a nightmare on Memorial Day after a group 12 of people on the James River ended up needing to be rescued when they went over a Richmond dam. Two women in the group were soon considered missing. After search and rescue efforts the following day, crews returned for day three to attempt to find 23-year-old Lauren Winstead and 28-year-old Sarah Erway. Henrico Police confirmed the remains of Lauren Winstead were found on the river Wednesday afternoon. Sarah Erway's remains were found a week later, on June 6, concluding the search.



FEMA

In Virginia – Dept. of Wildlife Resources Oversees Lowhead Dams

- Lowhead dams are deceptively dangerous. The public should exercise extreme caution when in the vicinity of such dams. Virginia has several lowhead dams on rivers throughout the state. Over the years, houseboats, fishing vessels, powerboats, sailboats, PWC, kayaks, and canoes have all fallen victim to lowhead dams
- Lowhead dams may range from a 25-foot drop-off to a mere six-inch drop-off. Some dams are very wide and others not wide at all. Interestingly, the characteristics of moving water are the same regardless of the size of the dam. Part of the deception is that most people would associate danger with a dam having a significant drop off and fast-flowing water but fail to realize the danger is as great with a two- or three-foot dam face and a moderate flow of water. The dam design, depth, volume and velocity of water combine to determine the risk to boaters.
- Danger lurks above and below the dam. Water flowing over a drop forms a hole or hydraulic at the base which can trap objects washing over the drop. Backwash or recirculating current is formed below the dam. Once swept over the dam, a victim becomes trapped and is forced underwater, pushed away from the dam, then circulated to the top. The circulating motion then repeats the cycle over and over again as the individual is drawn back against the base of the dam.



[Virginia DWR Low Head Dams](#)



FEMA

Good Outcome from a Tragic Event



What one mom is doing to help prevent deaths in the James River like her daughter's



New signs at the James River

By: Brendan King

Posted at 6:44 AM, May 04, 2023 and last updated 12:10 PM, May 04, 2023

CHESTERFIELD COUNTY, Va. — Memorial Day will mark one year since 23-year-old Lauren Winstead of Henrico and 28-year-old Sarah Erway of Chesterfield went underwater after they floated over the Boshier Dam.

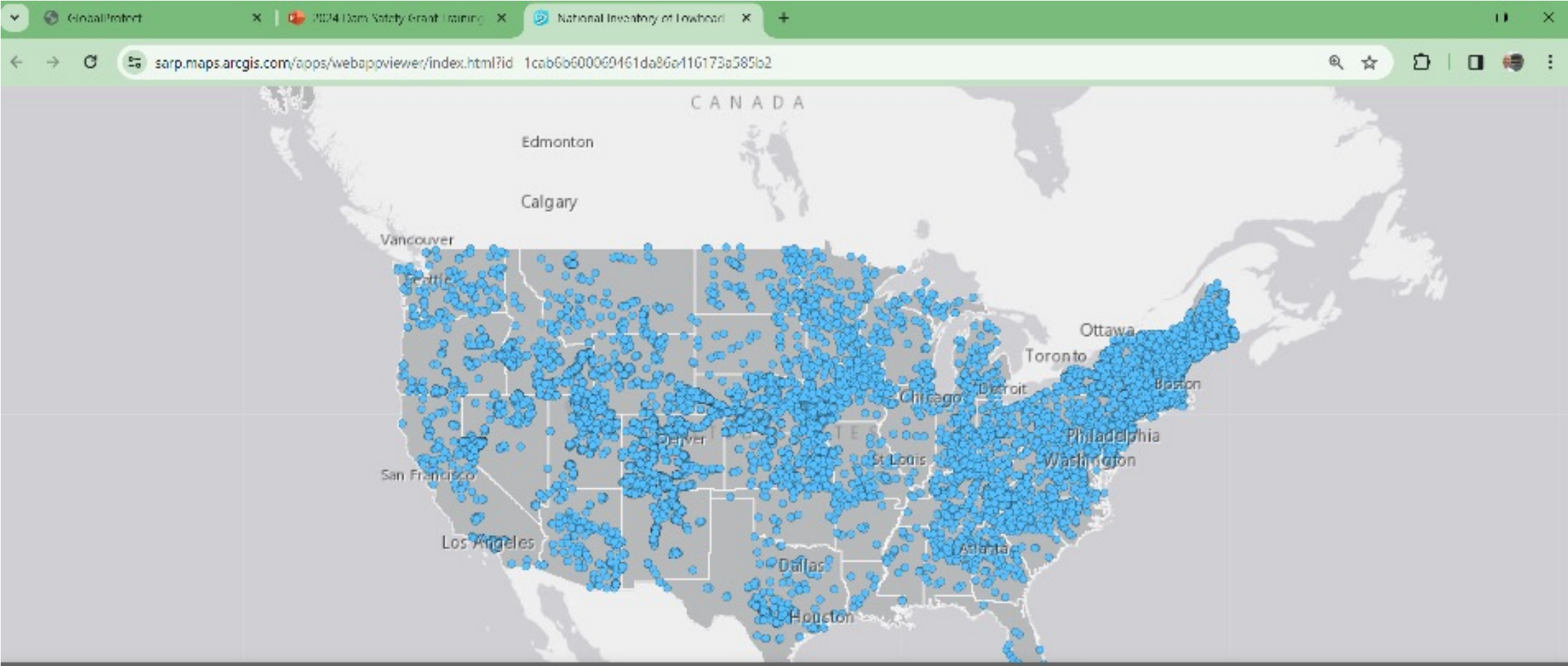
The women were with a larger group of friends when they [went over the dam](#). Friends said they attempted to get out of the river earlier in the trip, but the current was too strong and carried them over the dam. The rest of the group survived.

- DCR and local municipal officials met with the families
- The families pursued signage and safety improvements
- Now signs have been installed
- Right of way for portaging has been granted and trail exists
- An existing Virginia law limits liability of lowhead dam owners that post warning signage.



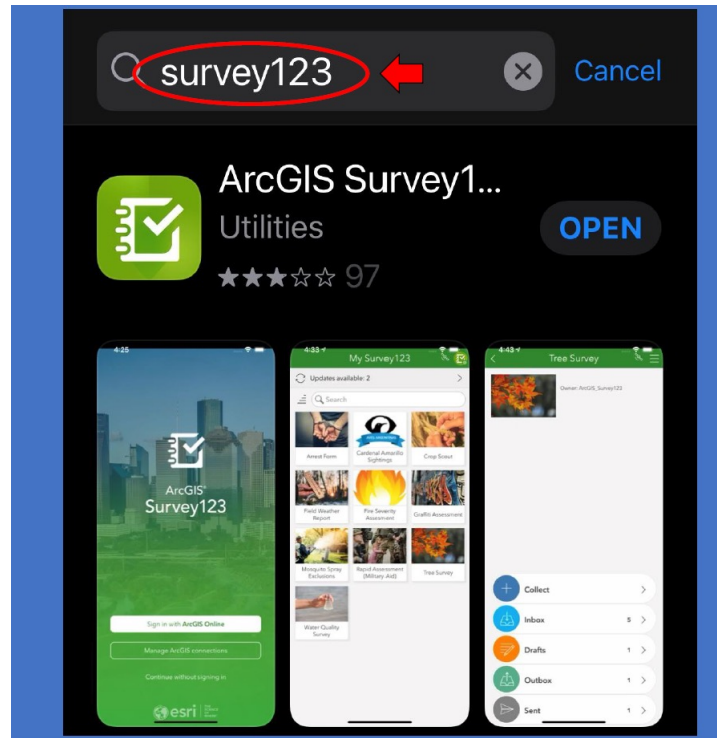
FEMA

National Inventory of Low Head Dams (BYU, SARP)



FEMA

An Survey123 App Has Been Developed



- Can download to your cellphone
- Useful for kayakers, rafters, boaters, swimmers, NGOs and regulators to add data on low-head dams
- Still under development

1. Search “survey123” on the app store and download.



FEMA

FEMA Spurs on Lowhead Dam Safety with Research Grants



2023 National Dam Safety Research Summit Report

August 2023



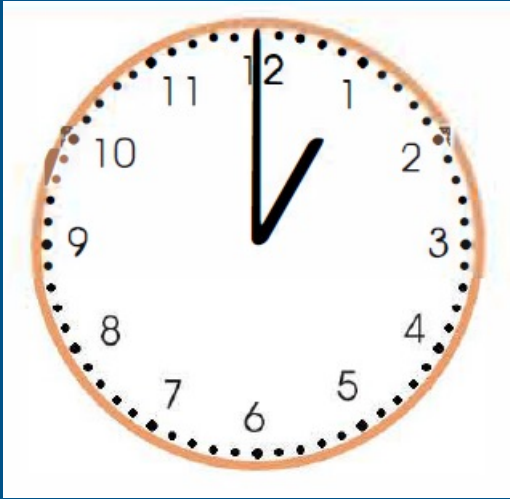
FEMA

- Screening tool for determining occurrence of submerged hydraulic jumps at low-head dams
- Improvements for a National Web-based Dam-break Flood Inundation Mapping and Consequences Analysis Decision Support System (DSS Wise Lite)
- First Responder Dam Hazard Training Program
- Proximity alarm for the recreating public approaching a low-head dam
- Low-head dam inventory

What's on the Horizon for Lowhead Dams?

1. Congress authorizes \$30 million for the Corps to develop a publicly available inventory of low-head dams within 18 months of WRDA 2022 becoming law and make the inventory available on a public website.
2. Continued work by ASDSO Public Safety Committee on lowhead dams.
3. H.R.6932 - To amend the National Dam Safety Program Act to require the inclusion of low-head dams in the national dam inventory, and for other purposes (Referred to House Committee on Transportation and Infrastructure January 10, 2024).
4. Ongoing proclamation declaring April as Low Head Dam Public Safety Awareness Month spearheaded by ASDSO after starting in 2021.
5. Continued work by the National Dam Safety Review Board and its Research Workgroup





An Internal Teams Call to Review DSIS and Initiatives

DCR continue to plan on enhancements to DSIS, pursuing information about unknown dams and laying eyes on and developing PEPs (Preliminary Emergency Plans)

Dam Safety Team Meeting - January 10, 2024

1. Team Report-Out-Any Urgent Items
2. DSIS Upgrades
3. Unknown Dam Initiative and Use of DSS-Wise for Screening Level Studies
4. Developing PEP for Unknown Dams Underway
5. Expired Certificate Initiative
6. Remote Monitoring of District Dams



What is DSIS?

- The geographic data layers contained throughout this site, and any associated maps, applications and property information (collectively referred to as “Data”) about to be accessed from the Virginia Department of Conservation and Recreation's Dam Safety Inventory System (DSIS) are provided as a public resource.
- Data layers have been incorporated into DSIS from the Department of Conservation and Recreation Division of Dam Safety and Floodplain Management, National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), United States Geological Survey (USGS), Federal Emergency Management Agency (FEMA), Virginia Information Technologies Agencies (VITA) VGIN Geospatial Services, and ESRI.



VA DCR DSIS Website Link and User Support

[DCR's Main Page for DSIS Information](#)

[DCR Access Form \(DCR199-245\)](#)

[User Guide](#)

[User Guide for Participants](#)

[Workflow Quick Reference](#)



DCR's DSIS and Public Outreach Program Garnered ASDSO Award



- A collaboration between management, our consultant Geo-Decisions, GIS specialists, engineers and technicians
- Database can be downloaded to hard drive during storm events
- Has an emergency tab to monitor rainfall forecast
- Logi retrieves weekly, quarterly, and annual report data
- Provides insight on management reporting and manages our grants program
- Became mandatory during covid
- Enhance public awareness about dam safety on our website



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What's Coming Up for Action by the Dam Owner or PE? DSIS Knows.

Home > Dams > 003004

Dam Name: Montfair West Dam	Dam Region: 5	Owner Name: Montfair Resort	Certificate Type: Conditional 1 Year Certificate
Dam Inventory Number: 003004	Hazard Classification: High	Farm	
Legacy Number: 00004	County: Albemarle	Regional Engineer: Justin Deel	Certificate Expiration Date: 08/31/2027
		Inundation Study Date:	EP Expiration Date: 06/18/2027

Events

General

Regulated

Technical Basics

Technical Hydrology

Contacts

Map

Inundation / PMP Studies

Upcoming Expirations

Expiration Date	Type	Sub Type
08-2027	Certificate	Conditional 1 Year Certificate
06-2027	Emergency Plan	EAP

« < 1 > » 10 ▾

Upcoming Inspections

Inspection Type	Last Inspection Date	Next Inspection Date	Overall Condition
Engineer	10-2021	10-2023	Satisfactory
Owner		10-2022	

« < 1 > » 10 ▾



What Are DCR Regional Engineers Working on this Month?

consapps.dcr.virginia.gov/dsis/#/dam-applications

Virginia Department of Conservation and Recreation
An official website of the Commonwealth of Virginia. Here's how you know

Find a Commonwealth Resource

Welcome, "Mark Killgore" Logout

Applications

Application Queue

Note: Right click to view actions

Dam Id Number	Dam Name	Application Type	Status	Status Date	Submission Date	Regional Engineer	Region
065036	Fluvanna County Dam #7	Inundation Study	Submitted	01-12-2024	01-12-2024	Justin Deel	5
179010	Lake Curtis Dam	Emergency Plan	Submitted	01-12-2024	01-12-2024	Andrea Henry	1
003053	Ragged Mountain Dam	Inspection	Submitted	01-11-2024	01-11-2024	Justin Deel	5
075063	West Creek Dam	Emergency Plan	Submitted	01-11-2024	01-11-2024	Brenton Payne	2
153030	Market Center Pond 1 Dam	Inspection	Submitted	01-11-2024	01-11-2024	Andrea Henry	1
107040	Moorefield Station East SWM Pond Dam	Inspection	Submitted	01-11-2024	01-11-2024	Andrea Henry	1
107041	Moorefield Station West SWM Pond Dam	Inspection	Submitted	01-11-2024	01-11-2024	Andrea Henry	1
003149	Greens Dam	Simplified Inundation Study	Submitted	01-11-2024	01-11-2024	Justin Deel	5
003097	Glen Lochan Dam	Emergency Plan	Submitted	01-09-2024	01-09-2024	Justin Deel	5
163001	Goshen Dam	Inspection	Submitted	01-09-2024	01-09-2024	Justin Deel	5
003190	Murray Lake Dam	Inspection	Submitted	01-09-2024	01-09-2024	Justin Deel	5
007005	Davenport Pond Dam	Inspection	Submitted	01-08-2024	01-08-2024	Scott Thomas	3
059051	Fairfax Center Regional SWM Pond #077	Inspection	Submitted	01-08-2024	01-08-2024	Andrea Henry	1
165005	Lake Shenandoah Dam	Emergency Plan	Submitted	01-08-2024	01-08-2024	Justin Deel	5
171005	Strasburg Dam	Emergency Plan	Submitted	01-08-2024	01-08-2024	Andrea Henry	1
059037	Hunter Mill Estates Regional Pond D-52/25	Inspection	Submitted	01-08-2024	01-08-2024	Andrea Henry	1
059039	Kings Park West Section 18 Dam	Inspection	Submitted	01-08-2024	01-08-2024	Andrea Henry	1
059029	Pohick Creek Dam #1	Inspection	Submitted	01-08-2024	01-08-2024	Andrea Henry	1
085033	Barkers Millpond Dam	Inundation Study	Submitted	01-07-2024	01-07-2024	Brenton Payne	2
153003	Lake Montclair Dam	Permit Application	Submitted	01-05-2024	01-05-2024	Andrea Henry	1
059005	Pohick Creek Dam #7	Inspection	Submitted	01-05-2024	01-05-2024	Andrea Henry	1
059039	Kings Park West Section 18 Dam	Certificate Application	Submitted	01-05-2024	01-05-2024	Andrea Henry	1
009026	Tusculum Dam	Certificate Application	Submitted	01-04-2024	01-04-2024	Justin Deel	5
089012	Horse Pasture Creek Dam #1C	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089009	Horse Pasture Creek Dam #2	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089008	Marrowbone Creek Dam #1	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089007	Leatherwood Creek Dam #6	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089006	Leatherwood Creek Dam #4	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089005	Leatherwood Creek Dam #2A	Certificate Application	Admin Review	01-12-2024	01-04-2024	Steven Bricker	4
089004	Leatherwood Creek Dam #3	Certificate Application	Admin Review	01-05-2024	01-04-2024	Steven Bricker	4
089002	Leatherwood Creek Dam #5	Certificate Application	Admin Review	01-05-2024	01-04-2024	Steven Bricker	4
099006	Lake Monroe Dam	Inspection	Submitted	01-04-2024	01-04-2024	Brenton Payne	2
099005	Lake Madison Dam	Inspection	Submitted	01-04-2024	01-04-2024	Brenton Payne	2
099003	Lake Jefferson Dam	Inspection	Submitted	01-04-2024	01-04-2024	Brenton Payne	2
089013	Smith River Dam	Certificate Application	Submitted	01-04-2024	01-04-2024	Steven Bricker	4
113016	DT Wade Dam	Inspection	Submitted	01-03-2024	01-03-2024	Andrea Henry	1
049060	Cobbs Creek Regional Water Supply Reservoir Dam Perimeter Dam (Dam C)	Record Report	Submitted	01-03-2024	01-03-2024	Justin Deel	5



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What Tabs Support the Platform?

- Dam Search
- Application Search
- Grant Application Search
- Floodplain Management
- Global Contacts
- Administration
- My Account
- Support
- Emergency Dashboard
- Weekly Report and General Narratives



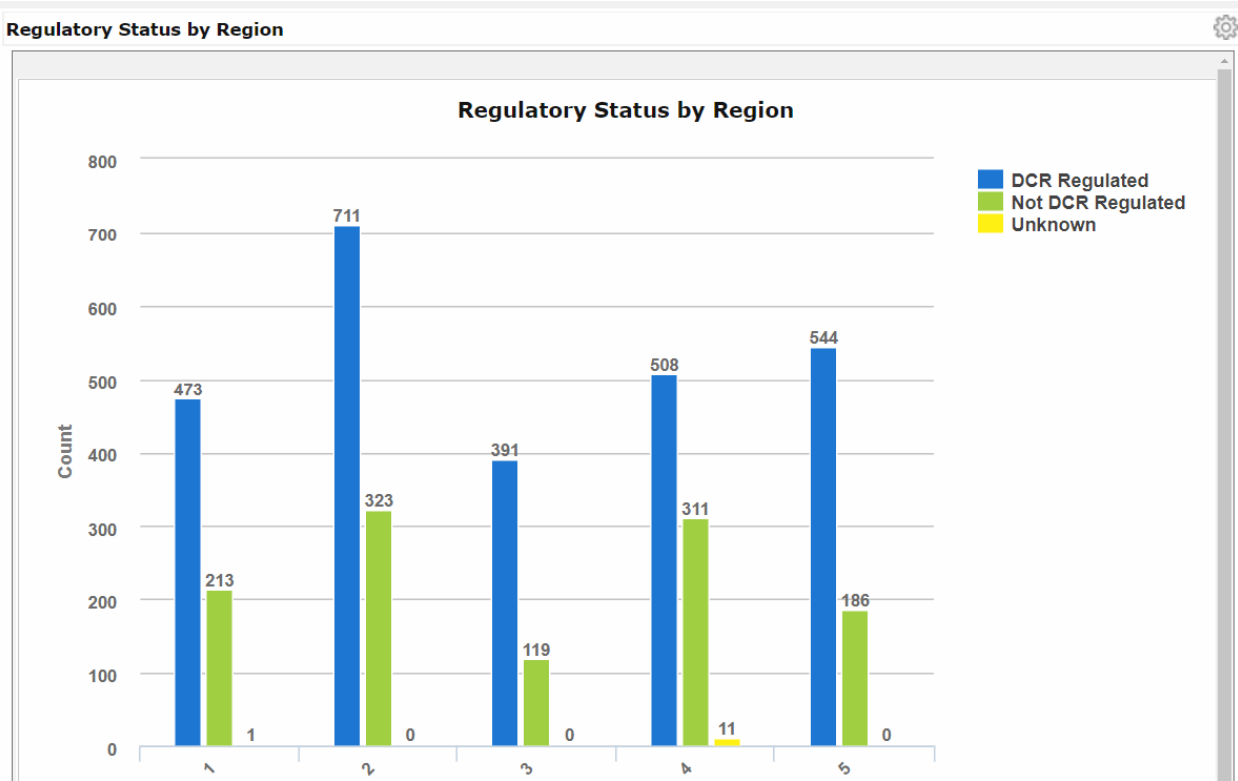
FEMA

Logi Report Product Overview

- Logi Report delivers operational business intelligence to enterprise applications through powerful embedded reporting.
- Logi Report is a complete Java reporting solution that provides sophisticated enterprise reporting, ad hoc reporting, and data analysis. A 100% Java EE architecture and a rich set of APIs enable Logi Report to be seamlessly embedded into any application, providing end users with a transparent interface to easily generate reports, share information, and analyze data. In Logi Report, you can make any report interactive, thus extend the "life" of a report by enabling users to easily sort, group, navigate, and filter via the Web. This wide range of functionality, including the ability to drill down on data, enables users to quickly derive value from their business intelligence.
- Logi Report's architecture takes advantage of the portability, scalability, and ease of integration associated with Java EE technology to provide a powerful, flexible reporting solution that fits perfectly within any application architecture.



High Level Management Summaries and Deep Dives in LOGI



Ad Hoc REPORTING Reports Profile

Personal Reports Shared Reports

Shared Reports > Dam Safety ?

Up Copy Find Reports

<input type="checkbox"/>	Name	Last Modified	Actions
<input type="checkbox"/>	1 Events & Weekly Reports	9/13/2023 10:55 AM	More >
<input type="checkbox"/>	2 Regulatory Reports (New)	3/29/2023 12:12 PM	More >
<input type="checkbox"/>	Dashboards	9/13/2023 11:08 AM	More >
<input type="checkbox"/>	DSIS Users	10/10/2023 2:06 PM	More >
<input type="checkbox"/>	Inundation Studies	8/22/2023 11:25 AM	More >
<input type="checkbox"/>	Letters of Engagement	7/27/2022 10:09 AM	More >
<input type="checkbox"/>	Regional Engineer Reports	10/6/2017 9:14 AM	More >
<input type="checkbox"/>	Scanning Initiative Tracking	3/27/2023 3:07 PM	More >
<input type="checkbox"/>	zAdmin Reports (Old)	10/2/2017 11:28 AM	More >
<input type="checkbox"/>	DSIS General Contact List	9/27/2023 12:57 PM	More >
<input type="checkbox"/>	DSIS Participant User List	9/27/2023 12:37 PM	More >
<input type="checkbox"/>	FY24 HHPD Contacts Full Data Source	12/6/2023 9:55 AM	More >



Why Invest Manpower in Quantifying Risk from Unknown Dams?

1. While there is always some factor of uncertainty, we must try to be proactive not reactive to safeguard the public from dam-related risks
2. Taking a quantitative approach to assessing our dam inventory will guide us in selecting and prioritizing dams for further actions and decision-making
3. More accurate for evaluation than previously used USGS topographic basemap data. In some cases, results are more accurate than FEMA floodplain mapping data too
4. Developed streamlined python commands and trained new mapping staff on size assessment process
5. More than 100 higher priority dams have been evaluated and most are getting a provisional high rating
6. Localities are interested in the work and requesting results for their counties or cities and seeing preliminary emergency plans (PEPs) based on DSS-Wise analysis.
7. DCR can use GIS to rapidly product PEPS and provide DCR and VDEM with an emergency phone tree using impacts from DSS-Wise.




Collaborated with U-Miss to Enhance Provisional DBIZ Modeling


DSS-WISE™ Web


About Help Logged in as: Arthur Kay Log out


Decision Support System for Water Infrastructural Security Web

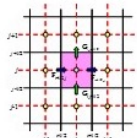
Click to Launch Portal

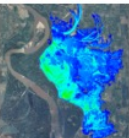
 Secure, web-based graphical user interface and map server providing analytical capabilities and a decision support system for dam/levee security.


 Free-of-charge system available 24/7 to FEMA, state dam safety offices, and stakeholder federal and state agencies.


 Simplified data entry in 12 easy steps with real-time validation of user input. User input is kept to a strict minimum.

 Automated input data preparation using national databases (USGS, NED DEM, levees, bridges, classified land-use/cover).



 Upwind, shock-capturing scheme handles wetting/drying and allows for mixed-regime flows (subcritical, transcritical and supercritical).

 Provides automated, two-dimensional flood modeling/mapping capabilities with cell sizes from 20 ft. to 200 ft.

 Displays inundation extent periodically during the simulation. In 80% of the cases, results are available in less than one hour.


 The final results package includes a PDF report, raster files (HAZUS-MH compatible), shapefiles, and a KMZ file of the inundation extent.

Designed and Maintained by




The National Center for Computational Hydroscience and Engineering
The University of Mississippi

Operated for

 **FEMA**

U.S. Department of Homeland Security
Federal Emergency Management Agency

Useful Links

 ASDSO  USSD  ASFPM



FEMA

Restoring Compliance for Expired Certificate Holders

- DSIS advises us when Regular and Conditional Certificates have expired.
- Often expirations happen due to ownership or other changes (new HOA management).
- Compliance staff have use tax databases and other sources to see if ownership has changed or the HOA contact has been replaced. Owner PEs have been contacted in some cases and that has been helpful.
- About 1/6 of the dams we regulate were found to be out of certificate compliance.
- As of late fall, 64 of those have either renewed their O&M certificate or have either qualified for either an agricultural or size exemption. Another 25 are cooperating with DCR to renew their certificates.
- Three of five regions have had letters sent out reminding owners and their PEs of the requirement.
- DCR Compliance will continue to work on 2 additional regions and others as we finalize contact information,



Making Operation of District Dams Readily Available

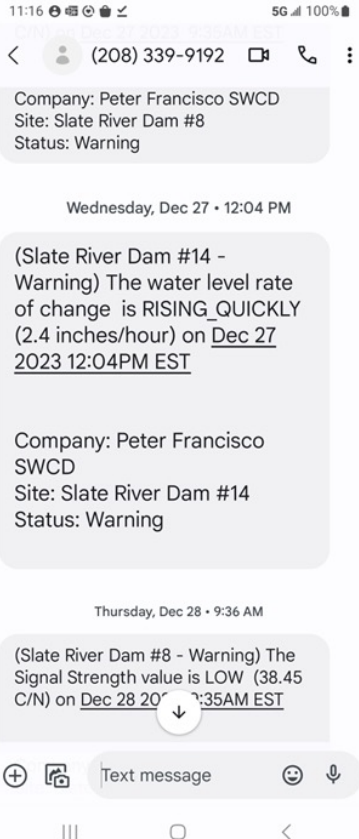


Questions and answers

- Is the dam water level rapidly dropping?
- How much rain fell in the last 24 hours?
- How much flow is estimated based on the stage discharge rating curve at dam?
- What's going on at the dam? Cameras have the answer.
- How much does this all cost? About \$12,000 upfront plus O&M costs like cell service, satellite, and

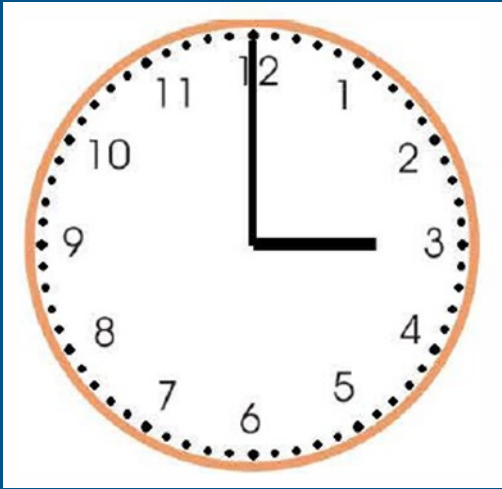
Making Operation of District Dams Readily Available (2)

Text based notification



Email based notification





Time to Wrapup the Day – One Last Conference Call

DCR and colleagues continue to plan on key topics for the months ahead with a session at the ASDSO Annual Conference in collaboration with lead author Mark Baker and other Dam Safety Engineering leaders on the concept of a Dam Safety Program Engineering (DSPrE) Specialty Certification

What's Ahead in the Dam Safety Community

- What are benefits to be gained in our industry by better documenting and recognizing the scope, challenges, and practices that DSPrEs use to manage the safety of large numbers of dams?
- How are the roles of DSPrEs and traditional dam safety technical discipline engineers similar, different, or complimentary?
- What professional management aspects are involved with DSPrE's responsibilities to manage a fleet of dams? What knowledge and experience are needed to fulfill this role?
- What is the DSPrE involvement with the selection, formulation, review, and acceptance of engineering technical products? What technical knowledge do DSPrEs need to have?

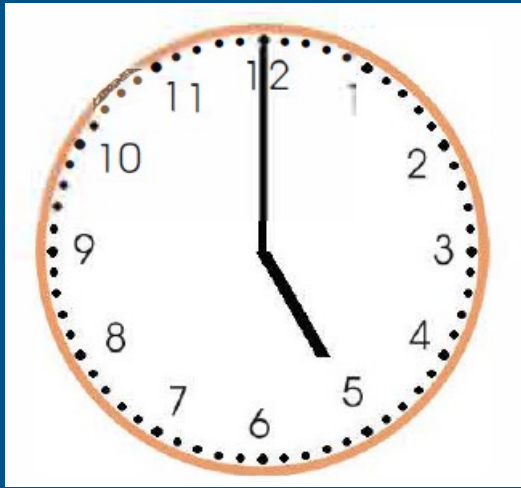


What's Ahead in the Dam Safety Community – Certify Competency?

- What kinds of decisions do DSPrEs make and what practices are there for making good decisions?
- What philosophical and practical approaches should a DSPrEs use to analyze dam risk, make decisions, respond to incidents and perform other program elements (inventory, hazard classification, inspection, monitoring, O&M, interim risk reduction, dam repairs, emergency management)?
- What role does DSPrE have within the larger dam owner/regulator organization and how can it get the resources it needs to accomplish the program?

What's Ahead in the Dam Safety Community (2)

- Introduce topic of Dam Safety Program Engineering.
- Discuss the many aspects/scope of DSPE/why it is important.
- Discuss the implications of having DSPE as a recognized specialty.
- What if any next steps should be taken?
- Come to ASDSO's Dam Safety 2024 in Denver in September and learn more and add to the discussion!



**Hit the Gym and Destress from Everything I
Volunteered to Do Today**

Time for Questions!

Mark Killgore, PE, D.WRE, F.ASCE
Lead Dam Safety Engineer DCR Virginia
Mark.Killgore@dcr.virginia.gov



Other collaborators and credit
Dr. Rollin Hotchkiss, BYU
Greg Richards, Gannett Fleming
Jeremy Franz, Colorado Dam Safety
Mark Baker, Dam Crest LLC
Arthur Kay, VA DCR
Charles Wilson, VA DCR



FEMA