



# Year-In-Review

National Dam Safety Program Fiscal Years 2018 and 2019

January 2021



FEMA

# 1. Year-In-Review

For more than 30 years, the federal government has used the National Dam Safety Program (NDSP) to protect Americans from dam failure. The program is a partnership of states, federal agencies and other private sector partners which encourages and promotes the establishment and maintenance of effective federal and state dam safety programs to reduce the risks to human life, property and the environment from dam related hazards.

The FEMA dam safety program began to publish this series to showcase essential accomplishments that occurred during the past two fiscal years (Oct. 1, 2017 –Sept. 30, 2019). It provides the dam safety community, as well as the public, better understanding of the program's objectives to reduce dam risk and promote dam safety.

To encourage and promote dam safety, FEMA coordinates with federal, state and private sector partners through:

- The National Dam Safety Review Board (NDSRB) advises FEMA to set national safety priorities. The board also considers effects of national policy issues that affect dam safety. It is comprised of federal and state agencies and private sector partners.
- The Interagency Committee on Dam Safety (ICODS) was founded in 1980 to encourage federal programs, guidelines and policies to enhance dam safety and security. It is comprised of federal agencies.

## 1.1. FY19 Highlights

### 1.1.1. Fiscal Year 2019 State Assistance Grants

A total of \$6.8 million was awarded in Fiscal Year 2019.

### 1.1.2. Rehabilitation of High Hazard Potential Dams (HHPD) Grant

The President signed the "[Water Infrastructure Improvements for the Nation Act](#)" or the "WIIN Act," on December 16, 2016, which adds a new grant program under FEMA's National Dam Safety Program (33 U.S.C. 467f). Section 5006 of the Act, Rehabilitation of High Hazard Potential Dams, provides technical, planning, design, and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams.

In FY19, FEMA received \$10 million to implement the Rehabilitation of High Hazard Potential Dams Grant Program. This grant provides assistance for planning and other pre-construction activities. For more information, visit the [High Hazard Potential Dam webpage](#) on FEMA.gov.

### **1.1.3. Fiscal Year 2019 Collaborative Technical Assistance Accomplishments**

In January 2019, Washington's Snohomish County completed a session focusing on risk communication, public alerts and inter-agency communications prior to and during a dam emergency. This session was led by Argonne National Laboratory's Public Affairs Science and Technology (PAST) Fusion Cell. Manatee County, Fla. hosted this session in mid-February 2019.

### **1.1.4. Decision Support System for Water Infrastructure Security (DSS-WISE) Short Course – May 2019**

FEMA offered this workshop with the assistance of the United States Society of Dams (USSD). Dam safety professions learned how to rapidly identify potential flood hazard areas near dams. The workshop also discussed the importance of evaluating potential dam releases or failures and what steps can be taken to mitigate flood risks. Over 50 participants attended the course.

### **1.1.5. Technical Seminar at National Emergency Training Center – February 2019**

The National Dam Safety Review Board Work Group on Dam Safety Training welcomed dam and levee safety professionals and other emergency managers to the annual National Dam Safety Program Technical Seminar (NDSPTS).

The two-day seminar was held in February 2019 at the National Emergency Training Center (NETC) in Emmitsburg, Md. The theme was Information Sharing and Risk Communication on the Hazards Associated with Dams and Levees. The NDSPTS attracts on average 220 attendees per year. In addition to discussing industry topics, participants have opportunities to network with others interested in dams and levee safety.

### **1.1.6. Community Dam Safety, Preparedness, and Mitigation in Rancho Cordova, Calif., and Research Triangle Park, N.C.**

The courses taught industry professionals and members of the community how to coordinate and plan for and mitigate the consequences of dam failure. One session was offered by FEMA, the California Governor's Office of Emergency Services and the California Specialized Training Institute. The three-day training focused on dam safety, preparedness and risk mitigation in December 2018. A second session was organized by FEMA and the North Carolina Joint Field Office for interested participants in June 2019.



### **1.1.7. DSS-WISE™ Human Consequence Module**

DSS-WISE™ Human Consequence Module (HCOM) is an analytical module for automated assessment of the human consequences of dam-break floods. The National Center for Computational Hydroscience and Engineering (NCCHE) and the University of Mississippi developed the module with funding provided by FEMA through a contract with Argonne National Laboratory.

DSS-WISE™ HCOM uses the results of flood simulation using DSS-WISE™ Lite to provide maps of:

- Flood hazard risk for people caught outdoors and indoors.
- Potentially lethal flood zones for children and adults.

DSS-WISE™ HCOM also provides analysis of People at Risk by interfacing the results of flood simulation using DSS-WISE™ Lite with the population data sets.

DSS-WISE™ HCOM produces a Final Report, an MS Excel worksheet with tabular data, and a series of geospatial files. The results include Emergency Action Plan preparation, better preparedness, emergency response planning and evacuation planning.

## **1.2. FY18 Highlights**

### **1.2.1. FY18 State Assistance Grants**

A total of \$6.5 million was awarded in Fiscal Year 2018.

### **1.2.2. Collaborative Technical Assistance (CTA) Pilot Program**

FEMA launched a new [Collaborative Technical Assistance \(CTA\)](#) pilot program in Fiscal Year 2018. The Dam Safety CTA program helps communities better understand the consequences of dam-related emergencies and develop risk-informed plans to protect life, property and the environment. The program targets communities at risk for flooding due to operational discharge or dam-related infrastructure failure. The CTA Program consists of 11 sessions. Participants learn how to develop dam safety plans and FEMA's executive leadership reviewed plans to determine effectiveness.

The following counties were chosen to participate in the 2018 CTA pilot program.

- Snohomish County, Wash.
- Ventura County, Calif.
- Manatee County, Fla.

### **1.2.3. Dam Safety Training Workshop at Emergency Management Institute – February 2018**

The National Dam Safety Review Board Work Group on Dam Safety Training conducted the 25th Annual National Dam Safety Program Technical Seminar, “Sustaining Public Trust through Effective Emergency Management”. The seminar, with more than 200 attendees, focused on preparation and the importance of sharing dam risk information to enhance response following disasters.

### **1.2.4. Virtual Table Top Exercises (VTTX) – July 2018**

FEMA’s Emergency Management Institute (EMI) and National Dam Safety Program used a training exercise to reach community-based audiences around the country to provide a virtual disaster training forum. The exercise included a mock flood due to a dam failure and the resulting mitigation, response and recovery efforts. Over 30 different jurisdictions participated.

### **1.2.5. Decision Support System for Water Infrastructure Security (DSS-WISE™)**

Decision Support System for Water Infrastructure Security (DSS-WISE™) Lite is a dam flood simulation platform. Users can perform rapid simulations to enhance pre-disaster planning and support decision during developing incidents. The strength of [DSS-WISE Lite™](#) is its ability to conduct a sophisticated 2-dimensional dam breach analysis quickly. Enhancements to the software were conducted in November 2018.