



National Dam Safety Program Strategic Plan

Fiscal Years 2024 -2029

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FEMA

Acronyms

ARS	Agricultural Research Service
ASCE	American Society of Civil Engineers
ASDSO	Association of State Dam Safety Officials
ASFPM	Association of State Floodplain Managers
CISA	Cybersecurity and Infrastructure Security Agency
CTA	Collaborative Technical Assistance
DHS S&T	U.S. Department of Homeland Security Science & Technology
DOL	U.S. Department of Labor
DSS-WISE	Decision Support System for Water Infrastructure Security
DOI	U.S. Department of the Interior
EAP	Emergency Action Plan
EPA	U.S. Environmental Protection Agency
ERDC	U.S. Army Engineer Research and Development Center
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
IAEM	International Association of Emergency Managers
IBWC	International Boundary and Water Commission (U.S. Section)
ICODS	Interagency Committee on Dam Safety
MSHA	Mine Safety and Health Administration

Acronyms

NDSP	National Dam Safety Program
NDSRB	National Dam Safety Review Board
NEMA	National Emergency Management Association
NID	National Inventory of Dams
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NSF	National Science Foundation
NWS	National Weather Service
TVA	Tennessee Valley Authority
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USSD	United States Society on Dams



NDSP Mission:

Reduce Risks to Life, Property, and the Environment from Dam Failure Incidents by Guiding Equitable Public Policy and Leveraging Industry Best Practices Across the Dam Safety Community.

NDSP Vision:

The benefits and risks of dams are understood and managed equitably, enhancing public safety, national security, and the environment while adapting to climate change.

Goal 1: Reduce risks to life and property associated with dams.	Goal 2: Increase awareness of the benefits and risks associated with dam infrastructure.	Goal 3: Advance the state of practice of dam safety and dam risk management.
<p>Objective 1: Support the development of a national dam risk assessment methodology.</p> <p>Objective 2: Advance community resiliency to dam related flood hazards and loss of benefits through emergency planning and risk awareness.</p> <p>Objective 3: Provide federal assistance to reduce the risks associated with dams.</p>	<p>Objective 1: Assist federal and state dam safety programs in effectively communicating and sharing information with those that have a role and responsibility in dam risk management throughout disaster planning, response, and recovery.</p> <p>Objective 2: Develop guidance, resources and tools that educate and raise public awareness of dam related benefits and risks associated with their community.</p> <p>Objective 3: Educate dam owners on effective risk reduction, risk communication and information sharing strategies related to dams.</p>	<p>Objective 1: Develop and deliver dam safety education and technical assistance for those that have a role and responsibility in dam risk management.</p> <p>Objective 2: Promote research to facilitate effective dam risk management.</p> <p>Objective 3: Develop continuing education and advancement of dam safety engineers (public and private) based on a national standard program of study, training, and credentialing.</p> <p>Objective 4: Promote the integration of emergency management to build effective risk management.</p>



Background

The National Dam Safety Program (NDSP) is a partnership of states, federal agencies and other stakeholders to encourage and promote the establishment and maintenance of effective federal and state dam safety programs to reduce the risk to human life, property, and the environment from dam related hazards.

NDSP has two advisory committees to include: the Interagency Committee on Dam Safety (ICODS) and the National Dam Safety Review Board (NDSRB).

- ICODS was founded in 1980 to encourage the establishment and maintenance of effective federal programs, policies, and guidelines to enhance dam safety and security. The committee serves as the permanent forum for the coordination of federal activities in dam safety and security. FEMA also chairs this committee. ICODS membership includes representatives from the following federal agencies:
 - FEMA
 - U.S. Army Corp of Engineers (USACE)
 - Federal Energy Regulatory Commission (FERC)
 - U.S. Nuclear Regulatory Commission (NRC)
 - Tennessee Valley Authority (TVA)
 - U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS)
 - U.S. Department of Energy (DoE)
 - U.S. Bureau of Reclamation (USBR)
 - Department of Labor/Mine Safety and Health Administration (DOL - MSHA)
 - U.S. Section, International Boundary and Water Commission (IBWC)
 - Environmental Protection Agency (EPA)

- NDSRB advises FEMA's Administrator in setting national dam safety priorities and considers the effects of national policy issues affecting dam safety. Review Board members include FEMA, the Chair of the Board, representatives from four federal agencies that serve on ICODS, five state dam safety officials, and one member from the private sector. NDSRB membership includes representatives from the following federal agencies:
 - FEMA
 - U.S. Army Corp of Engineers (USACE)
 - Federal Energy Regulatory Commission (FERC)
 - U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS)
 - U.S. Bureau of Reclamation (USBR)
 - Five Rotating State Representatives
 - Private Sector Representative

FEMA's Congressionally mandated functions of the NDSP are to:

- Leadership: The leadership shall be the responsibility of FEMA and shall be exercised by chairing the NDSRB to coordinate national efforts to improve the safety of the dams in the United States.
- Technical assistance: The technical assistance activity shall consist of the transfer of knowledge and technical information among the Federal and non-Federal elements.
- Public awareness: The public awareness activity shall provide for the education of the public, including State and local officials, in the hazards of dam failure, methods of reducing the adverse consequences of dam failure, and related matters.

Developed in partnership with the ICODS and the NDSRB, this 5-year strategy is focused on results for the NDSP to reduce risks to life, property, and the environment from dam failure by guiding public policy and leveraging industry best practices across the dam safety community. It also builds the foundation for what the program will look like in 5 years to ensure the benefits and risks of dams are understood and managed equitably, enhancing public safety, national security, and the environment while adapting to climate change.

The following table provides details for each of the strategic priorities, beginning with identifying the goals and objectives to be achieved and then describing the activities and coordination points that will be pursued in support of those outcomes. Each objective also includes an associated performance metric—a measurable target for the Strategic Plan period (2022 to 2027) that represents meaningful progress toward achieving the outcome.

Goal 1: Reduce risk to life and property associated with dams.

Objective 1: Support the development of a national dam risk assessment methodology.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>1.1 Development of a methodology for risk-informed decision making and encourage all dam safety programs to conduct risk assessments and adopt risk-informed decision making.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ NDSRB ▪ ASDSO ▪ USBR ▪ USACE ▪ FERC ▪ TVA ▪ NRCS 	<ul style="list-style-type: none"> ▪ Measure the number of states who have successfully implemented risk-informed decision making in the FY23 application. ▪ Continue to measure the number of states who successfully implement risk-informed decision making via their FEMA grant applications year to year. 	<ul style="list-style-type: none"> ▪ National Dam Safety Review Board recommends risk-informed methodology to FEMA. ▪ Conduct a demonstration/accepted concept of the method with a select number of states to test the methodology. ▪ Once the draft tool/recommendations are available, conduct a demonstration /accepted concept of the method with a select number of states to test the methodology. ▪ Leverage existing tools, such as the USACE dam risk screening tools, DOI/USBR methodology, etc. to create new scalable tools, guidance, etc., for use by the states. ▪ Survey programs that are interested in using the tool to collect feedback and refine it as needed. ▪ Leverage state assistance grants to incentivize adoption with financial and technical assistance as needed. ▪ Metrics to be collected as part of annual FEMA grant performance measures. The risk prioritization tool has been used to rank the eligible high hazard potential dams (HHPDs) for funding, short term (FY24) and long term (after FY24).
<p>1.2 Train states and the larger dam safety community of practice on a methodology for risk-informed decision-making.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USACE ▪ ASDSO ▪ USSD ▪ Other federal agencies 	<ul style="list-style-type: none"> ▪ The number of training materials/courses developed and delivered. ▪ Number of states/ attendees that have requested and completed training. 	<ul style="list-style-type: none"> ▪ Develop training tools, guidance, job aids, etc. to better implement and refine risk methodologies. ▪ Set up vehicles (Interagency Agreement/Interagency Reimbursable Work Agreement, contracts) to deliver training. ▪ Develop a baseline and compare for at least five years to see results/track progress.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
1.3 Establish national and/or regional risk technical assistance to conduct risk screenings and assessments.	<ul style="list-style-type: none"> ▪ FEMA ▪ USACE ▪ FERC ▪ USBR ▪ TVA ▪ Assistance from the private sector and other federal agencies 	<ul style="list-style-type: none"> ▪ Number of technical assistants delivered. ▪ Number of states/stakeholders that participated in each technical assistance offering. 	<ul style="list-style-type: none"> ▪ Establish cadres through contract vehicles or interagency agreements. ▪ Develop a process wherein interested stakeholders can request risk screenings and assessments on demand. ▪ Develop a methodology to map flood hazards and consequences of state-regulated dams located in NFIP-participating communities and included them in the National Inventory of Dams. ▪ Develop quarterly reports that combine metrics with the following information: frequency of technical assistance offerings throughout the year, topics/themes, and delivery formats.

Objective 2: Advance community resiliency to dam-related flood hazards and loss of benefits through emergency planning and risk awareness.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
2.1 Deliver the Dam Safety Collaborative Technical Assistance (CTA) Program.	<ul style="list-style-type: none"> ▪ FEMA ▪ USBR ▪ USACE ▪ USSD ▪ ASDSO ▪ State Dam Safety Officials 	<ul style="list-style-type: none"> ▪ Measure the number of communities (cohorts) that commit to the CTA. ▪ Measure the number of CTA meetings session accomplished per year. ▪ Percent of community that accomplishes the goals identified in the CTA scoping process. 	<ul style="list-style-type: none"> ▪ Develop an intra-agency CTA delivery team led by FEMA. Partner with other agencies as applicable. ▪ Establish a baseline report to track CTA trends and analytics. ▪ Develop a 5-year implementation plan. ▪ Position the FEMA regions to manage regional CTA deliveries. ▪ Track the success or development of each CTA community (cohort) against the Maturity Matrix (ongoing).

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>2.2 Improve the quality and implementation of Emergency Operations and Response Plans.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ States with existing requirements for EAPs ▪ State Dam Safety Officials ▪ State Emergency Managers 	<ul style="list-style-type: none"> ▪ Measuring the number of communities with Emergency Operations and Response Plans for high hazard potential dams. ▪ Percentage increase in improvement of Emergency Operations and Response Plans by those with high hazard potential dams. ▪ Number of Incident Specific Technical Assistance delivered. 	<ul style="list-style-type: none"> ▪ Provide guidance to emergency managers on how to incorporate dam incident emergencies into functional exercises. ▪ Develop a baseline by measuring the number of Emergency Operations and Response Plans that address dam risk and hazards across the nation by state. ▪ Develop a 5-year implementation plan.

Objective 3: Provide federal assistance to reduce the risks associated with dams.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>3.1 Identify, coordinate, and align relevant federal programs on dam safety to streamline capabilities.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ DOI ▪ USACE ▪ ASDSO ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Track the delivery of federal programs that support dam risk management via assistance to non-federal entities. 	<ul style="list-style-type: none"> ▪ Identify federal programs with resources that support dam risk reductions for non-federal entities. ▪ Align effectively across federal agencies by identifying opportunities for coordination and leveraging various programs, state inventories, and federal assistance with common measurable success metrics. ▪ Establish a baseline to track the increase in assistance to non-federal agencies for dam risk management-related activities.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>3.2 Promote the various federal assistance offerings to non-federal entities in a unified and comprehensive manner that supports measurable risk reduction actions nationally.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ USSD ▪ NSF ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Increased number of non-federal entities who apply/request. ▪ Increase the number of non-federal entities that are awarded/receive assistance. 	<ul style="list-style-type: none"> ▪ Develop and deliver dam risk management related / training/technical assistance/resources for federal assistance to non-federal entities. ▪ Create a portfolio of dam risk management federal assistance for non-federal entities. ▪ Create a website to promote offerings and track awarded funds.
<p>3.3 Develop a mechanism to provide federal technical assistance before and after dam safety incidents to non-federal entities.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ USSD ▪ NSF ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Number of federal technical assistance delivered before and after dam safety incidents to non-federal entities. 	<ul style="list-style-type: none"> ▪ Develop and publish the Dam Incident Response White Paper/SOP – ICODS Technical Support During and after Dam Safety Incidents. ▪ Establish a Memorandum of Understanding and Interagency agreements to establish and deliver technical assistance.



Goal 2: Increase awareness of the benefits and risks associated with dam infrastructure.

Objective 1: Assist federal and state dam safety programs in effectively communicating and sharing information with those that have a role and responsibility in dam risk management throughout disaster planning, response, and recovery.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>1.1 Provide timely and relevant information to states that is available to support disaster response.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USACE ▪ ASDSO ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Number of products and resources developed and delivered to improve information sharing in the dam safety and dam risk management lifecycle. 	<ul style="list-style-type: none"> ▪ Work with those that have a responsibility in dam safety and dam risk management to identify opportunities to improve information sharing that can help facilitate disaster planning, response, and recovery. ▪ Develop products and resources to improve information sharing in the dam safety and dam risk management lifecycle (Ex: DSS-WISE Lite).
<p>1.2 Establish guidance for the states based on case studies and best practices for lifecycle planning and operations/maintenance of dam infrastructure.</p>	<ul style="list-style-type: none"> ▪ USACE ▪ USBR ▪ NRCS ▪ ASDSO ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Number of guidance disseminated to states. ▪ Amount of information provided to the states, including case histories and incidents documented. ▪ Track the number of guidance developed and disseminated. 	<ul style="list-style-type: none"> ▪ Collect and analyze case studies and best practices. ▪ Leverage existing resources and publish an online resource containing searchable current and archived case studies and best practices. ▪ Develop, publish, and promote guidance for the states based on case studies and best practices for lifecycle planning and operations/maintenance of dam infrastructure.
<p>1.3 Develop guidance to aid states in assigning condition assessments consistently (based on the NID).</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USACE ▪ Federal Agencies ▪ State Dam Safety Officials 	<ul style="list-style-type: none"> ▪ Track the number of guidance developed and disseminated. 	<ul style="list-style-type: none"> ▪ Leverage federal partners and the National Dam Safety Review Board to develop guidance and promote guidance to aid states in assigning condition assessments consistently. ▪ Provide training to agencies and the states (as needed).

Objective 2: Develop guidance, resources and tools that educate and raise public awareness of dam related benefits and risk associated with their community.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>2.1 Update and further develop the NDSP suite of non-technical outreach materials and resources to convey the benefits of the program to various stakeholders.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ USSD ▪ State Dam Safety Officials 	<ul style="list-style-type: none"> ▪ Track the number of materials developed and disseminated. ▪ Number of non-technical stakeholders reached. 	<ul style="list-style-type: none"> ▪ Develop strategic outreach and communication 5-year plan. ▪ Develop tools and resources to enable states to target communities where education/outreach is essential (e.g., communities downstream of high hazard potential dams, etc.). ▪ Develop a website to disseminate non-technical outreach and educational information. ▪ Share information via the FEMA website and other national distribution methodologies such as TV/ radio and partnerships with influential organizations and figures.
<p>2.2 Nationwide public relations campaign to educate/improve the awareness of dams and dam safety risk management to the public.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ USSD ▪ ARS ▪ States/Dam Owners 	<ul style="list-style-type: none"> ▪ Track the number of materials developed and their usage. ▪ Rasmussen poll of households to see if anyone has heard of the various outreach efforts. 	<ul style="list-style-type: none"> ▪ Leverage the decision support informatics platform under development by USDA-ARS which will include sharing the outreach components. The Distributed System Implementation Plan will include “ask the expert,” data, models, outreach, media/news, and standard operating procedures.

Objective 3: Educate dam owners on effective risk reduction, risk communication, and information sharing strategies related to dams.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>3.1 Develop guidance on operations and maintenance plans. Develop resources/guidance on inspections and risk/crisis communication.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ASDSO ▪ USSD ▪ FERC ▪ USBR ▪ USACE ▪ Other Federal Agencies 	<ul style="list-style-type: none"> ▪ Track the number of materials developed/available and their usage. ▪ Follow-up surveys with dam owners after they are provided with guidance and templates about their implementation success. 	<ul style="list-style-type: none"> ▪ Develop the Pocket Safety Guide for Dams and Impoundments app. ▪ Develop and publish guidance on Inspections. ▪ Develop and publish templates for inspection/maintenance plans and communication/Emergency Action Plan information.



Goal 3: Advance the state of practice of dam safety and dam risk management.

Objective 1: Develop and deliver dam safety education and technical assistance for those that have a role and responsibility in dam risk management.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>1.1 Identify gaps in current offerings and develop new NDSP training.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USSD ▪ USACE ▪ USBR ▪ NRCS ▪ ASDSO ▪ NDSRB ▪ Federal Agencies 	<ul style="list-style-type: none"> ▪ Number of dam safety training conducted and participants per year. 	<ul style="list-style-type: none"> ▪ Conduct a gap analysis to improve NDSP training procedures. ▪ Collect existing data from USSD and ASDSO to feed into the overall training and gap analysis.
<p>1.2 Develop easily adoptable guidance measures on non-structural risk reduction actions that communities can take</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USSD ▪ ASDSO ▪ IAEM ▪ NEMA ▪ State Dam Safety Officials 	<ul style="list-style-type: none"> ▪ Track the number of guidance developed/available and their usage. ▪ Quantity of distribution of existing guidance on interim reduction measures. 	<ul style="list-style-type: none"> ▪ Provide communities with a person/agency contact for questions and additional guidance.
<p>1.3 Develop education plan/materials based on identified needs for non-owner operators.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USSD ▪ ASDSO ▪ State Dam Safety Officials 	<ul style="list-style-type: none"> ▪ Quality and quantity of distribution of existing guidance on interim reduction measures. ▪ Develop a feedback mechanism and update guidance as needed. 	<ul style="list-style-type: none"> ▪ Guide produced by 2030 for distribution.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
1.4 Develop an education plan/material for a watershed approach/floodplain management approach.	<ul style="list-style-type: none"> ▪ ASFPMP ▪ NOAA ▪ NRCS ▪ NWS ▪ Other Federal Agencies ▪ State Dam Safety Officials - Already being done by NRCS with watershed dam sponsors 	<ul style="list-style-type: none"> ▪ Timing of coordination and education delivered. ▪ Track the number of materials developed/available and their usage. ▪ Allow for feedback for material provided; update as needed. 	<ul style="list-style-type: none"> ▪ Develop a better understanding of the different agencies already implementing practices. ▪ Develop a 5-year execution plan.

Objective 2: Promote research to facilitate effective dam risk management.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
2.1 Host a Research industry leader summit.	<ul style="list-style-type: none"> ▪ FEMA ▪ NDSRB ▪ ARS ▪ ERDC ▪ USSD ▪ ASDSO ▪ Public Universities ▪ Academia 	<ul style="list-style-type: none"> ▪ Identify research gaps and associated priorities to fill identified gaps. ▪ Capture the percentage of priorities that the program will invest in. 	<ul style="list-style-type: none"> ▪ Identify possible research summary topic examples. ▪ Invite key stakeholders that span different subject matter expertise. ▪ Develop a story map on current research priorities. ▪ Develop and publish a research priority perspective.
2.2 Advance a national culture of capturing, sharing, and incorporating lessons learned from dam incidents and failures to improve dam safety.	<ul style="list-style-type: none"> ▪ FEMA ▪ USACE ▪ USBR ▪ FERC ▪ USBR ▪ NRCS ▪ ASDSO ▪ USSD ▪ ASCE 	<ul style="list-style-type: none"> ▪ Quantity and quality of documentation of case histories. ▪ Interest by authors to give case studies. ▪ Web traffic to published studies. ▪ Leverage existing damsafety.org to capture and share the information. 	<ul style="list-style-type: none"> ▪ Evaluate existing information sources. ▪ Opportunity for enhanced coordination and allow for a better understanding of dam failures to become more proactive. ▪ Leverage and expand existing platforms that promote data and information sharing. ▪ Publication of Case Studies.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>2.3 Coordinate and leverage ongoing dam safety efforts to build efficiencies across various federal agencies.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ARS ▪ ERDC ▪ NOAA ▪ USBR ▪ USACE ▪ FERC ▪ ASDSO ▪ USSD ▪ Academia 	<ul style="list-style-type: none"> ▪ The number of coordinated dam safety research products/efforts. 	<ul style="list-style-type: none"> ▪ Identify research areas of coordination. ▪ Establish vehicles that will allow coordination.

Objective 3: Develop continuing education and advancement of dam safety engineers (public and private) based on a national standard program of study, training, and credentialing.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>3.1 Workshop the idea and possibilities around pilot credentialing and dam safety courses.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ USSD ▪ ASDSO ▪ ASCE ▪ Federal Agencies ▪ Academia 	<ul style="list-style-type: none"> ▪ Quantity and timing of training (webinars, seminars, short-term courses, and on-the-job training). ▪ Work with academia to develop credentialing and dam safety-specific courses. 	<ul style="list-style-type: none"> ▪ Canvas dam safety-related courses that could be leveraged. ▪ Assess the industry need and support for the credentials of dam safety professionals. ▪ Define credentials and criteria for dam safety professionals. ▪ A national coordinated effort to establish and develop continuing education or academic curriculum for dam safety engineers. ▪ Identify steps/processes for the next five years. ▪ In the past - FEMA sponsored a ‘train-the-trainer’ summer event called Multi-hazard Building Design Summer Institute at our Emergency Management Institute. Consider creating a summer training academy around dams following this model. ▪ Implementation of a certification process.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>3.2 Consider setting up a University Clearing House to help collaboration and long-term research opportunities around climate change.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ARS ▪ ERDC ▪ NOAA ▪ NWS ▪ NSF ▪ Academia 	<ul style="list-style-type: none"> ▪ Coordinate with federal agencies to compile a database for ongoing research to aid in implementation. 	<ul style="list-style-type: none"> ▪ Develop initial clearing house based on NDSP, and partners, dam safety research. ▪ Leverage U.S. Department of Agriculture Agricultural Research Service (USDA-ARS) through their Partnerships of Data Innovations is working with public and private partners in developing a decision-support informatics platform for sharing data, models, decision support tools, training, etc.
<p>3.3 Coordination/Partnerships with Institutions of Higher Education.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ ARS ▪ ERDC ▪ NSF ▪ USSD ▪ ASDSO ▪ ASCE ▪ Academia ▪ DHS S&T Center of Excellence 	<ul style="list-style-type: none"> ▪ The number of universities that incorporated NDSP materials into their academic curriculum. ▪ The number of universities funded to conduct NDSP research. ▪ The number of scholarships that have been awarded pertaining to dam safety. 	<ul style="list-style-type: none"> ▪ Develop an outreach strategy to promote dam safety curriculum to institutions of higher education. ▪ Coordinate with dam safety industry partners to track available dam safety related scholarships/ internships.

Objective 4: Promote the integration of emergency management to build effective risk management.

Activity/Action	Lead/Coordinating Entities	Performance Metrics	Milestones
<p>4.1 Host a forum with federal agencies and stakeholder groups to discuss advancing the standard practice of dam safety and risk management as it relates to evacuation planning and emergency preparation.</p>	<ul style="list-style-type: none"> ▪ FEMA ▪ CISA ▪ Federal Agencies ▪ Private Sector ▪ Academia 	<ul style="list-style-type: none"> ▪ Develop performance metric at FY24 Forum. ▪ Track forum registrants and their respective agencies. 	<ul style="list-style-type: none"> ▪ Establish relationships with industry stakeholders and form new partnerships. ▪ Host forum by FY24.