Dam Safety State Performance Reports

2019 National Inventory of Dams
& 2019 State Program
Performance Data

Association of State
Dam Safety Officials

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State Dam Safety Program Performance Overview

Dams are a critical part of the nation's infrastructure, providing vital benefits such as flood protection, water supply, hydropower, irrigation and recreation. Yet thousands of US dams have the potential to fail with tragic consequences. Our nation's dams are aging and deteriorating while downstream populations are increasing; this situation demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

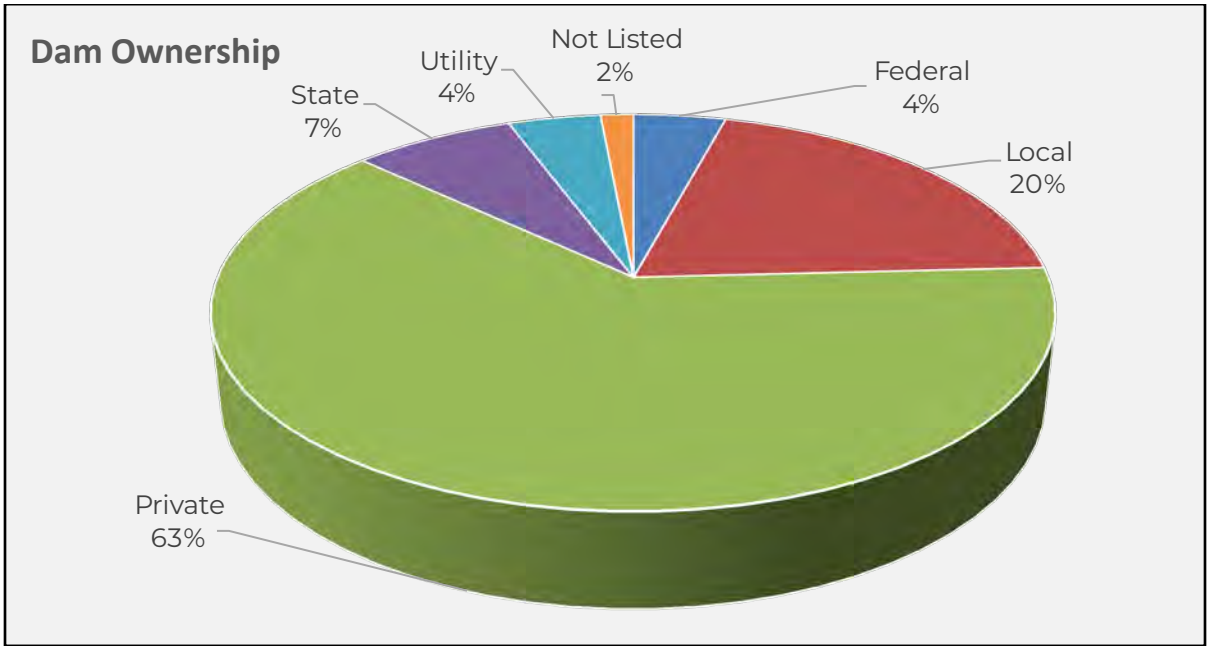
State Dam Safety Programs regulate 69% of the 91,457 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. Many state programs lack adequate budgets, staff and authority to ensure public safety.

Improvement in State Dam Safety Program Performance

(2019 NID & 2019 State Program Performance Data – Report Date November 2020)

Statistics

Total NID Dams	91,457
Total NID High Hazard Dams	15,621
Total State Regulated Dams	85,134
Total State Regulated High Hazard Dams	12,887



Unlike Most Components of US infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam ownership percentages are based on the 2019 NID dataset for total NID-sized dams.

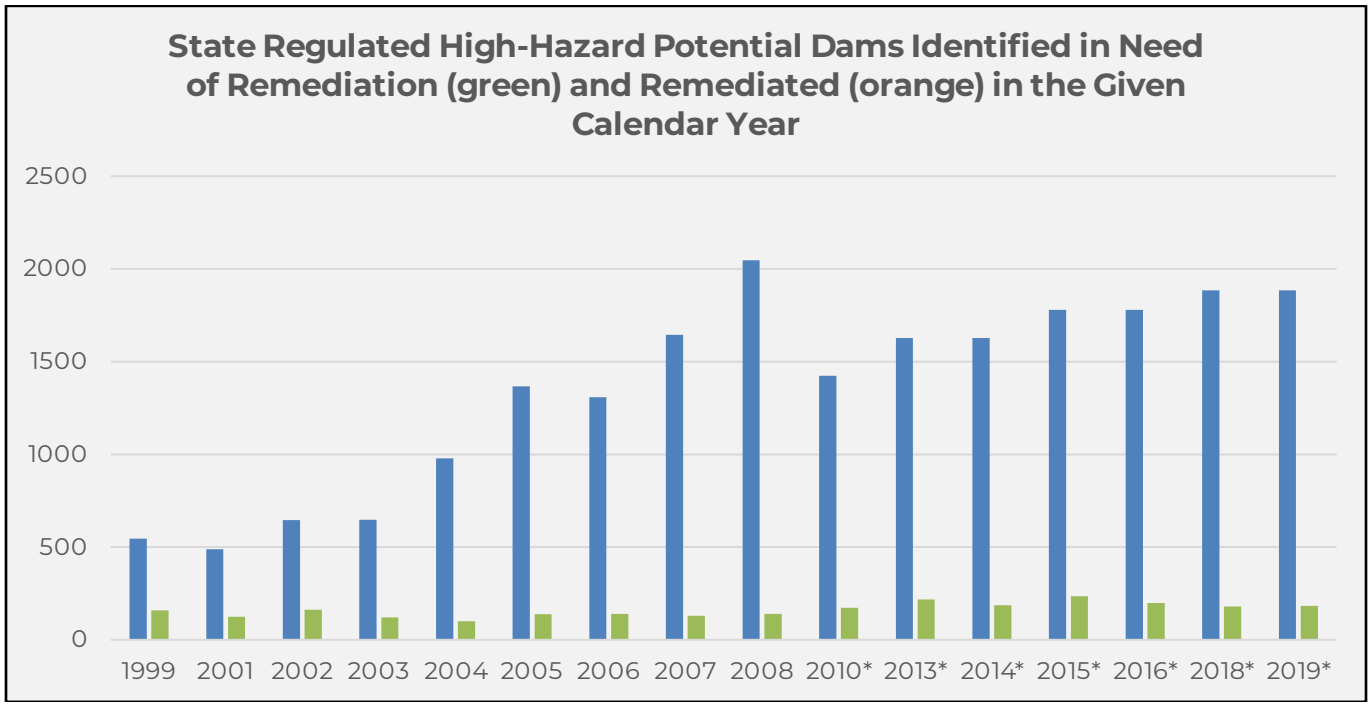
Building State Programs to Address Deficient Dams

The National Dam Safety Program, in cooperation with the Association of State Dam Safety Officials (ASDSO), developed the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to minimize risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The following table presents the weighted average of state responses over time to a series of yes/no questions on the authorities for each chapter. The areas are listed and weighted by importance (weights indicated in parentheses). Higher percentages indicate greater alignment of the state programs with the model.

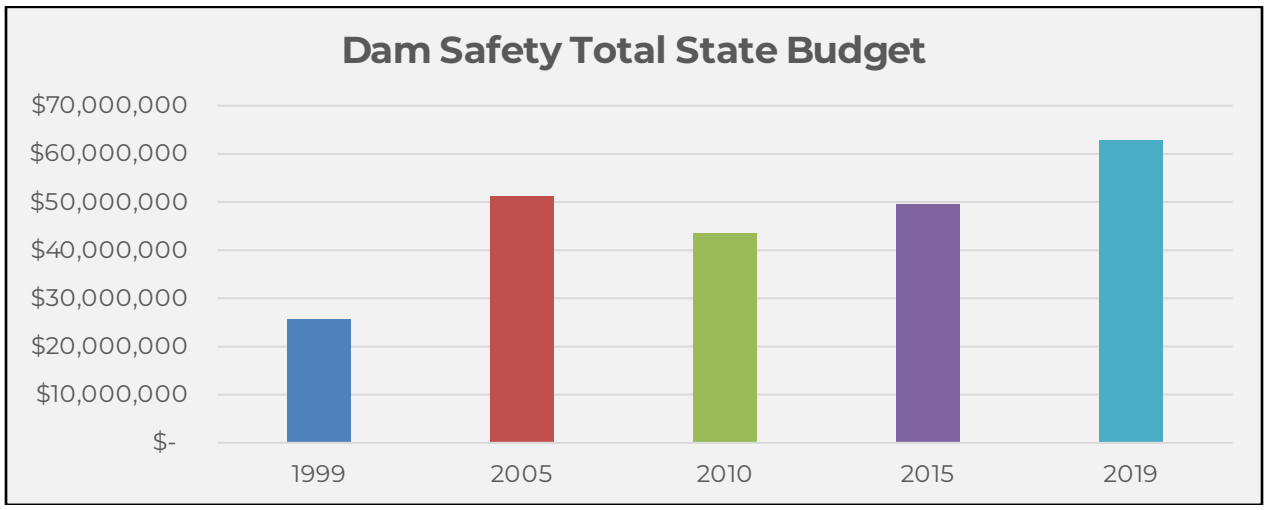
State Authorities	1989	1998	2010	2020
Legislation (5)	64%	73%	85%	86%
Inspection (4)	54%	68%	74%	79%
Enforcement (4)	66%	79%	90%	93%
EAP and Response (4)	51%	62%	72%	79%
Permitting (3)	58%	67%	75%	77%
Education and Training (3)		59%	72%	76%
Public Relations (1)		13%	30%	32%
Overall Weighted Percentage	59%	66%	77%	80%

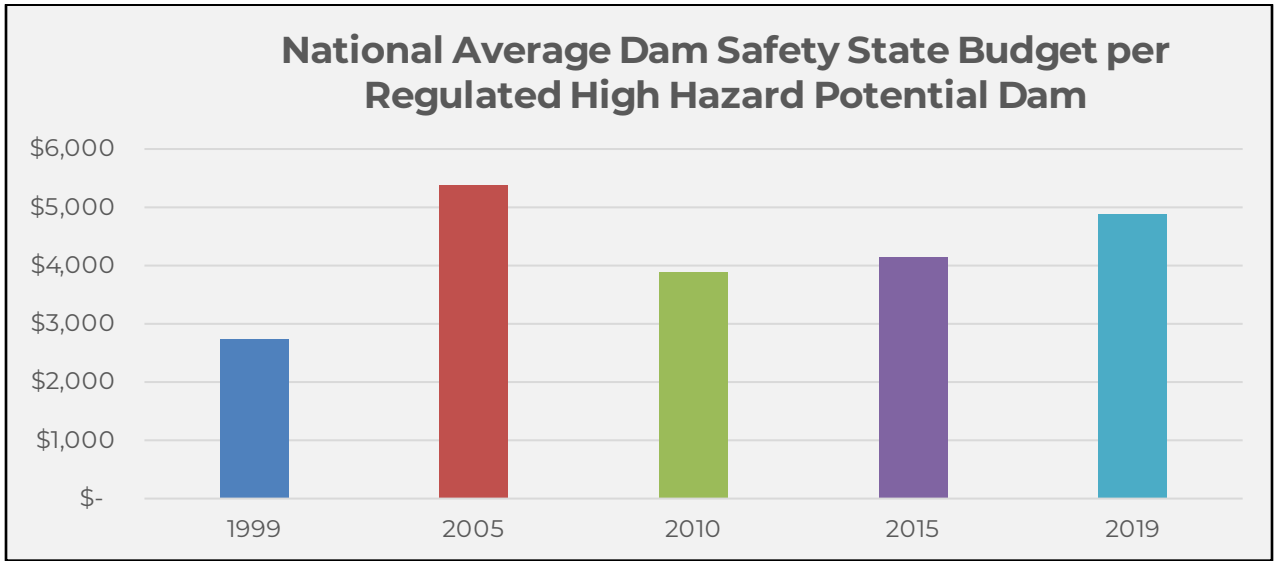
Identifying the Problem

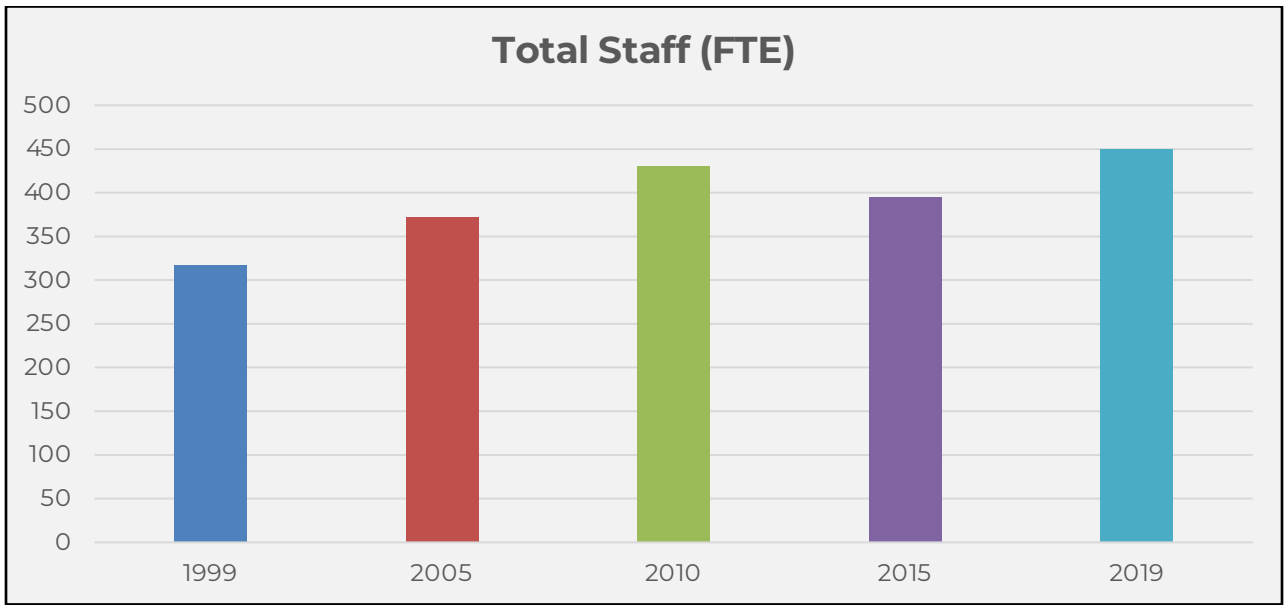


*2010 - 2019 data from NID condition assessment with not all State Regulated HHP dams being reported (86% in 2019). Prior years' data was anecdotal totals reported by each state to ASDSO. The condition assessment field, instituted by the NID in 2009, provides more accurate data on remediation needs than the anecdotal totals.

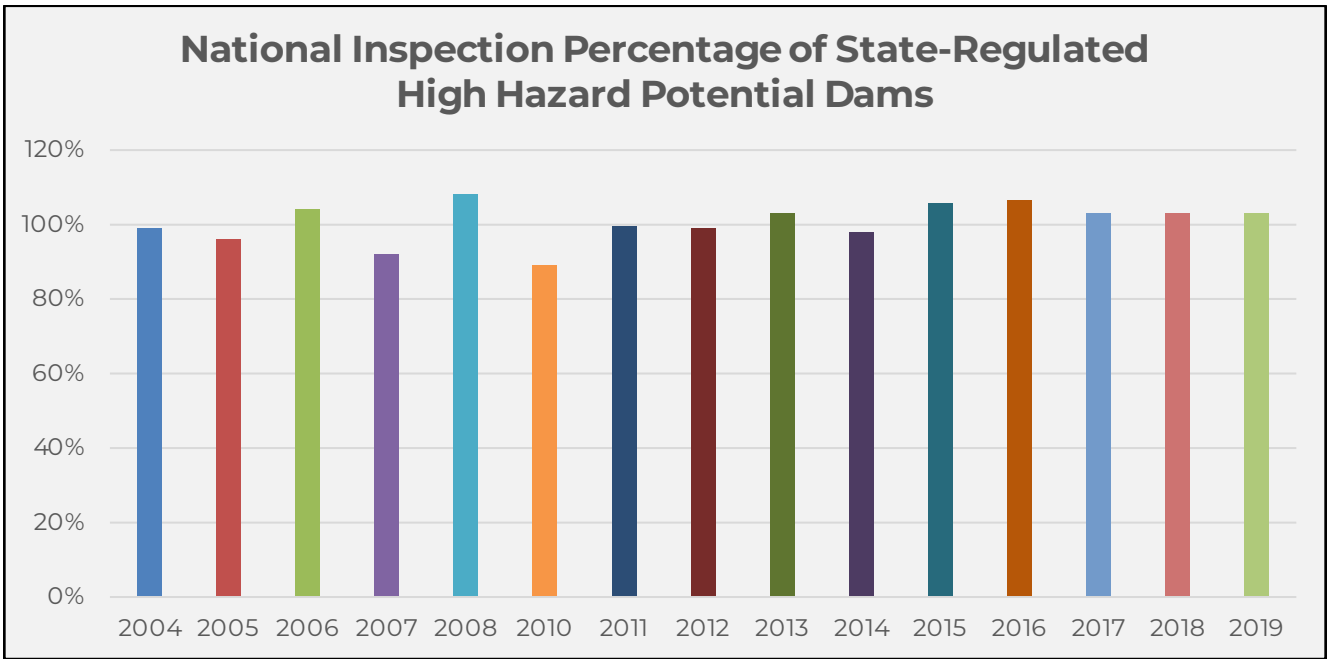
Advances in Resources for State Dam Safety Programs



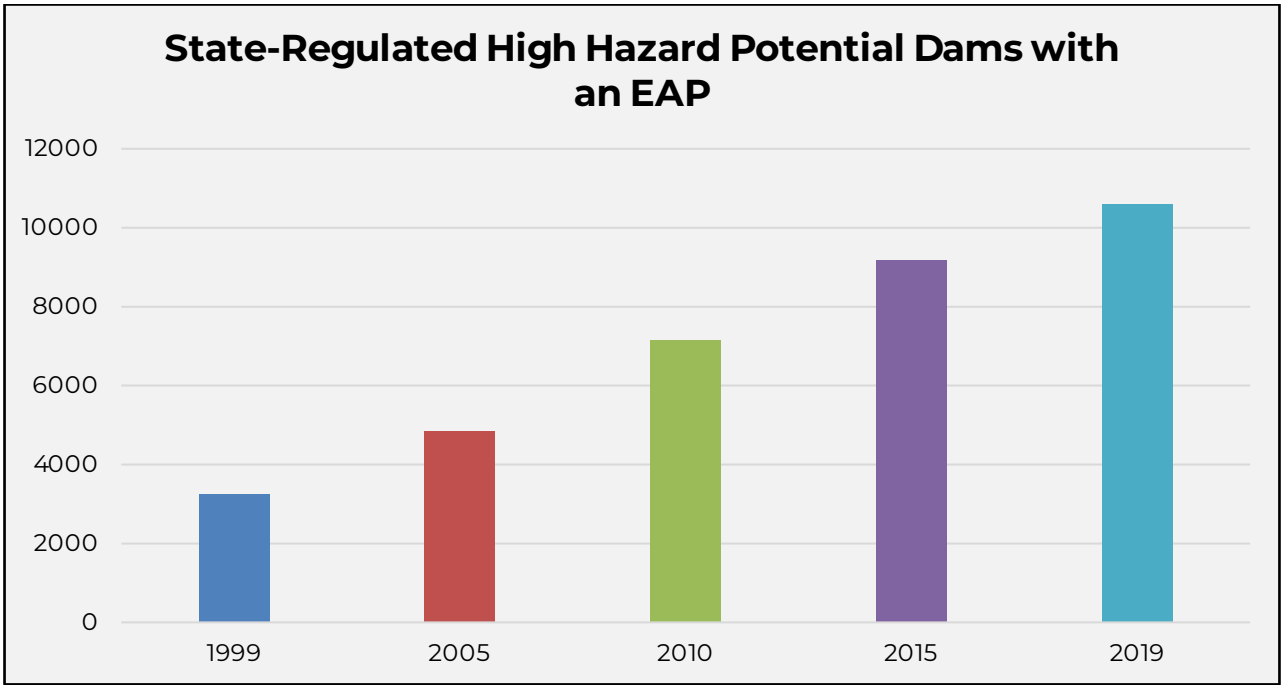


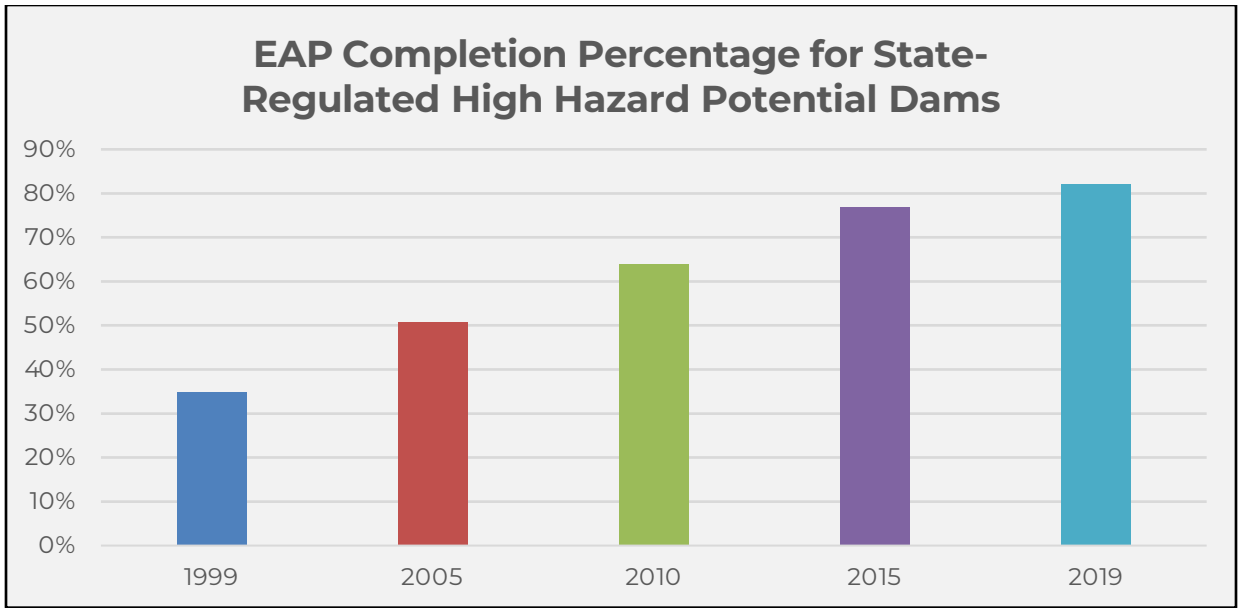


Inspection of High Hazard Potential State Regulated Dams Remains a Strength



Improvement in Emergency Preparedness for High Hazard Potential Dams




EAP Completion Percentage for State-Regulated High Hazard Potential Dams
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1999
2005
2010
2015
2019

Dam Safety Performance Report
ALASKA

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

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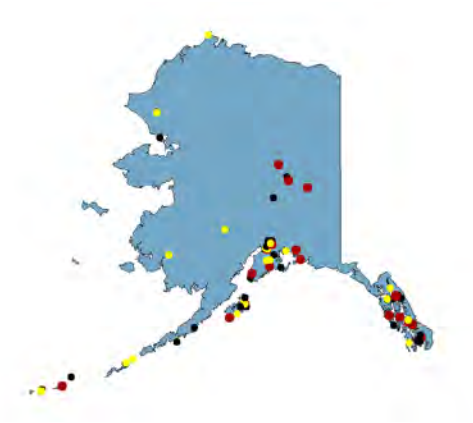


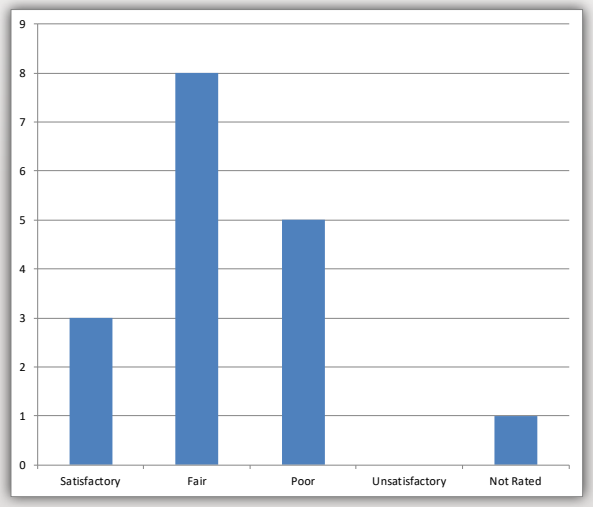
State NID Statistics

107	NID Dams
28	NID High Hazard Potential Dams
81	State-Regulated Dams
17	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

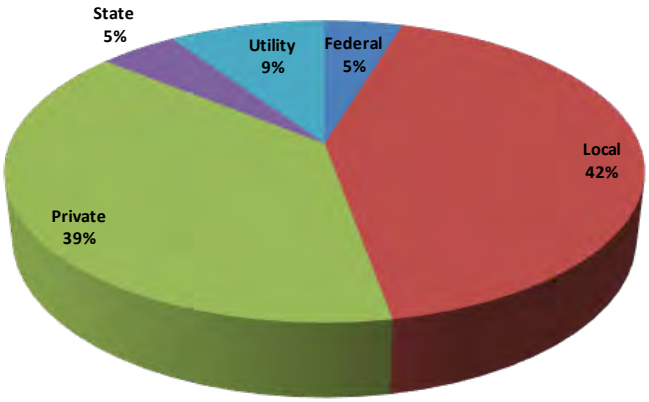
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

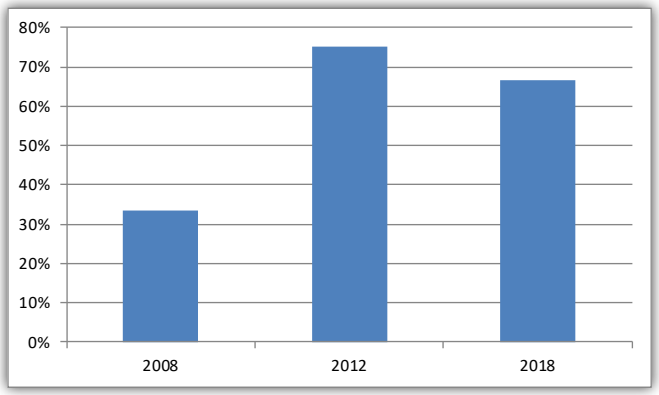
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

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Overall Weighted Percentage

1989	1998	2010	2018	
86%	79%	71%	73%	**Alaska**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

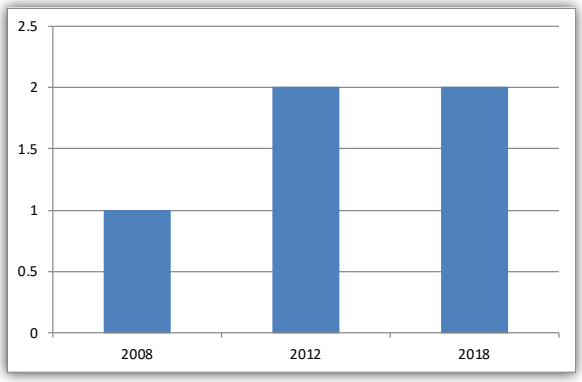
Legislation (5)	**94%**
Inspection (4)	**75%**
Enforcement (4)	**50%**
EAP & Response (4)	**94%**
Permitting (3)	**90%**
Education & Training (3)	**39%**
Public Relations (1)	**8%**
Weighted Percentage	**73%**

Estimated Breakdown of Dams per Congressional District

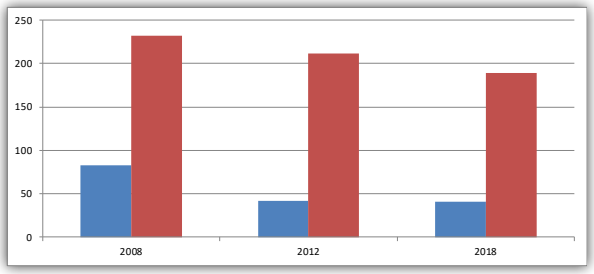
Alaska has one Congressional District accounting for 107 dams.

State Staffing for Dam Safety

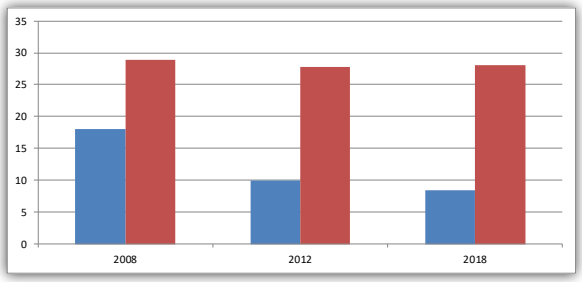
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

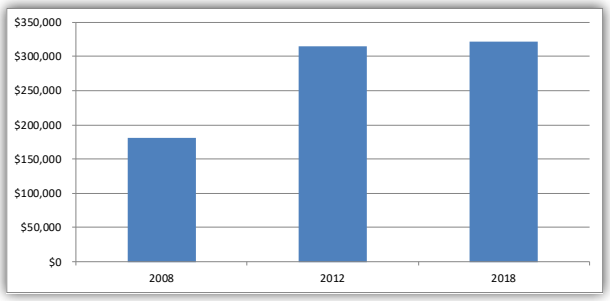


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

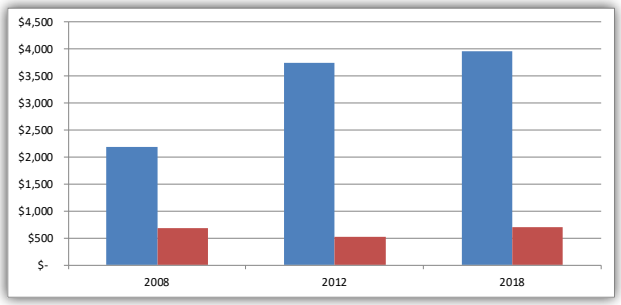


State Budgeting for Dam Safety

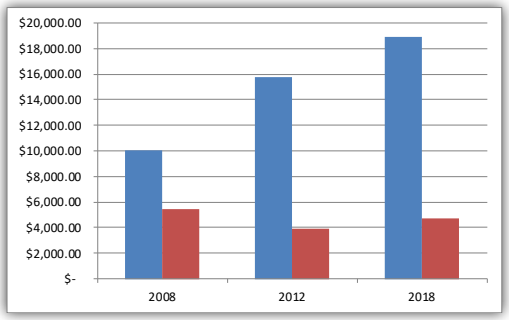
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

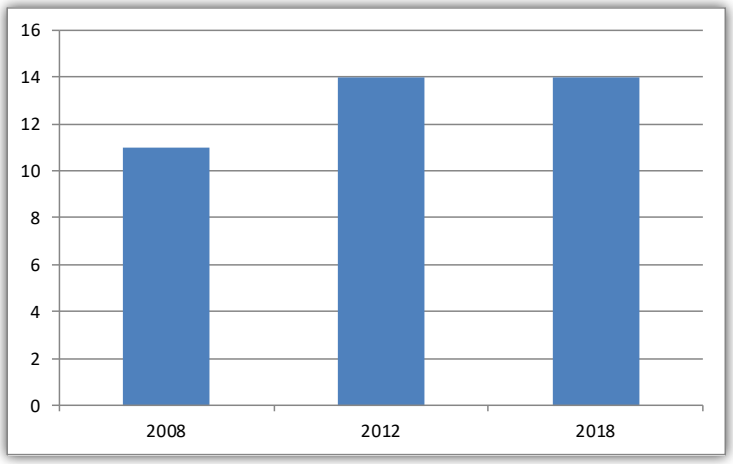


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

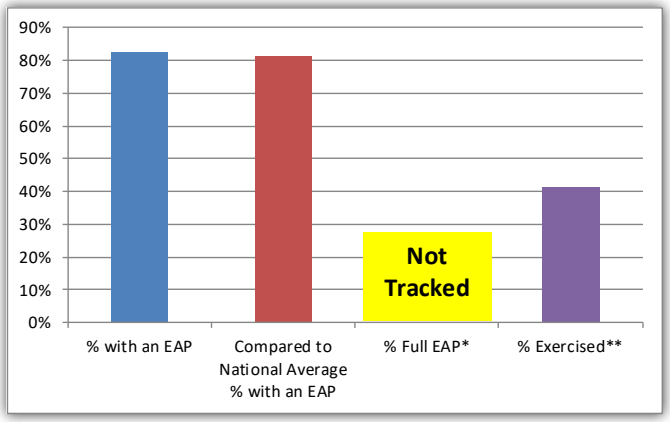
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

Association of State Dam Safety Officials

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Lexington, KY 40508

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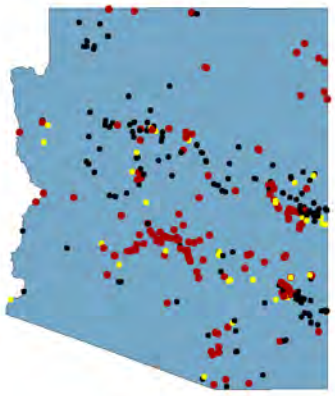
Dam Safety Performance Report
ARIZONA



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State NID Statistics

376	NID Dams
164	NID High Hazard Potential Dams
257	State-Regulated Dams
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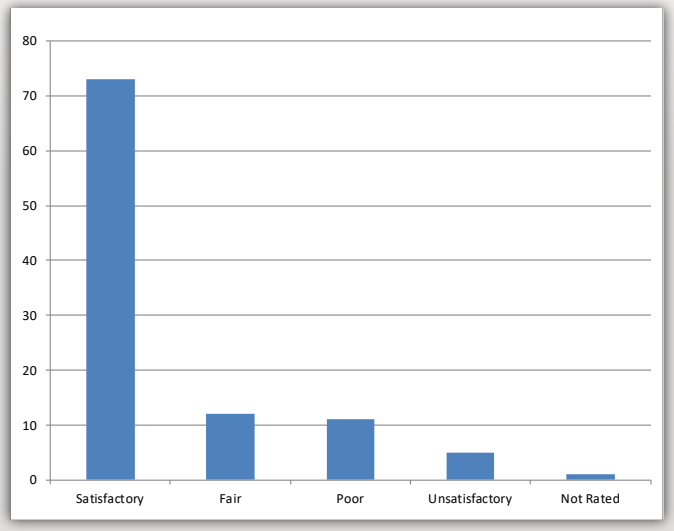

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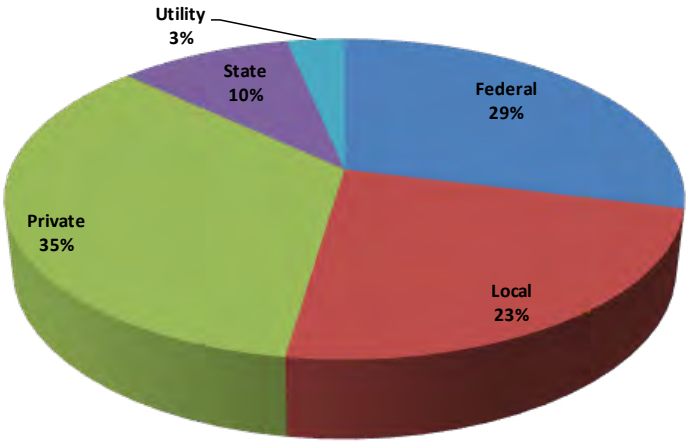
Dam Ownership



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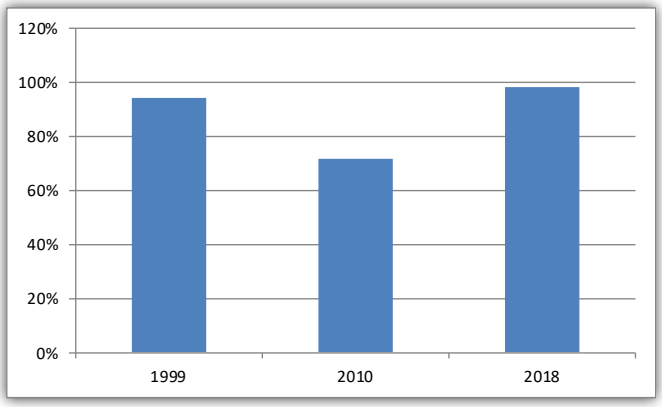
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
74%	80%	84%	84%	**Arizona**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

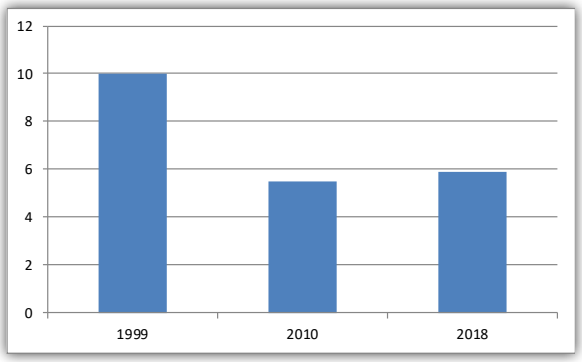
Legislation (5)	**100%**
Inspection (4)	**88%**
Enforcement (4)	**83%**
EAP & Response (4)	**100%**
Permitting (3)	**92%**
Education & Training (3)	**50%**
Public Relations (1)	**67%**
Weighted Percentage	**93%**

Estimated Breakdown of Dams per Congressional District

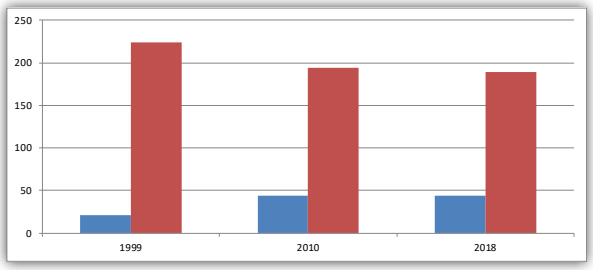
Arizona-1	208	Arizona-5	2
Arizona-2	20	Arizona-6	20
Arizona-3	24	Arizona-8	5
Arizona-4	78	Arizona-9	2

State Staffing for Dam Safety

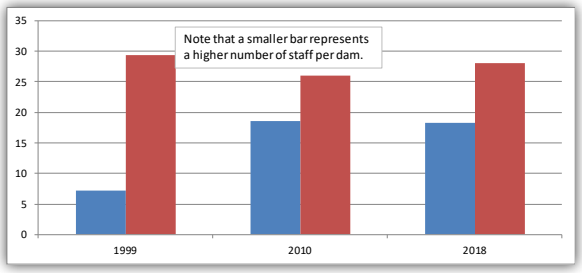
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

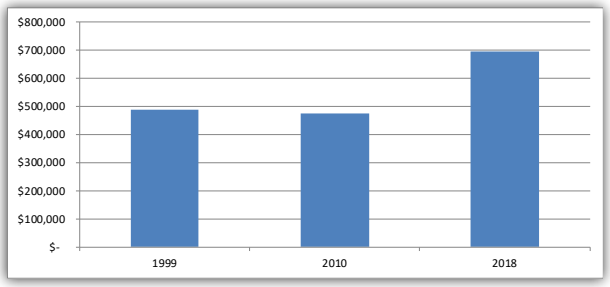


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

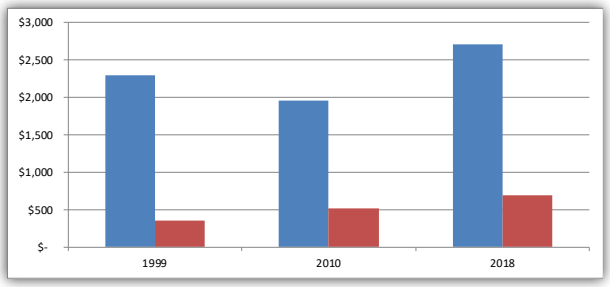


State Budgeting for Dam Safety

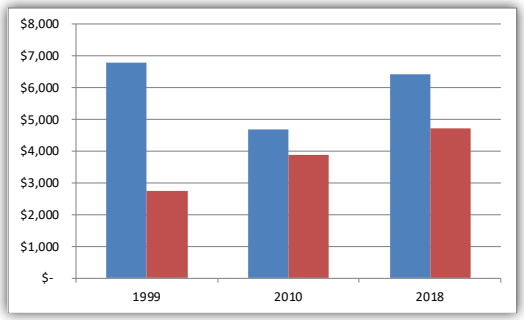
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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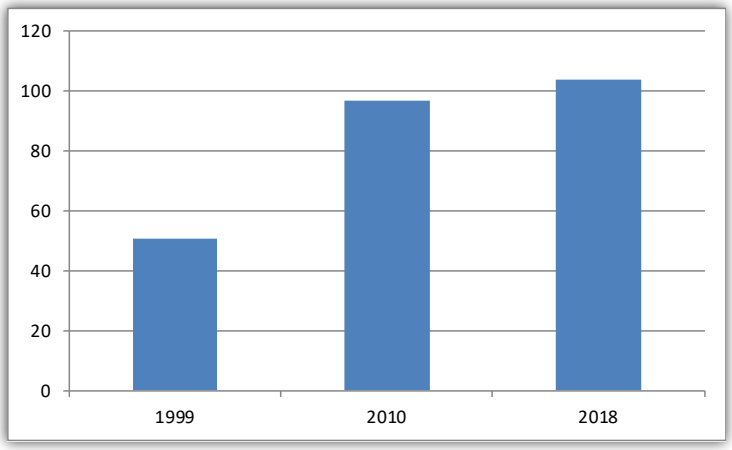
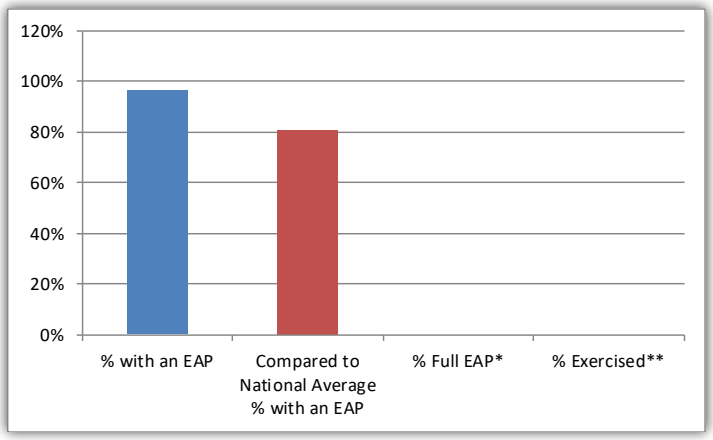
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Arizona conducted 106 dam owner meetings during scheduled dam safety inspections to discuss various issues, such as operation and maintenance and emergency preparedness.

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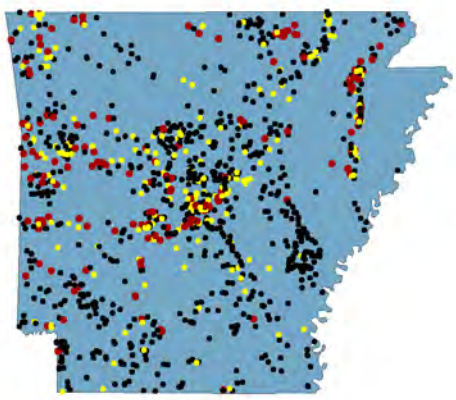
Dam Safety Performance Report
ARKANSAS



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

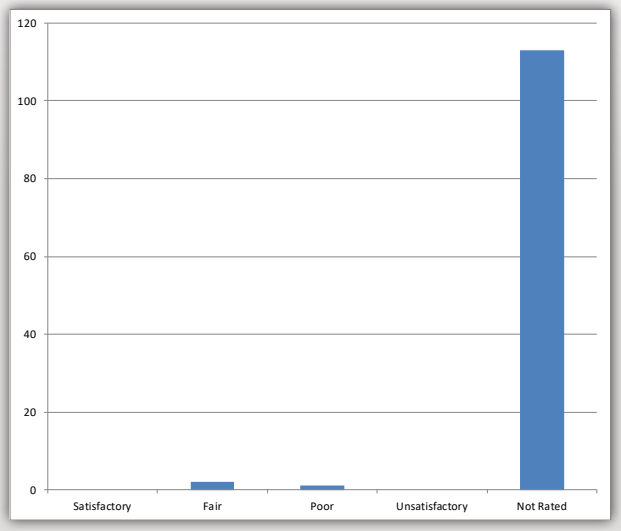
State NID Statistics

1263	NID Dams
193	NID High Hazard Potential Dams
410	State-Regulated Dams
114	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

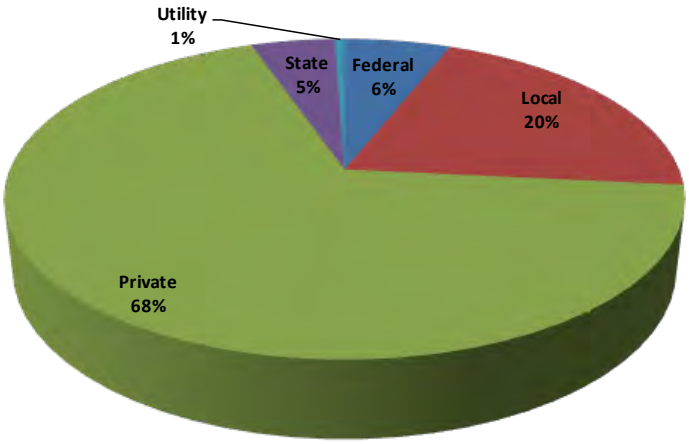
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

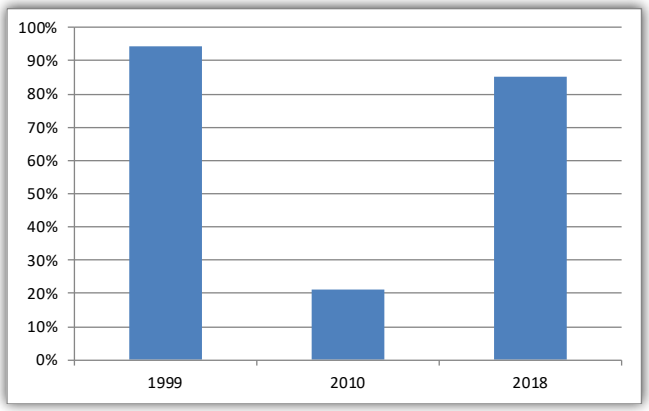
High Hazard Potential Dams Remediated – In calendar year 2018, three state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

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Overall Weighted Percentage

1989	1998	2010	2018	
47%	90%	81%	82%	**Arkansas**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

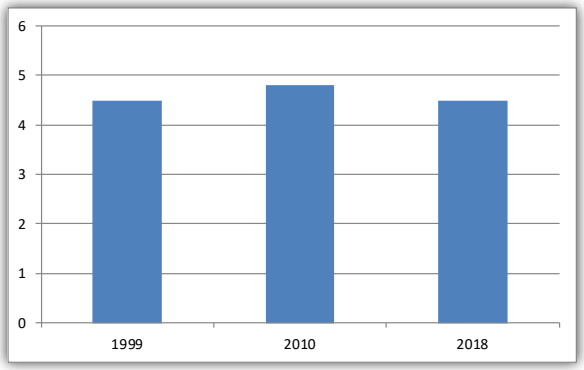
Legislation (5)	**97%**
Inspection (4)	**75%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**71%**
Education & Training (3)	**72%**
Public Relations (1)	**8%**
Weighted Percentage	**82%**

Estimated Breakdown of Dams per Congressional District

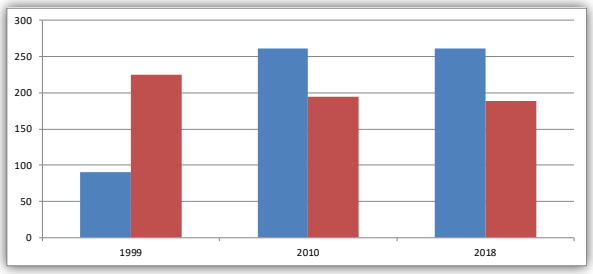
Arkansas-1	400	Arkansas-3	98
Arkansas-2	297	Arkansas-4	461

State Staffing for Dam Safety

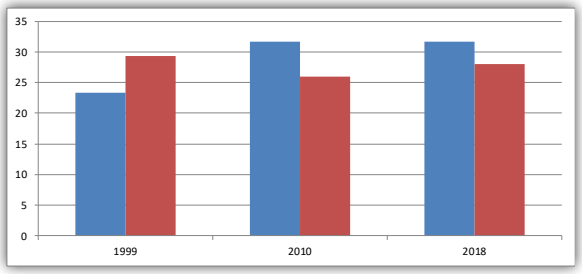
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

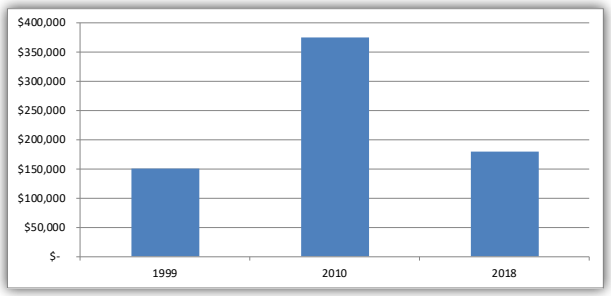


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

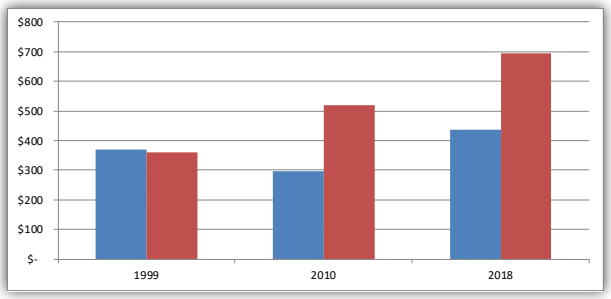


State Budgeting for Dam Safety

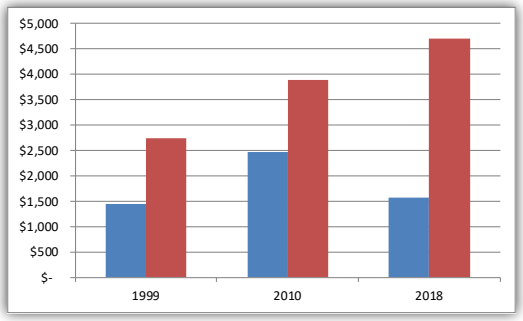
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

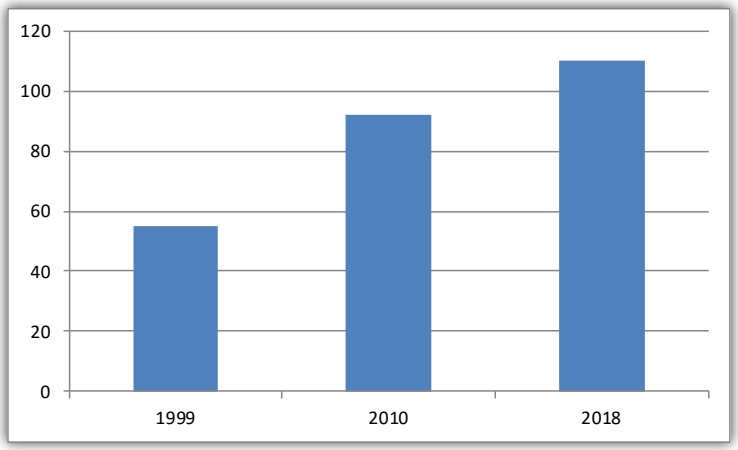


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

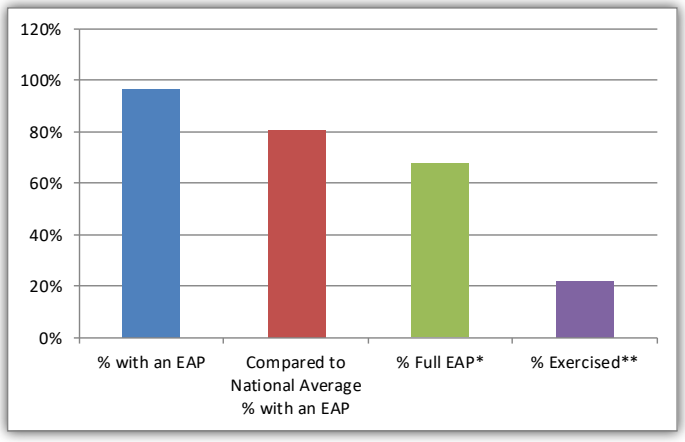
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Arkansas conducted an annual dam owner workshop training, and 34 on-site meetings with dam owners for maintenance issues, and EAP exercises.

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Dam Safety Performance Report
CALIFORNIA

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State NID Statistics

1580	NID Dams
805	NID High Hazard Potential Dams
1246	State-Regulated Dams
643	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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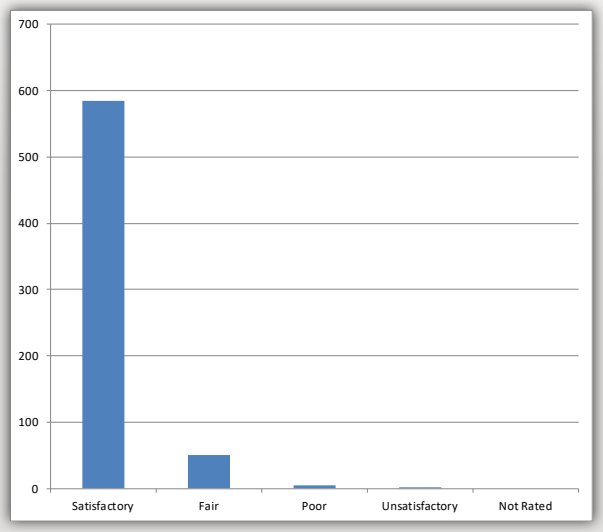
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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Satisfactory – No existing or potential dam safety deficiencies are recognized.

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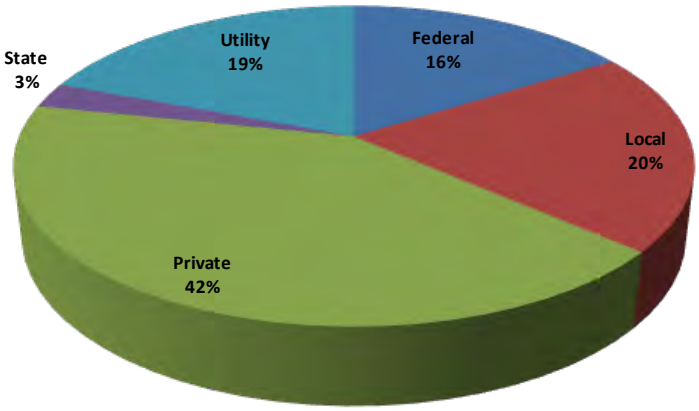
Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, ten state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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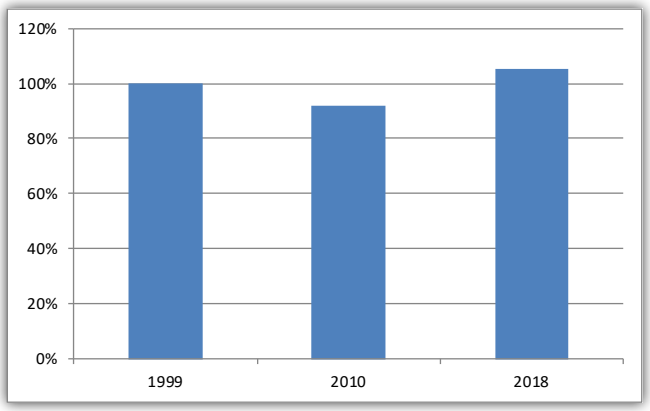
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
61%	74%	78%	90%	**California**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

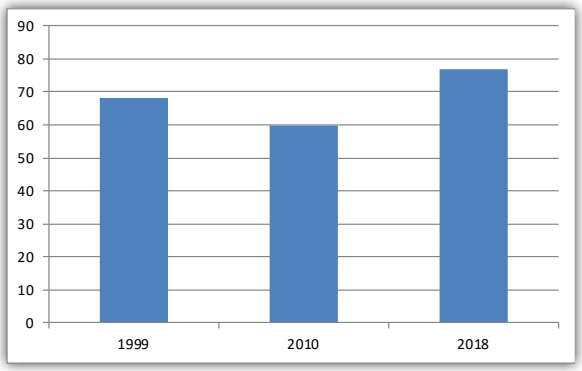
Legislation (5)	**70%**
Inspection (4)	**97%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**75%**
Education & Training (3)	**100%**
Public Relations (1)	**100%**
Weighted Percentage	**90%**

Estimated Breakdown of Dams per Congressional District

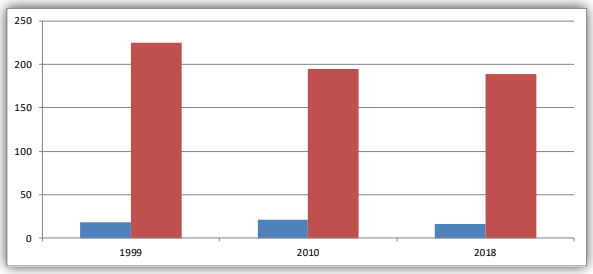
California-1	362	California-9	22	California-16	16	California-23	29	California-30	9	California-38	2	California-49	17
California-2	96	California-10	13	California-17	3	California-24	28	California-31	12	California-39	12	California-50	26
California-3	52	California-11	20	California-18	31	California-25	18	California-32	5	California-41	18	California-51	14
California-4	303	California-12	7	California-19	24	California-26	17	California-33	15	California-42	21	California-52	7
California-5	108	California-13	6	California-20	29	California-27	27	California-34	2	California-45	26	California-53	4
California-7	24	California-14	11	California-21	14	California-28	22	California-35	2	California-47	3		
California-8	55	California-15	16	California-22	8	California-29	4	California-36	15	California-48	5		

State Staffing for Dam Safety

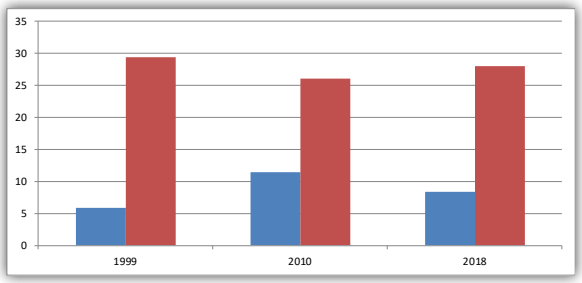
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

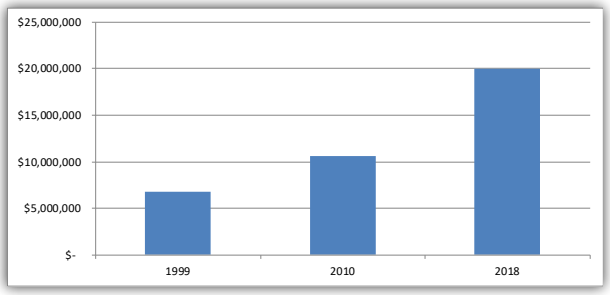


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

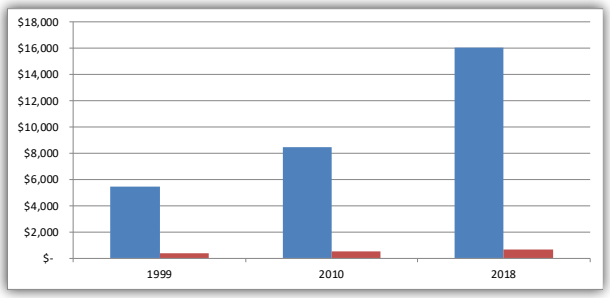


State Budgeting for Dam Safety

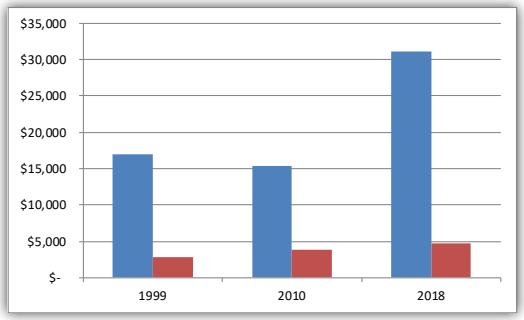
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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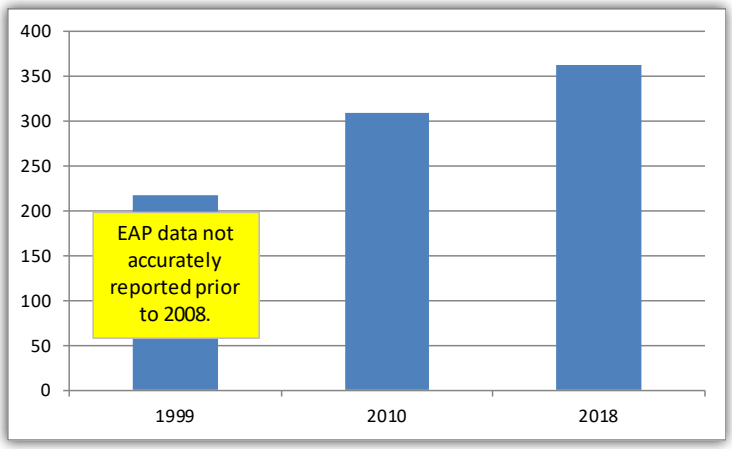
An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



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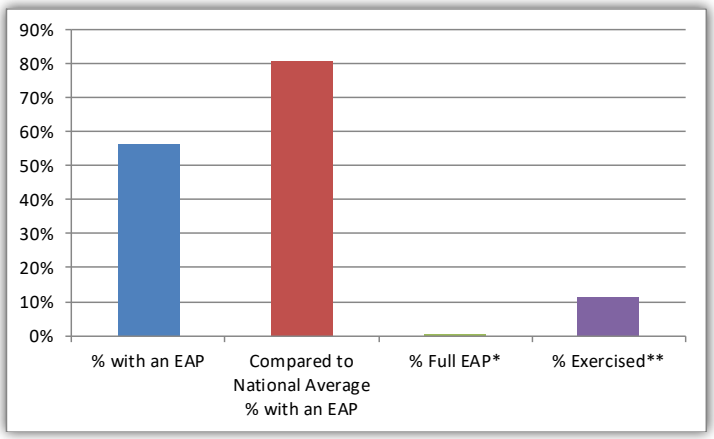

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State Outreach Highlights

In 2018, California conducted more than 1500 maintenance and construction inspections in which they met with dam owners and consultants to discuss the safety of the owner's dams and appurtenant structures. In addition, California conducted approximately 200 meetings and phone conferences with dam owners and their consultants. Public outreach meetings were also held for newly adopted annual fee and inundation map regulations. On a continuous basis, the state promotes and assists owners with the preparation of Inundation Maps and EAPs for dams.

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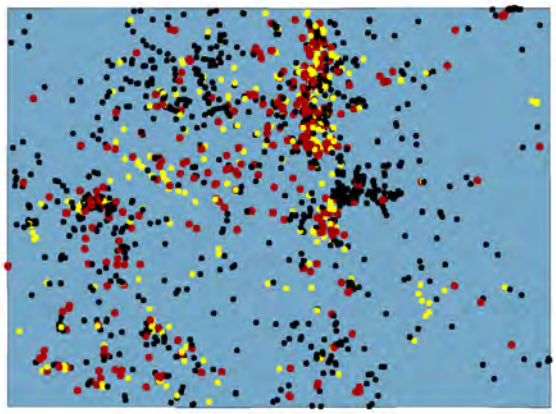
Dam Safety Performance Report
COLORADO



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State NID Statistics

1803	NID Dams
453	NID High Hazard Potential Dams
1763	State-Regulated Dams
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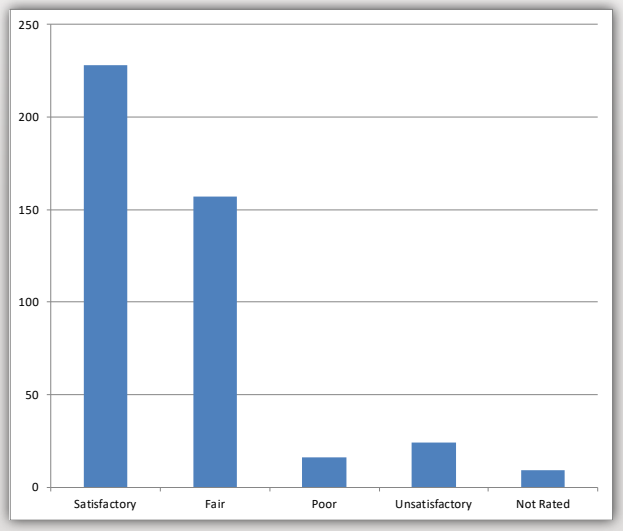
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

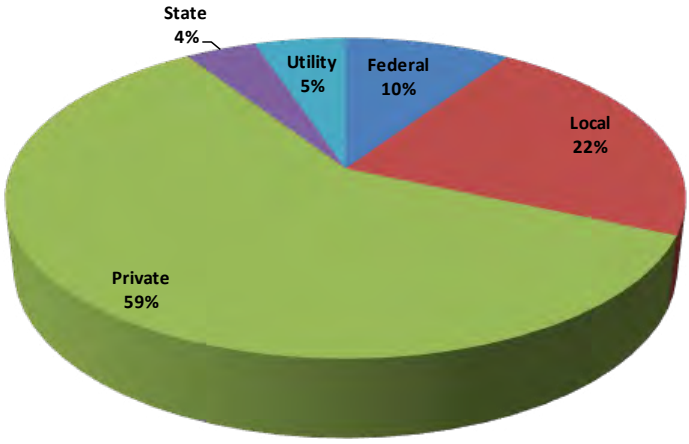
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

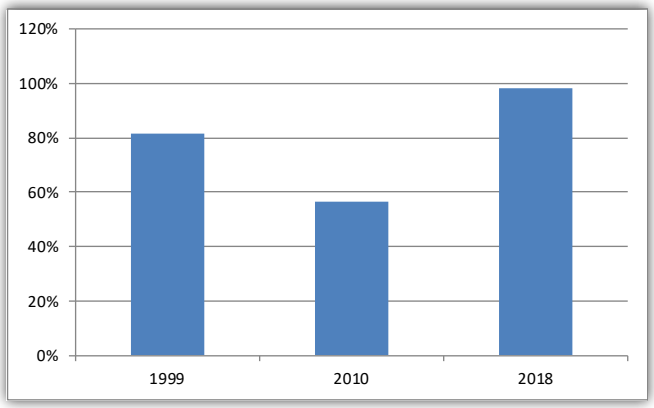
High Hazard Potential Dams Remediated – In calendar year 2018, fifteen state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

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Overall Weighted Percentage

1989	1998	2010	2018	
58%	83%	76%	89%	**Colorado**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

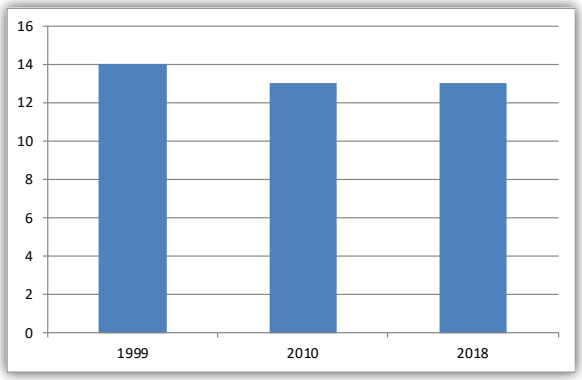
Legislation (5)	**97%**
Inspection (4)	**87%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**81%**
Education & Training (3)	**89%**
Public Relations (1)	**42%**
Weighted Percentage	**89%**

Estimated Breakdown of Dams per Congressional District

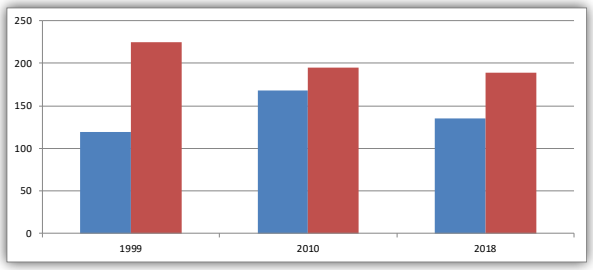
Colorado-1	18	Colorado-5	179
Colorado-2	368	Colorado-6	23
Colorado-3	779	Colorado-7	69
Colorado-4	350		

State Staffing for Dam Safety

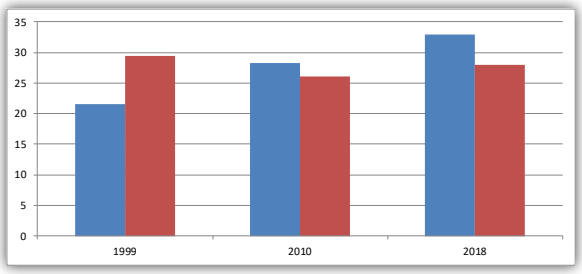
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

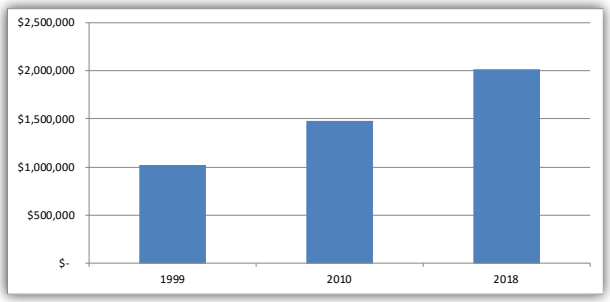


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

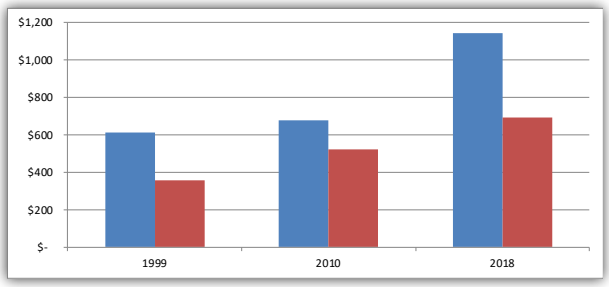


State Budgeting for Dam Safety

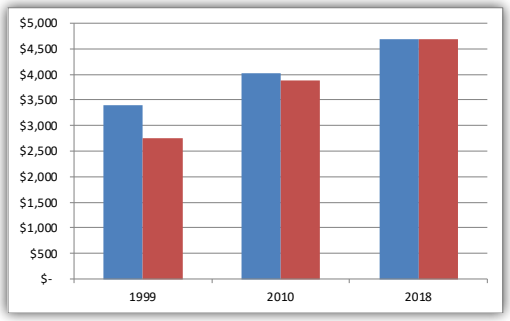
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

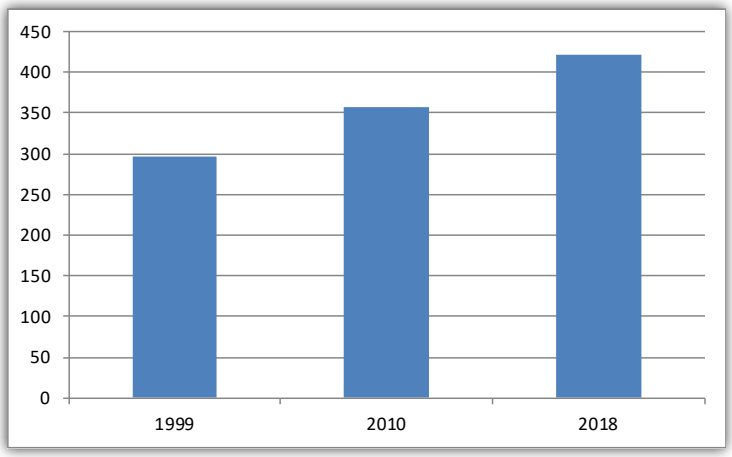


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

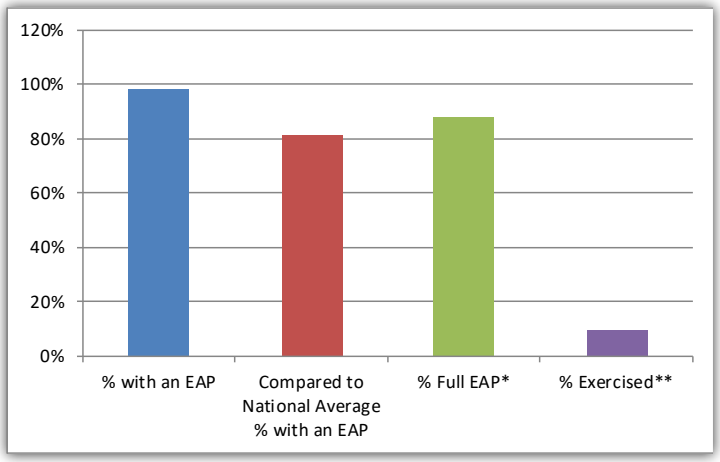
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Colorado had 183 outreach efforts including design review meetings, PFMA's, Public meetings, EAP exercises, CDHSEM coordination meetings, meetings for our Regional Extreme Precipitation Study and meetings and presentations for our High Hazard dam release - downstream floodplain impacts study.

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Dam Safety Performance Report
CONNECTICUT

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

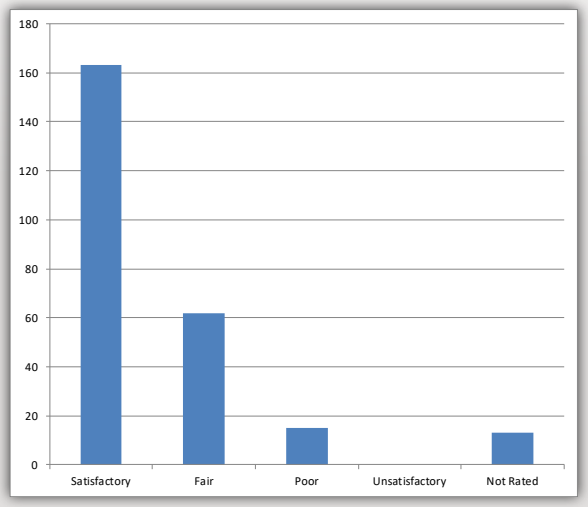
State NID Statistics

845	NID Dams
284	NID High Hazard Potential Dams
3172	State-Regulated Dams
282	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

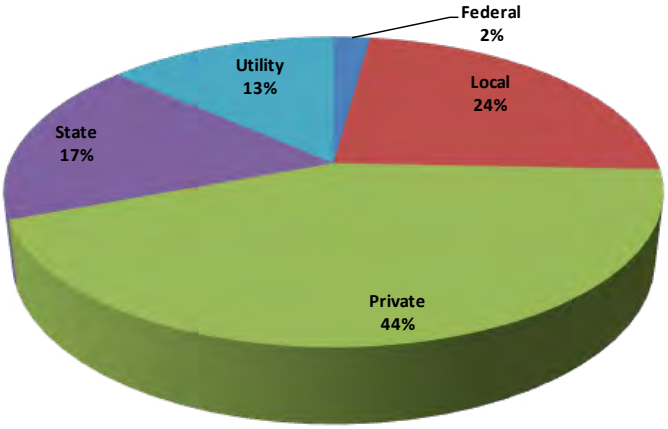
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

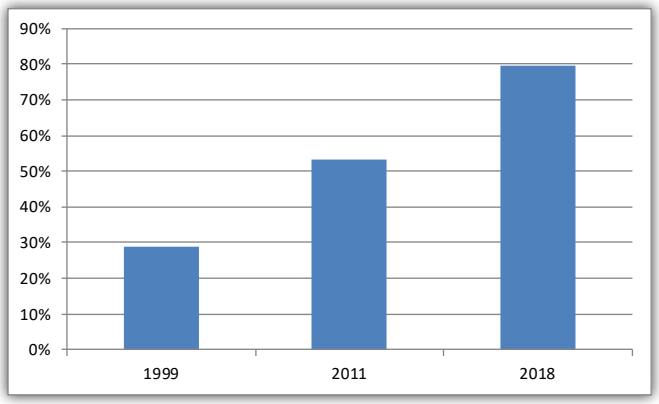
High Hazard Potential Dams Remediated – In calendar year 2018, eight state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
61%	87%	79%	84%	**Connecticut**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

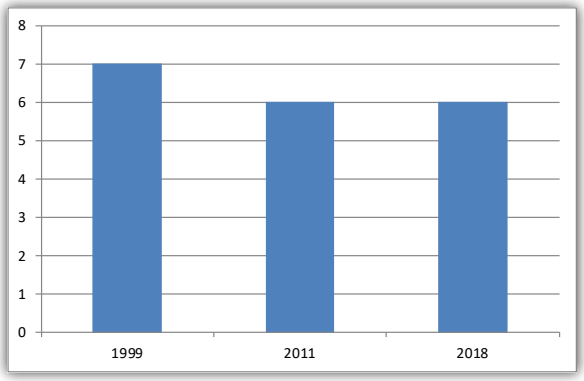
Legislation (5)	**88%**
Inspection (4)	**80%**
Enforcement (4)	**100%**
EAP & Response (4)	**94%**
Permitting (3)	**81%**
Education & Training (3)	**67%**
Public Relations (1)	**42%**
Weighted Percentage	**84%**

Estimated Breakdown of Dams per Congressional District

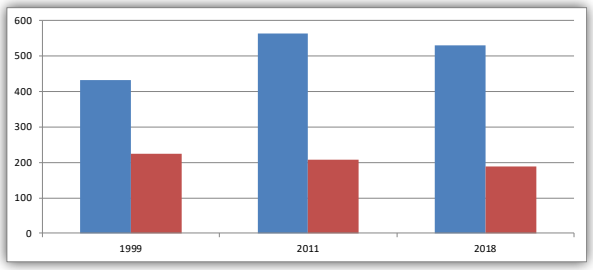
Connecticut-1	122
Connecticut-2	319
Connecticut-3	97
Connecticut-4	96
Connecticut-5	211

State Staffing for Dam Safety

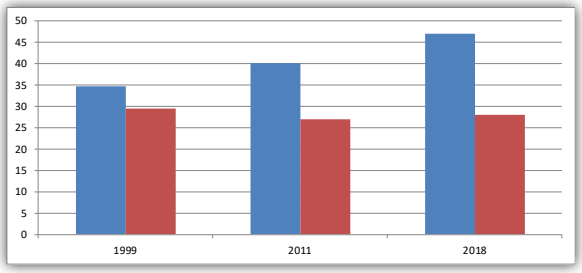
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

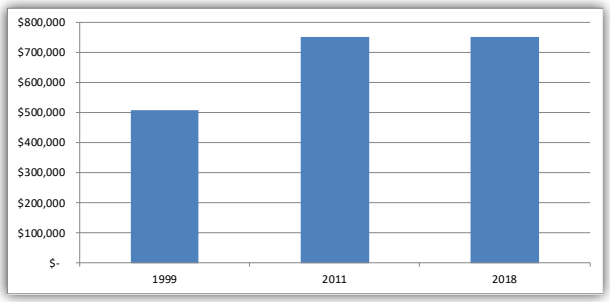


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

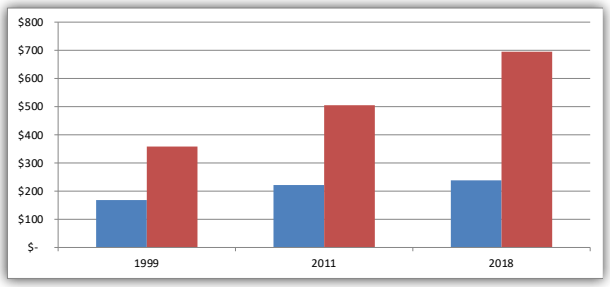


State Budgeting for Dam Safety

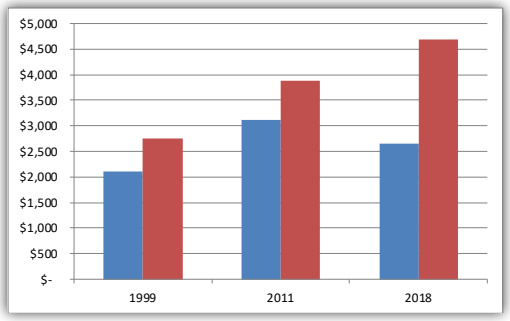
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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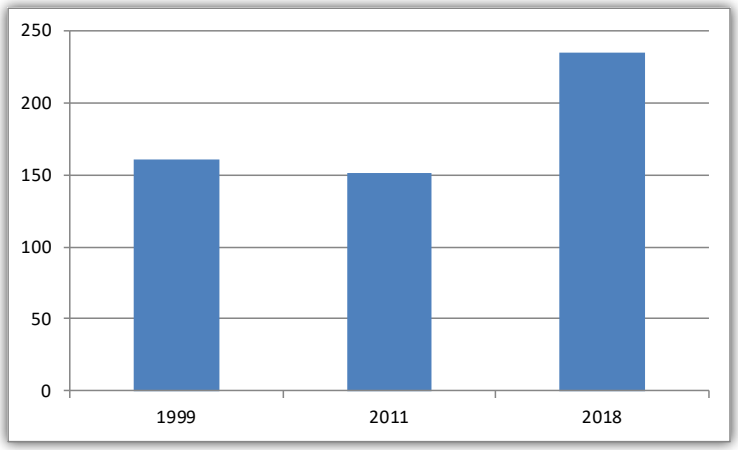
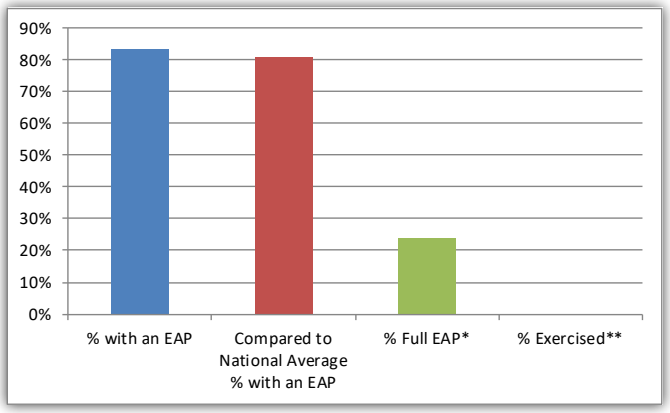
An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Association of State Dam Safety Officials

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Dam Safety Performance Report
DELAWARE

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"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

State NID Statistics

83	NID Dams
63	NID High Hazard Potential Dams
47	State-Regulated Dams
43	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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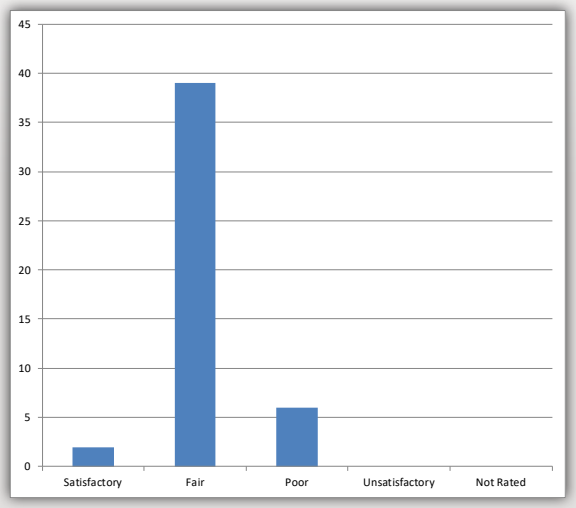
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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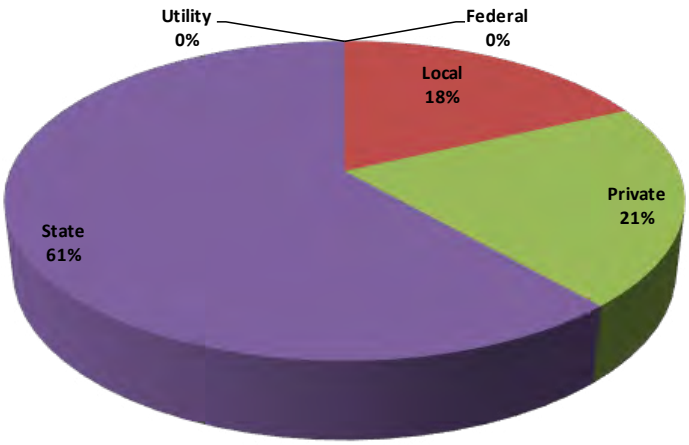
Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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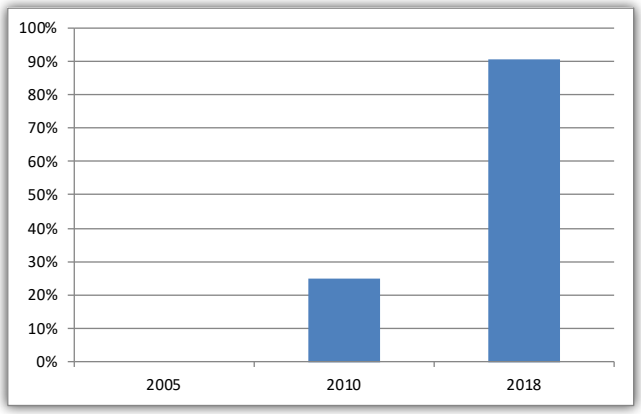
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
Delaware did not have a dam safety program prior to 2004.		85%	84%	**Delaware**
		77%	79%	**National Average**

2018 State Weighted Percentage

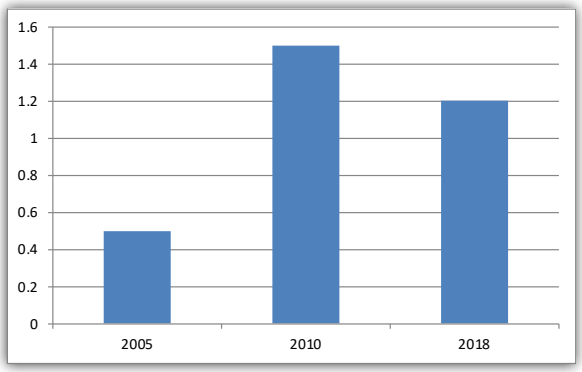
Legislation (5)	**100%**
Inspection (4)	**80%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**94%**
Education & Training (3)	**50%**
Public Relations (1)	**17%**
Weighted Percentage	**84%**

Estimated Breakdown of Dams per Congressional District

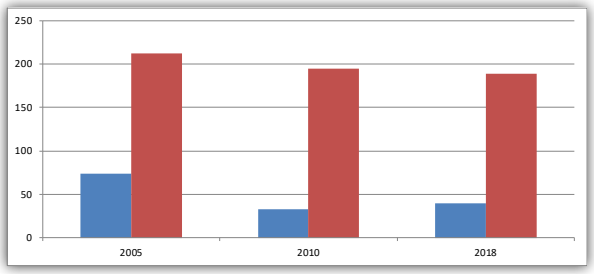
Delaware has one Congressional District accounting for 83 dams.

State Staffing for Dam Safety

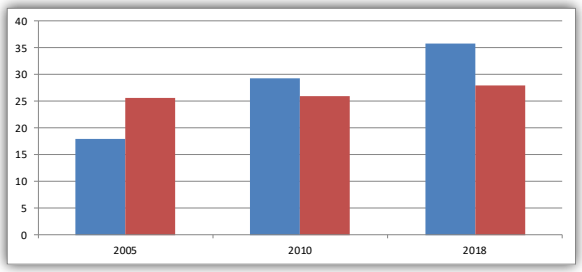
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

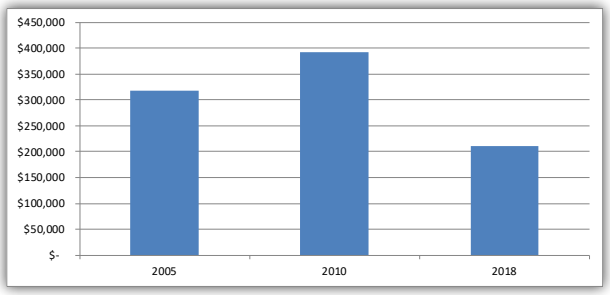


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

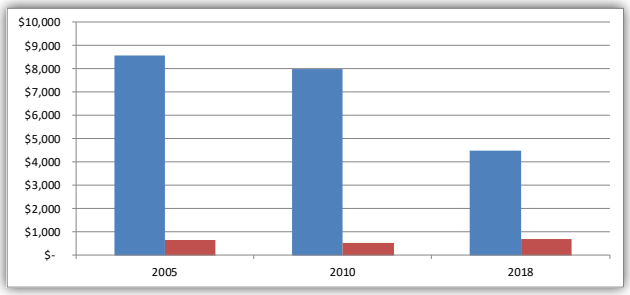


State Budgeting for Dam Safety

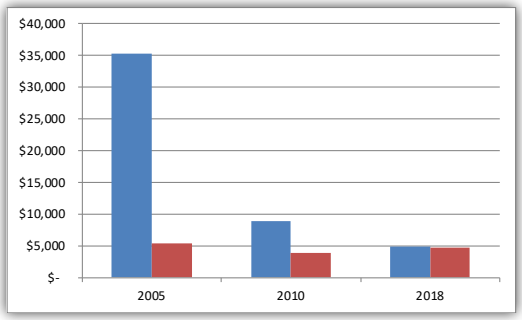
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

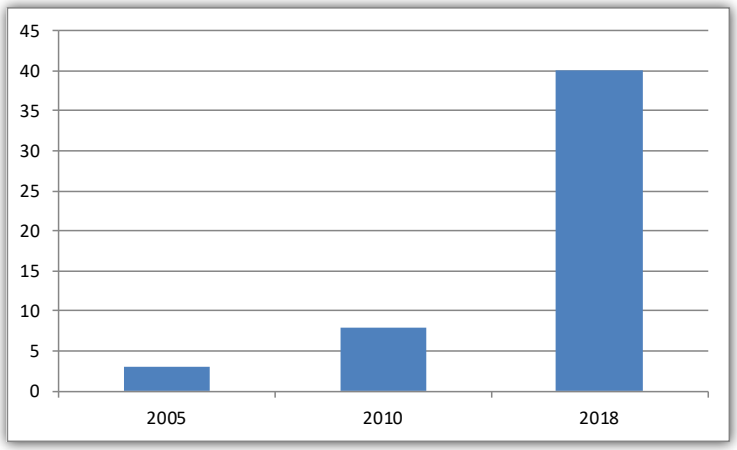


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

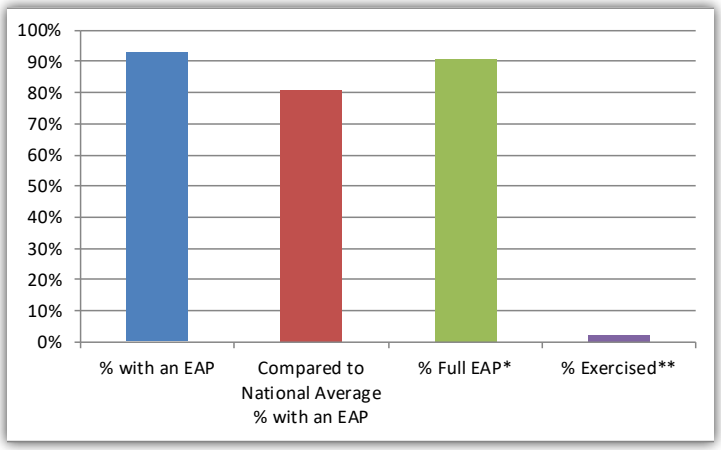
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Delaware law exempts dams owned by private individuals and entities.

Association of State Dam Safety Officials
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Dam Safety Performance Report
FLORIDA

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

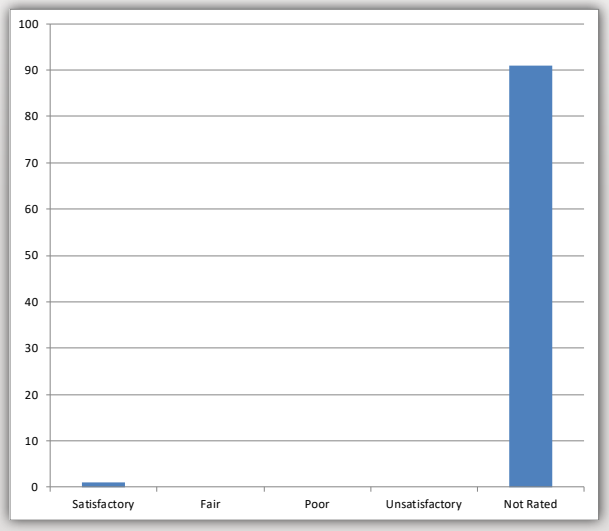
State NID Statistics

1110	NID Dams
102	NID High Hazard Potential Dams
967	State-Regulated Dams
100	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

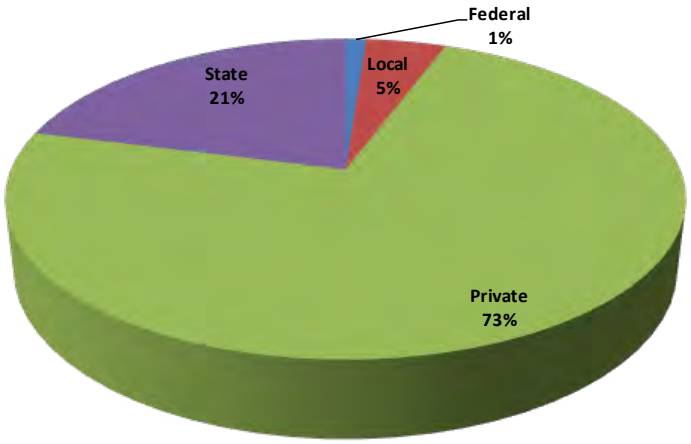
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

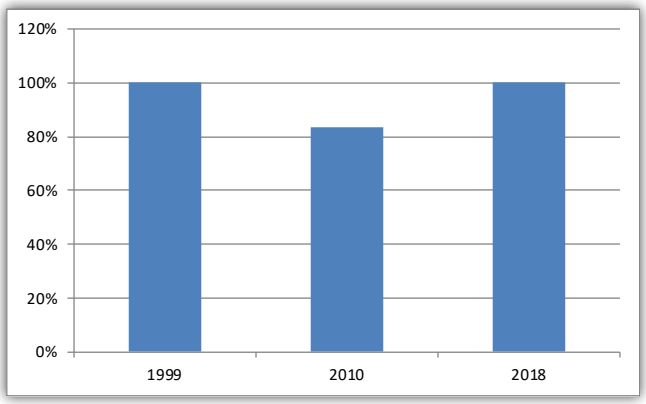
High Hazard Potential Dams Remediated – In calendar year 2018, four state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
7%	data not available	86%	86%	**Florida**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

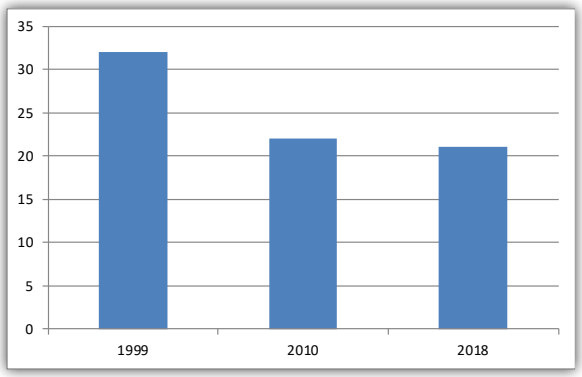
Legislation (5)	**85%**
Inspection (4)	**95%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**67%**
Education & Training (3)	**89%**
Public Relations (1)	**0%**
Weighted Percentage	**86%**

Estimated Breakdown of Dams per Congressional District

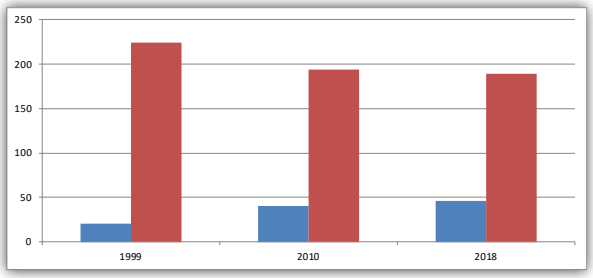
Florida-1	153	Florida-6	3	Florida-12	6	Florida-17	354	Florida-23	4
Florida-2	78	Florida-8	5	Florida-13	6	Florida-18	23	Florida-24	4
Florida-3	31	Florida-9	6	Florida-14	15	Florida-20	43	Florida-25	32
Florida-4	11	Florida-10	29	Florida-15	62	Florida-21	2	Florida-26	16
Florida-5	110	Florida-11	42	Florida-16	63	Florida-22	4	Florida-27	5

State Staffing for Dam Safety

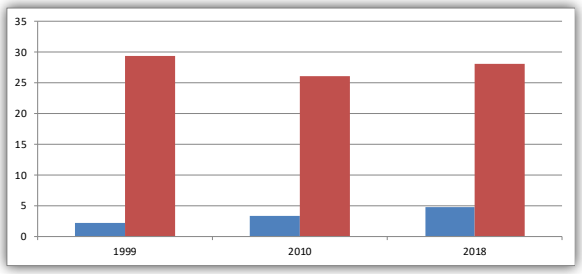
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

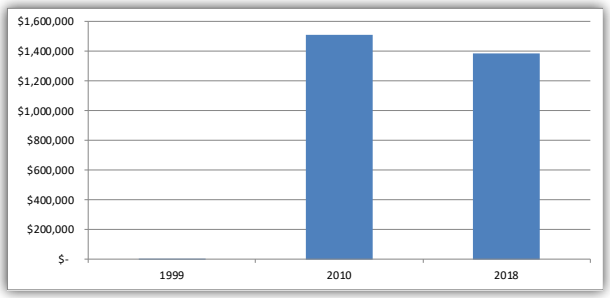


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

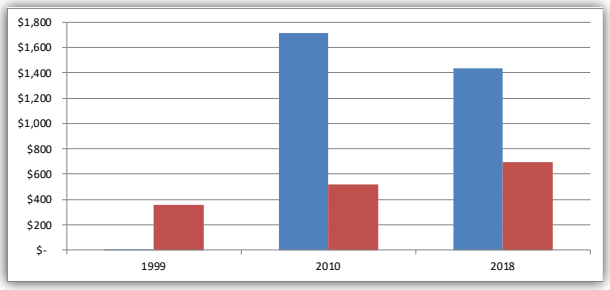


State Budgeting for Dam Safety

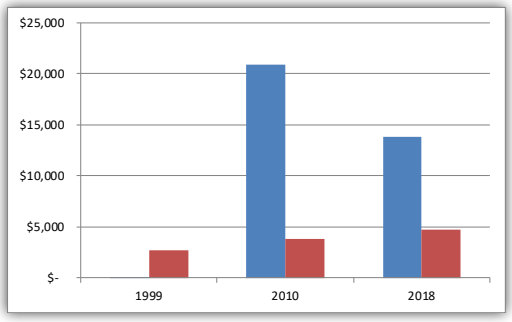
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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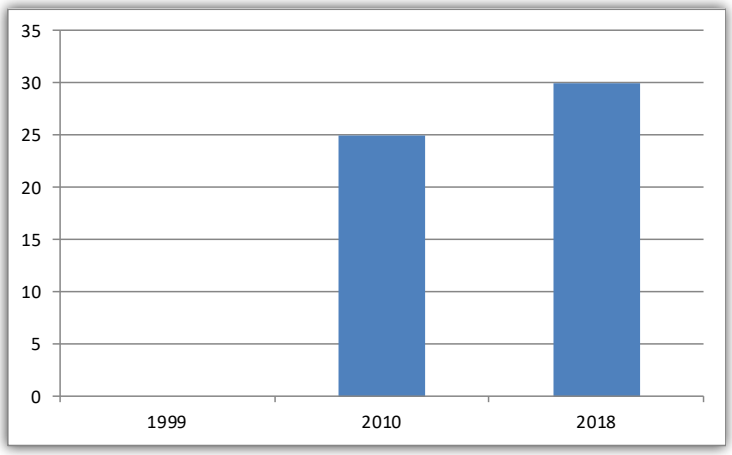
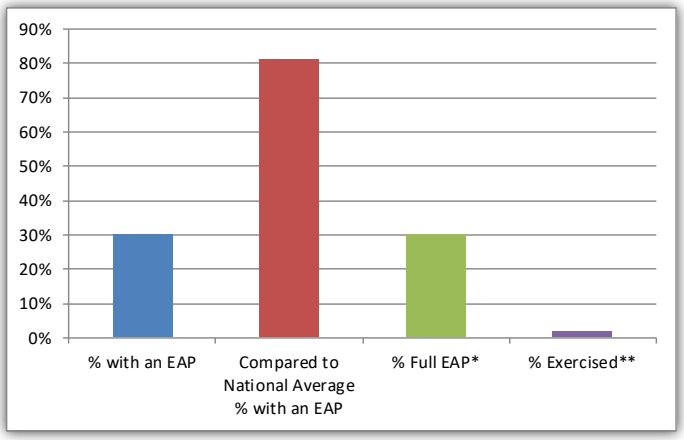
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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Outreach to Dam Owners, Local Officials and the Public

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State Outreach Highlights

In 2018, Florida held 20 onsite visits with dam owners and a technical dam safety conference.

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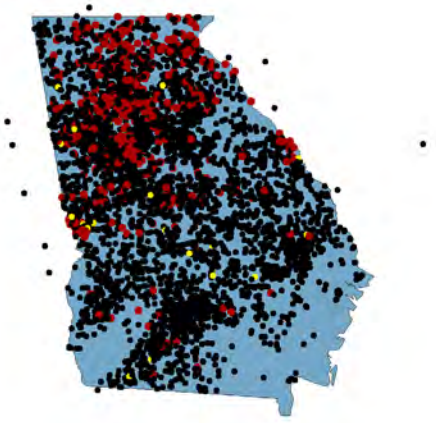
Dam Safety Performance Report
GEORGIA



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State NID Statistics

5306	NID Dams
630	NID High Hazard Potential Dams
4166	State-Regulated Dams
492	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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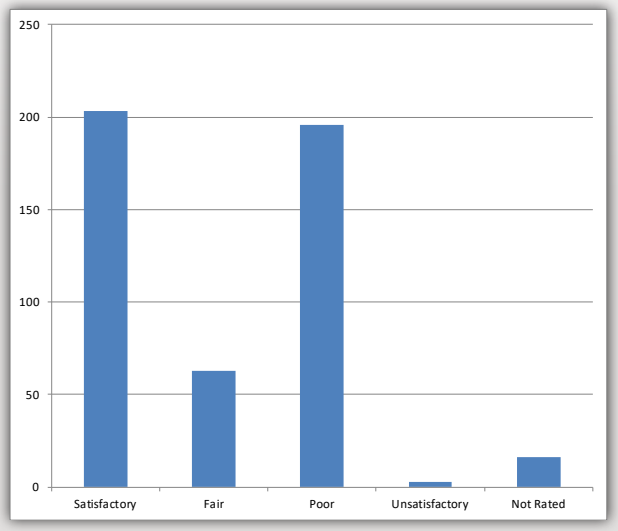
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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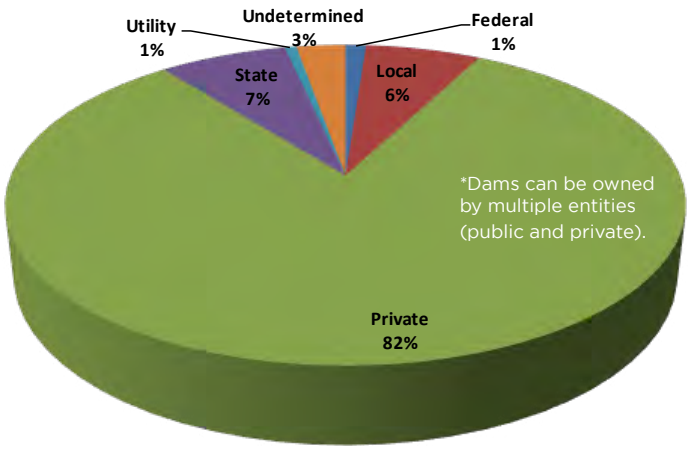
Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, six state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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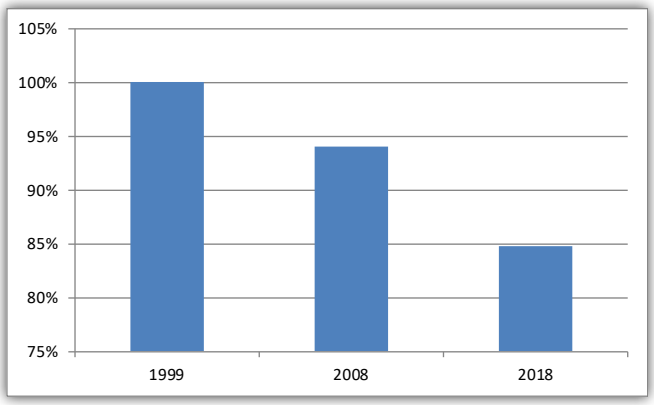
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
data not available	72%	70%	84%	**Georgia**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

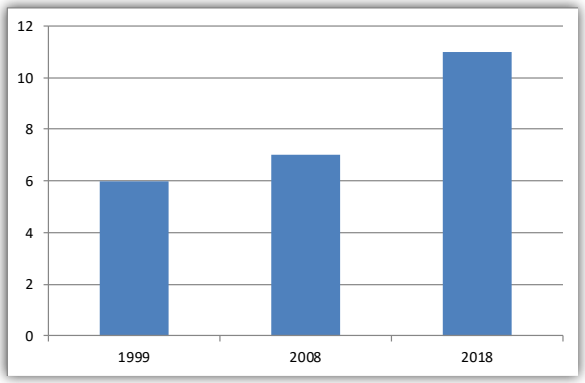
Legislation (5)	**88%**
Inspection (4)	**95%**
Enforcement (4)	**100%**
EAP & Response (4)	**61%**
Permitting (3)	**84%**
Education & Training (3)	**94%**
Public Relations (1)	**17%**
Weighted Percentage	**84%**

Estimated Breakdown of Dams per Congressional District

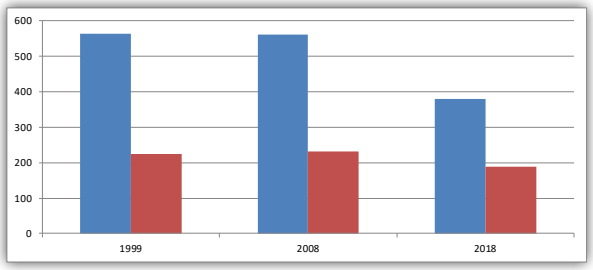
Georgia-1	95	Georgia-5	32	Georgia-9	541	Georgia-13	208
Georgia-2	610	Georgia-6	129	Georgia-10	709	Georgia-14	338
Georgia-3	652	Georgia-7	97	Georgia-11	194		
Georgia-4	124	Georgia-8	885	Georgia-12	687		

State Staffing for Dam Safety

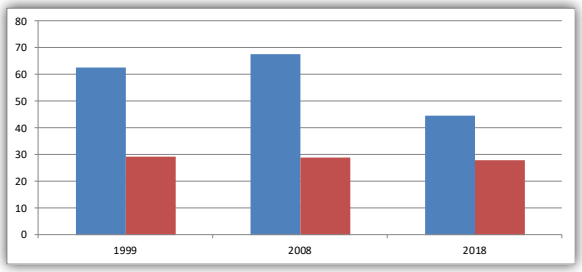
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

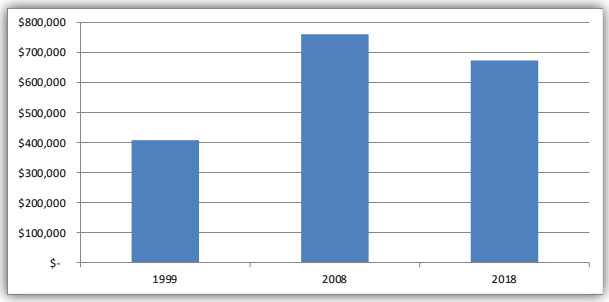


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

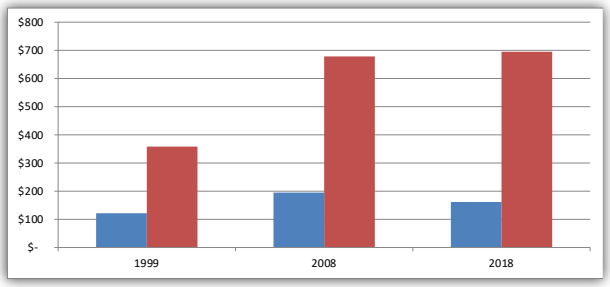


State Budgeting for Dam Safety

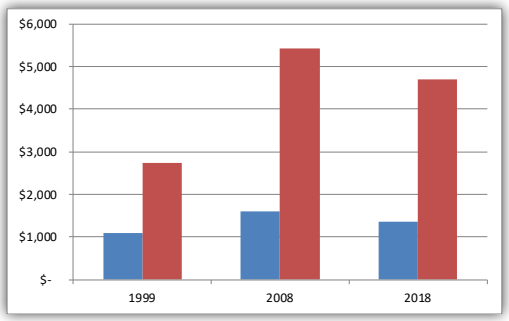
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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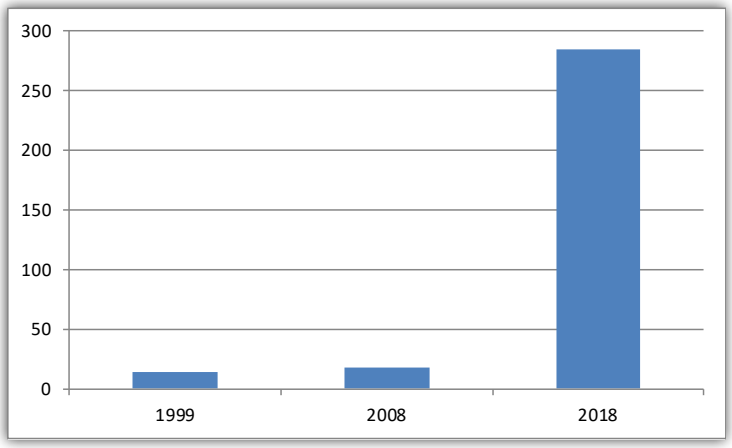
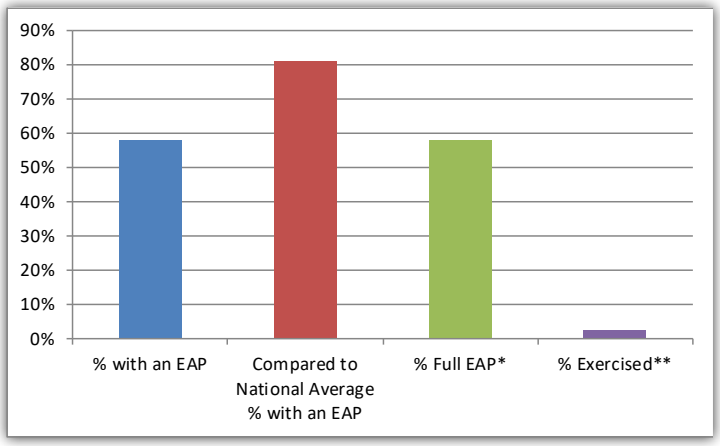
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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Outreach to Dam Owners, Local Officials and the Public

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State Outreach Highlights

In 2018, Georgia conducted five workshops and 41 meetings with dam owners.

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Dam Safety Performance Report
HAWAII

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State NID Statistics

133	NID Dams
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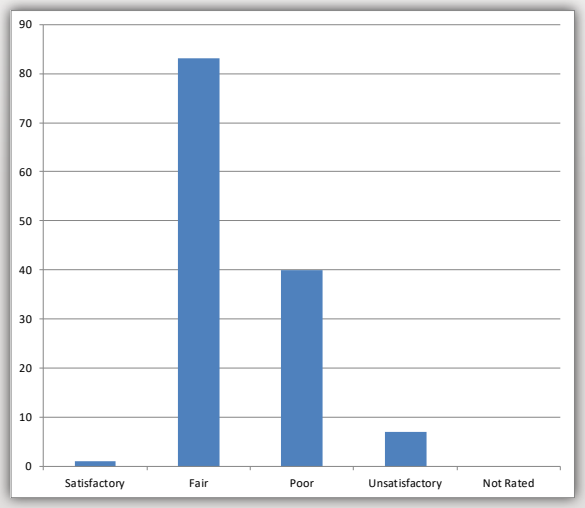
123	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

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Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

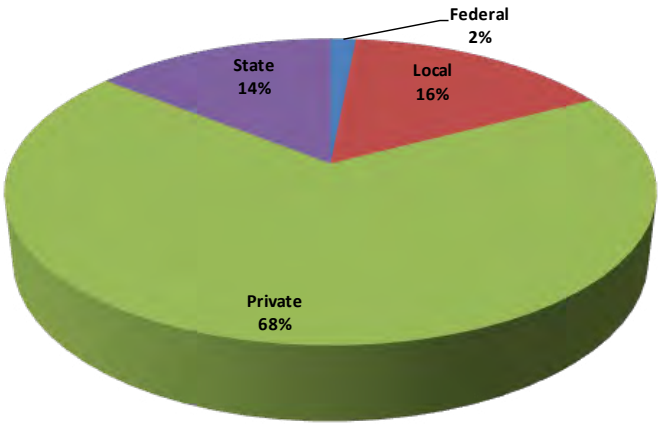
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

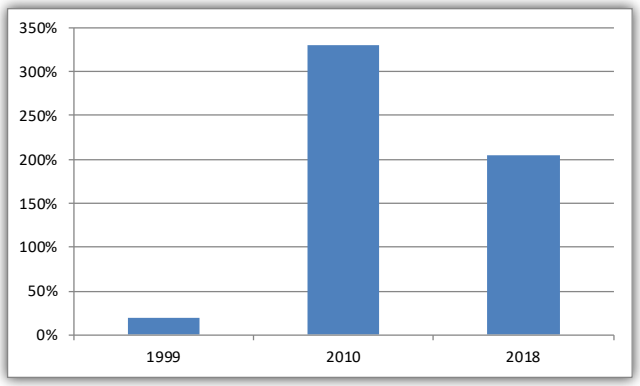
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
42%	72%	83%	83%	**Hawaii**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

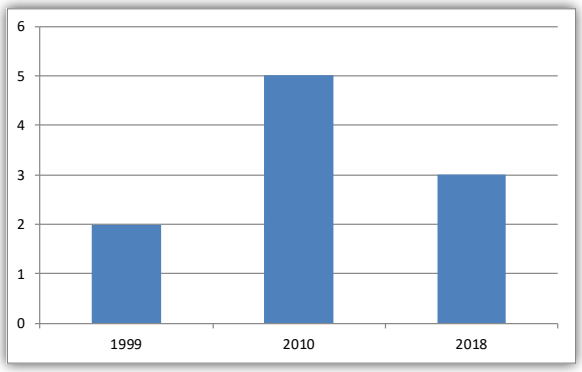
Legislation (5)	**97%**
Inspection (4)	**82%**
Enforcement (4)	**83%**
EAP & Response (4)	**89%**
Permitting (3)	**71%**
Education & Training (3)	**83%**
Public Relations (1)	**25%**
Weighted Percentage	**83%**

Estimated Breakdown of Dams per Congressional District

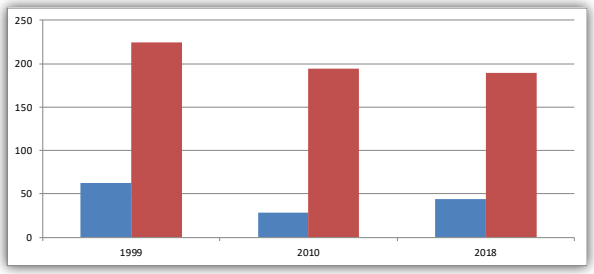
Hawaii-1	2
Hawaii-2	131

State Staffing for Dam Safety

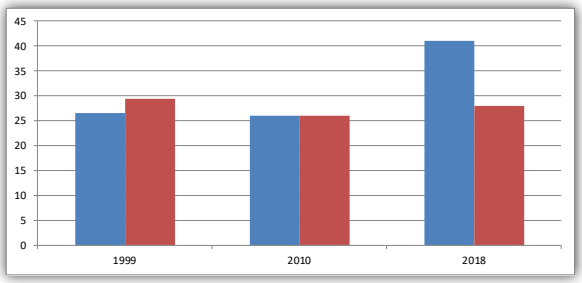
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

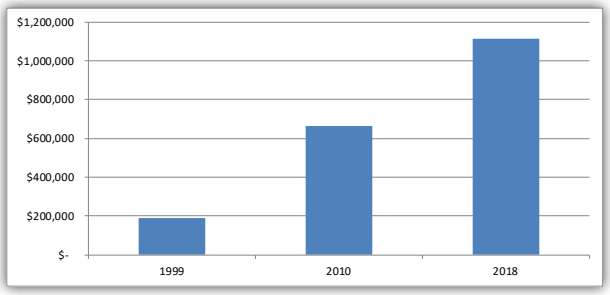


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

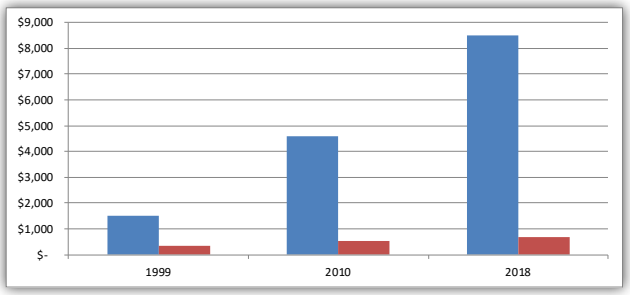


State Budgeting for Dam Safety

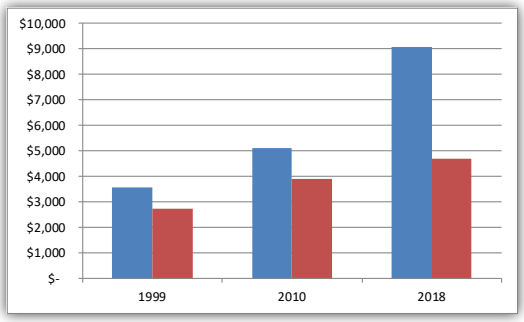
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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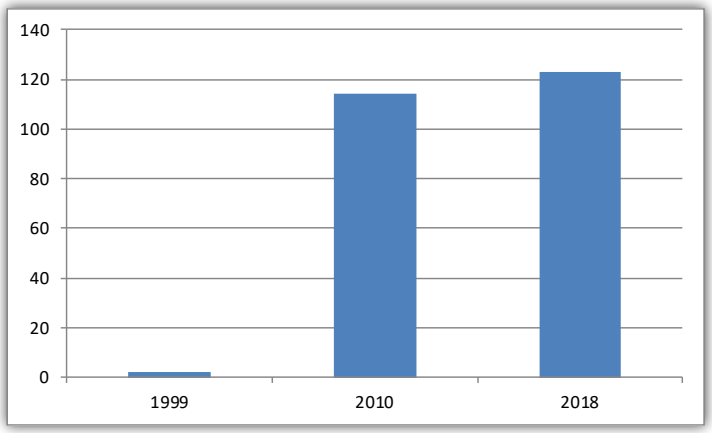
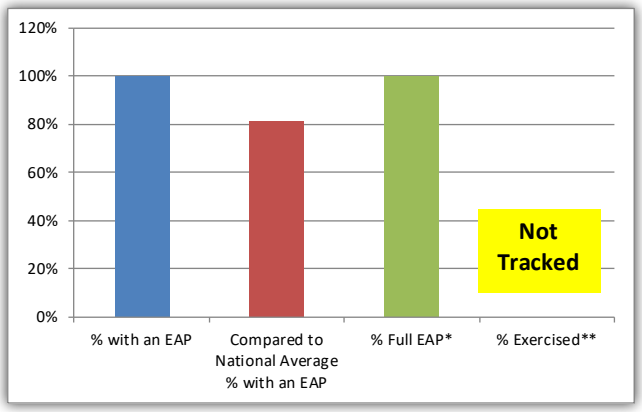
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

Association of State Dam Safety Officials

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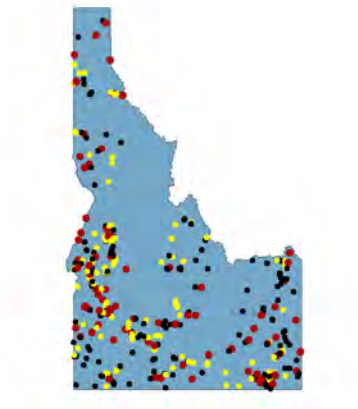
Dam Safety Performance Report
IDAHO



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

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State NID Statistics

472	NID Dams
101	NID High Hazard Potential Dams
399	State-Regulated Dams
88	State-Regulated High Hazard Potential Dams

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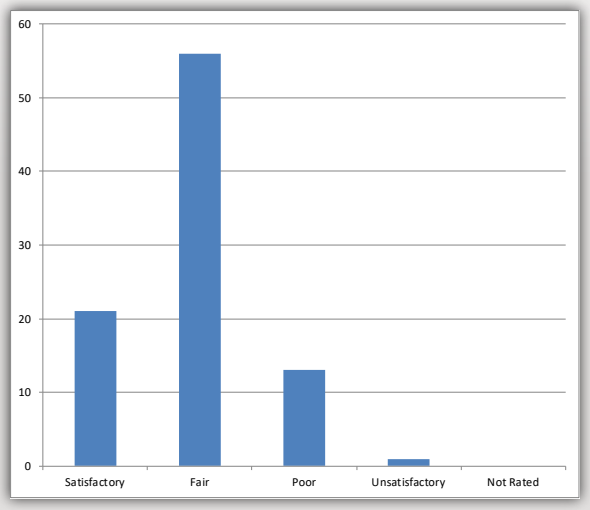
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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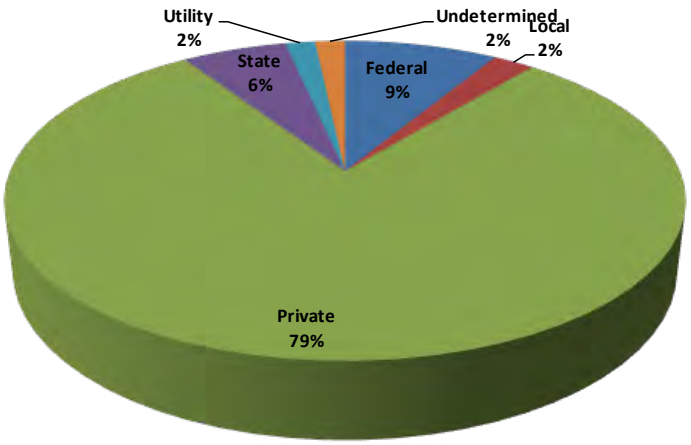
Dam Ownership



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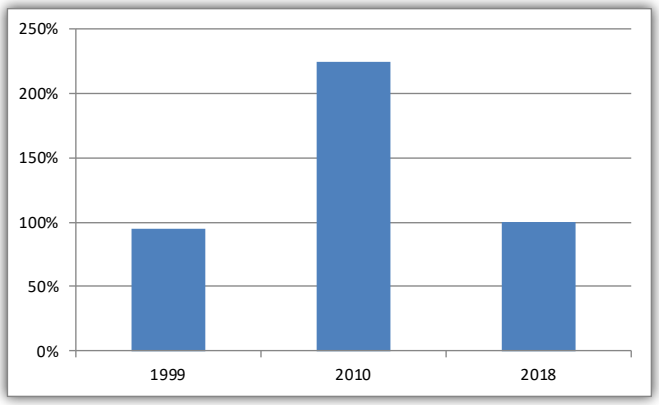
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
79%	81%	81%	78%	**Idaho**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

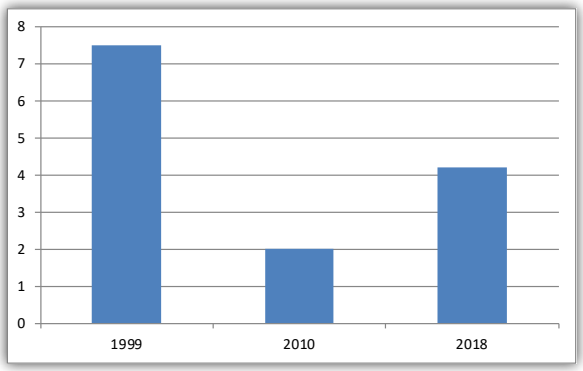
Legislation (5)	**85%**
Inspection (4)	**90%**
Enforcement (4)	**83%**
EAP & Response (4)	**78%**
Permitting (3)	**86%**
Education & Training (3)	**56%**
Public Relations (1)	**17%**
Weighted Percentage	**78%**

Estimated Breakdown of Dams per Congressional District

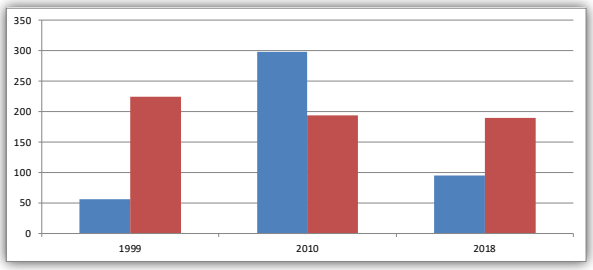
Idaho-1	221
Idaho-2	251

State Staffing for Dam Safety

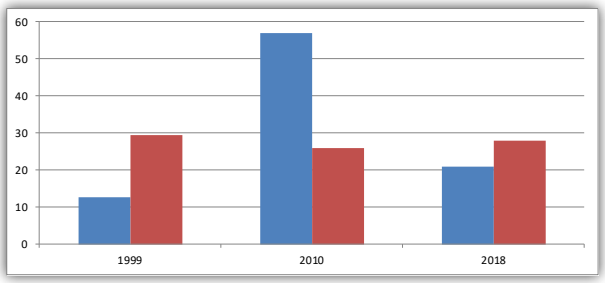
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

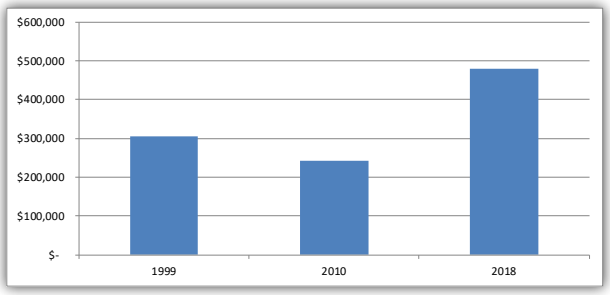


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

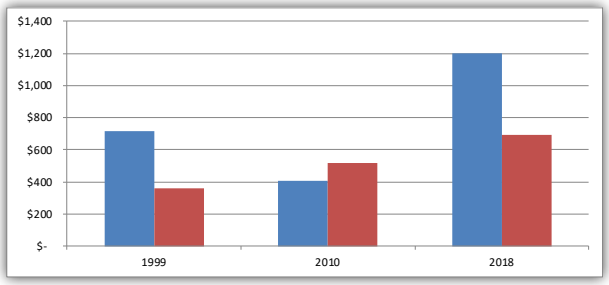


State Budgeting for Dam Safety

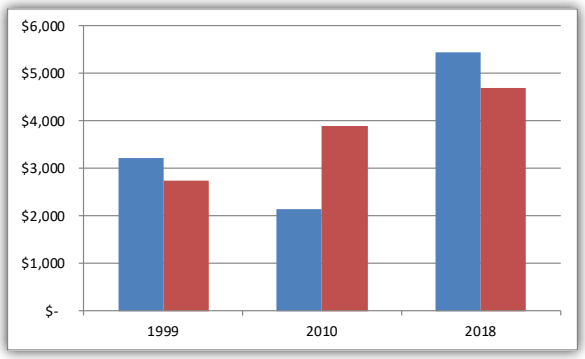
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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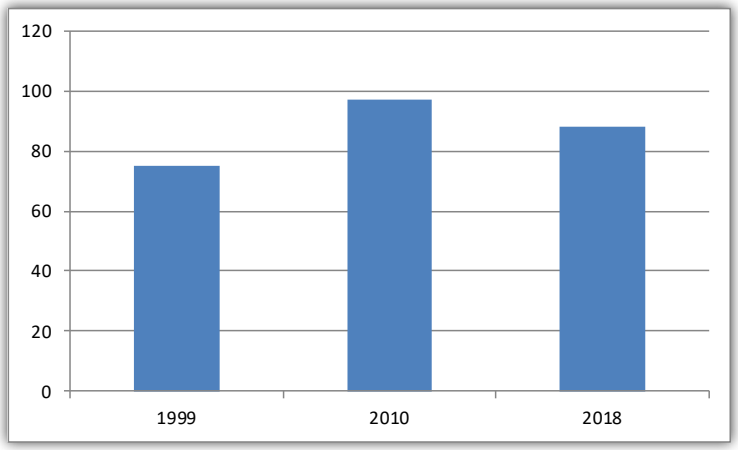
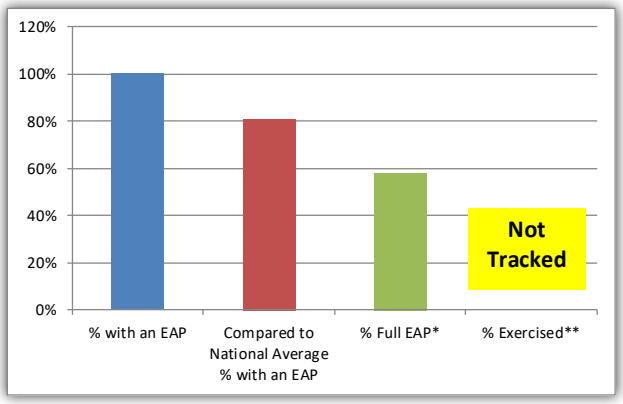
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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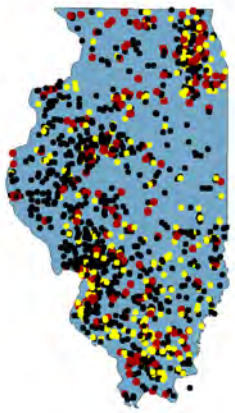
Dam Safety Performance Report
ILLINOIS



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State NID Statistics

1662	NID Dams
253	NID High Hazard Potential Dams
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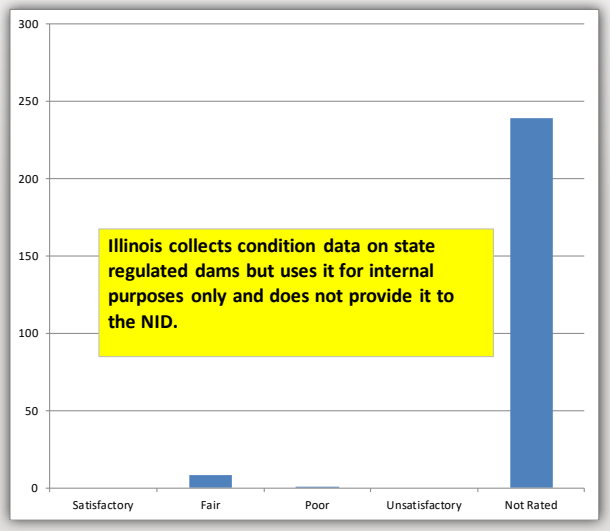
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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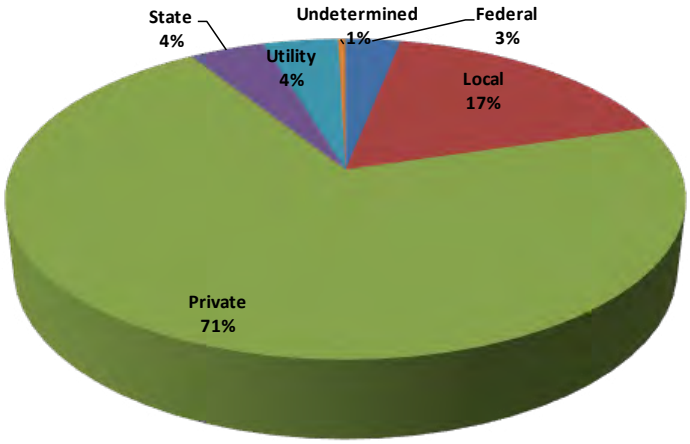
Dam Ownership



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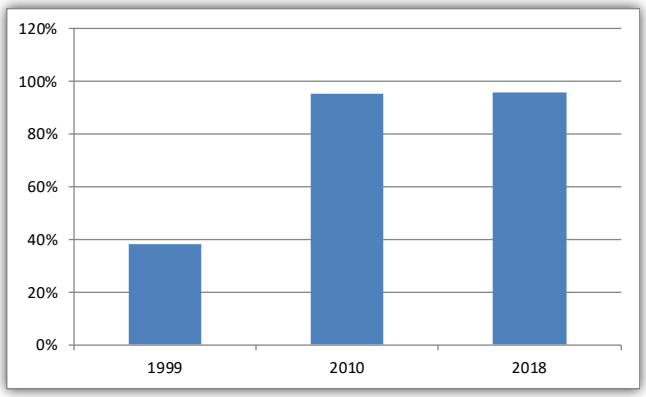
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
81%	78%	87%	88%	**Illinois**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

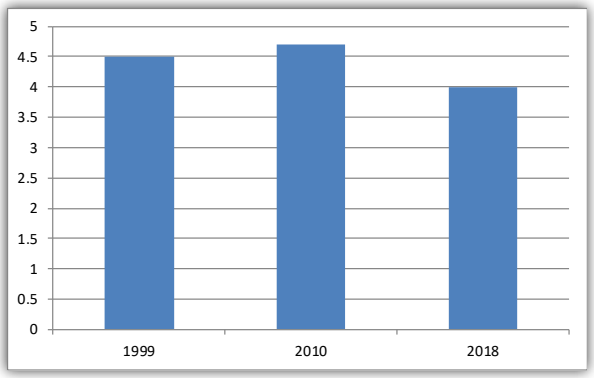
Legislation (5)	**97%**
Inspection (4)	**74%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**88%**
Education & Training (3)	**89%**
Public Relations (1)	**0%**
Weighted Percentage	**88%**

Estimated Breakdown of Dams per Congressional District

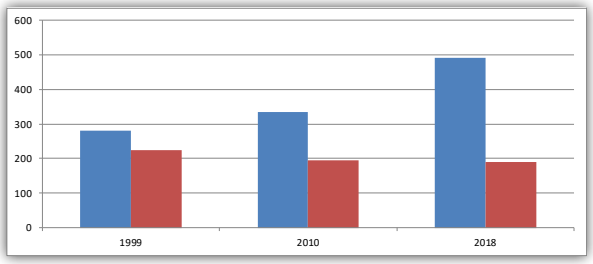
Illinois-1	6	Illinois-5	4	Illinois-10	14	Illinois-14	64	Illinois-18	315
Illinois-2	10	Illinois-6	34	Illinois-11	24	Illinois-15	331		
Illinois-3	19	Illinois-8	25	Illinois-12	259	Illinois-16	95		
Illinois-4	1	Illinois-9	3	Illinois-13	271	Illinois-17	184		

State Staffing for Dam Safety

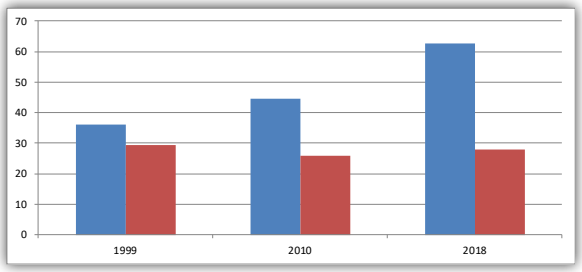
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

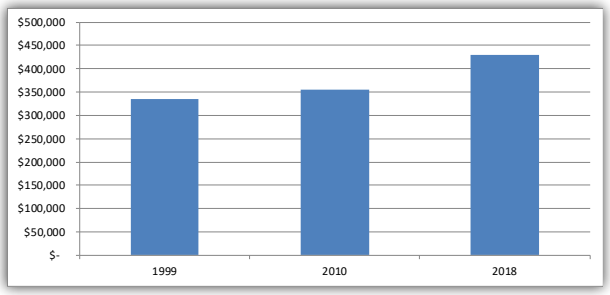


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

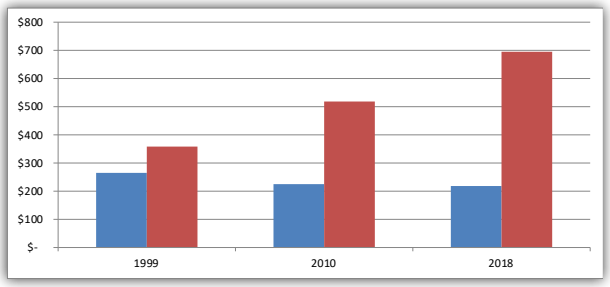


State Budgeting for Dam Safety

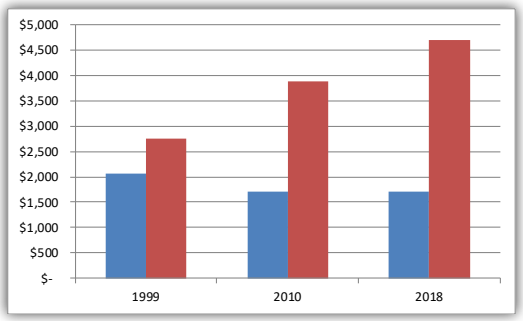
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

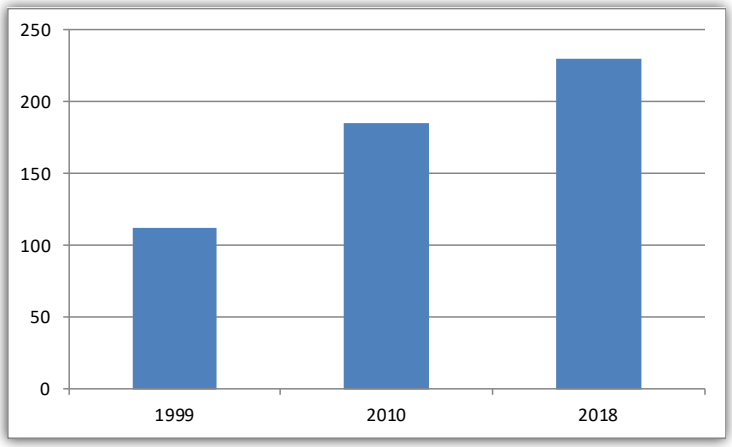


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

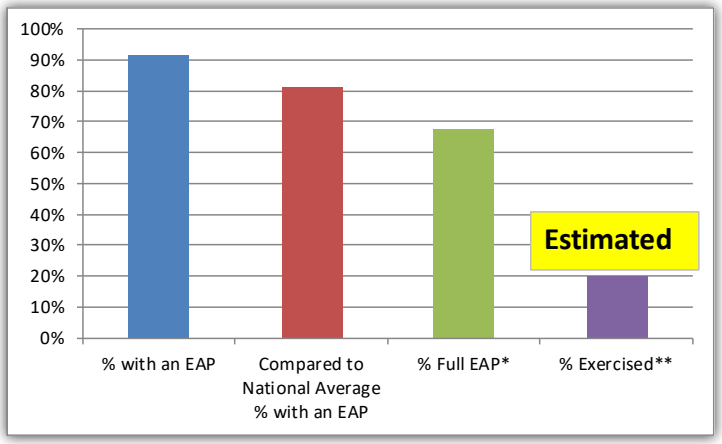
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Illinois conducted 15 public information sessions and meetings with dam owners.

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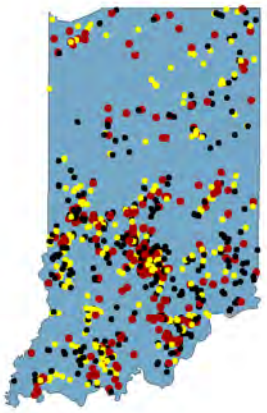
Dam Safety Performance Report
INDIANA



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

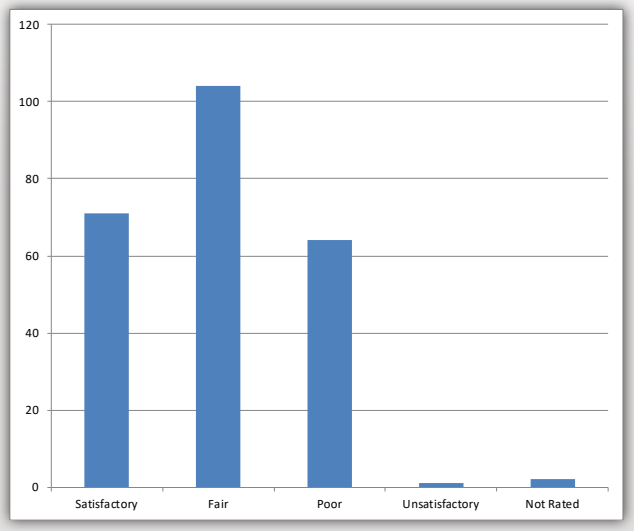
State NID Statistics

912	NID Dams
266	NID High Hazard Potential Dams
1116	State-Regulated Dams
243	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

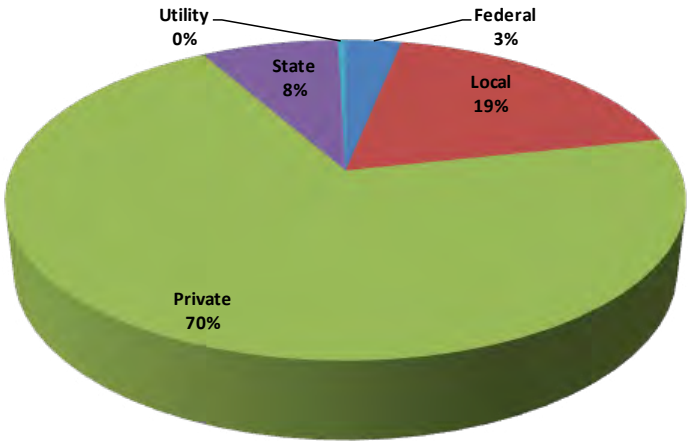
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

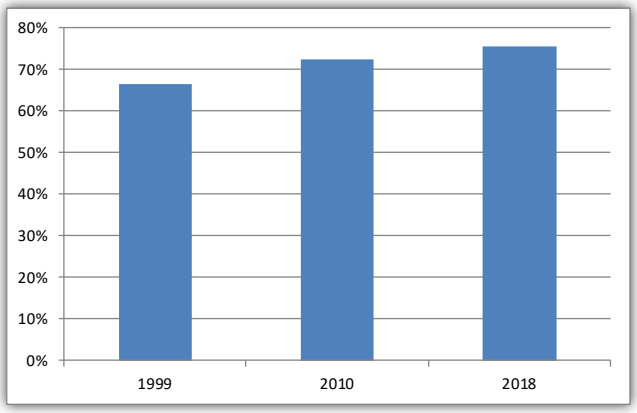
High Hazard Potential Dams Remediated – In calendar year 2018, two state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
55%	data not available	56%	56%	**Indiana**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

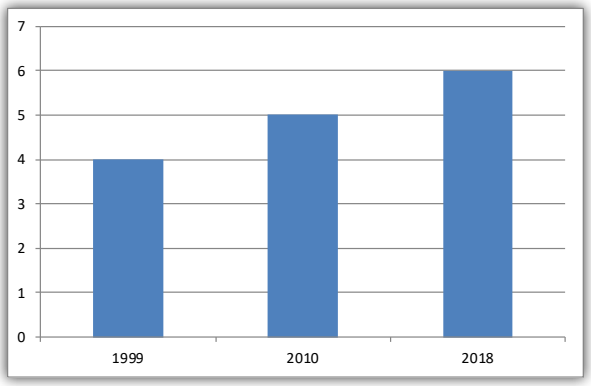
Legislation (5)	**82%**
Inspection (4)	**38%**
Enforcement (4)	**100%**
EAP & Response (4)	**11%**
Permitting (3)	**44%**
Education & Training (3)	**61%**
Public Relations (1)	**25%**
Weighted Percentage	**56%**

Estimated Breakdown of Dams per Congressional District

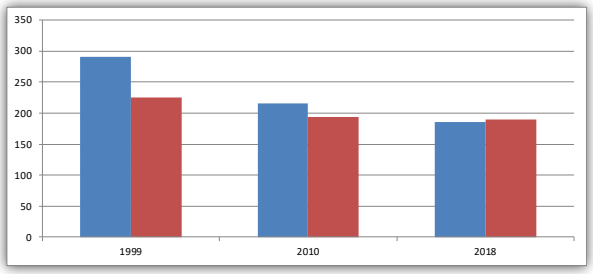
Indiana-1	22	Indiana-4	76	Indiana-7	6
Indiana-2	30	Indiana-5	32	Indiana-8	240
Indiana-3	51	Indiana-6	159	Indiana-9	285

State Staffing for Dam Safety

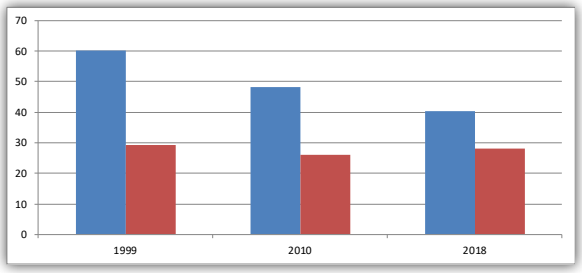
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

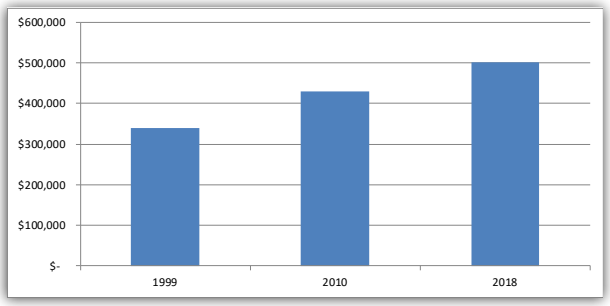


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

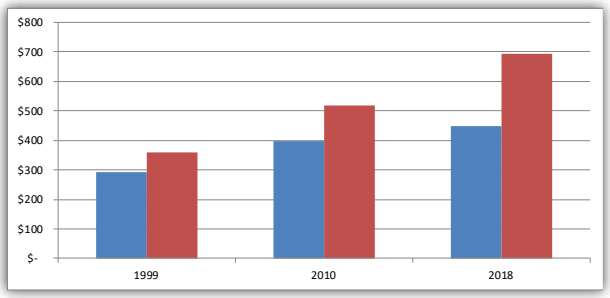


State Budgeting for Dam Safety

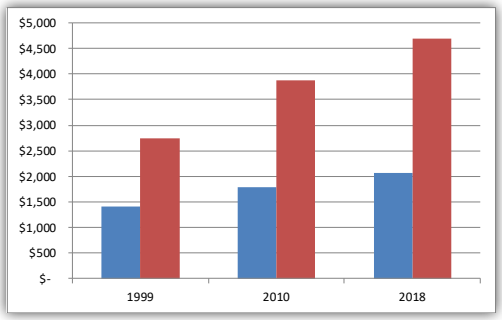
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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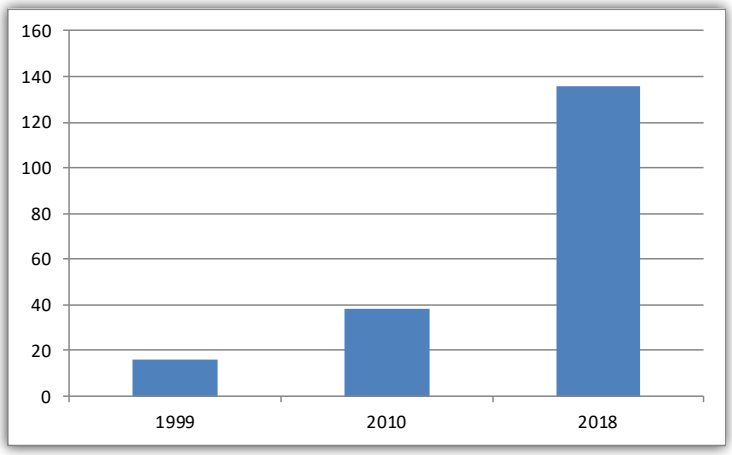
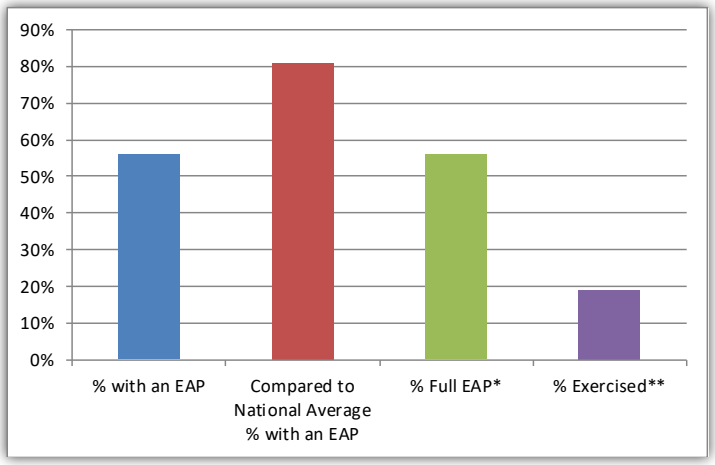
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Indiana conducted three EAP workshops, the annual DIRT conference, and several one-on-one training sessions with dam owners.

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859.550.2788

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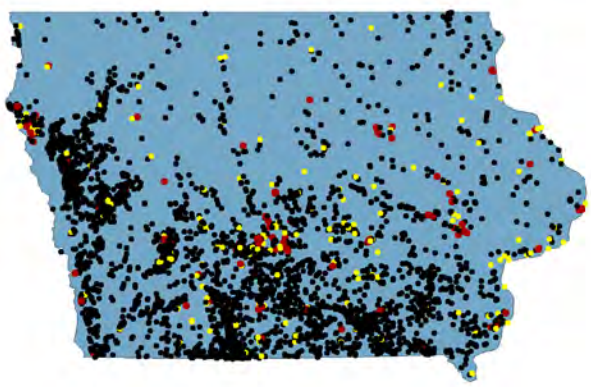
Dam Safety Performance Report
IOWA



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State NID Statistics

4018	NID Dams
99	NID High Hazard Potential Dams
3942	State-Regulated Dams
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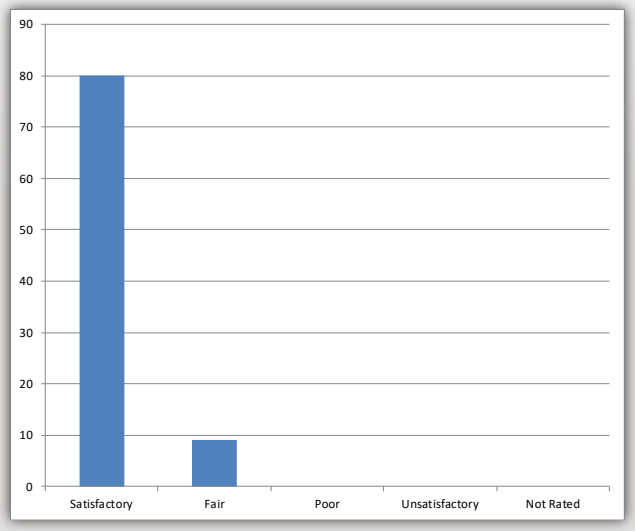
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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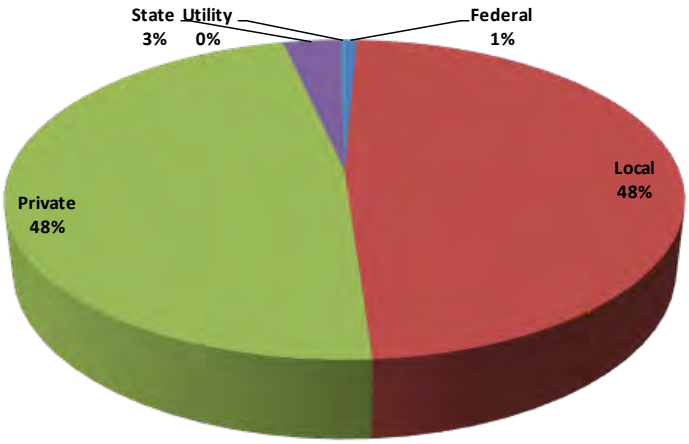
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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Overall Weighted Percentage

1989	1998	2010	2018	
52%	50%	50%	50%	**Iowa**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

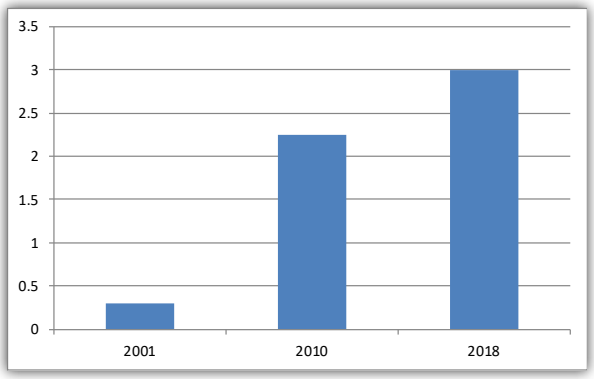
Legislation (5)	**85%**
Inspection (4)	**53%**
Enforcement (4)	**67%**
EAP & Response (4)	**11%**
Permitting (3)	**58%**
Education & Training (3)	**28%**
Public Relations (1)	**8%**
Weighted Percentage	**50%**

Estimated Breakdown of Dams per Congressional District

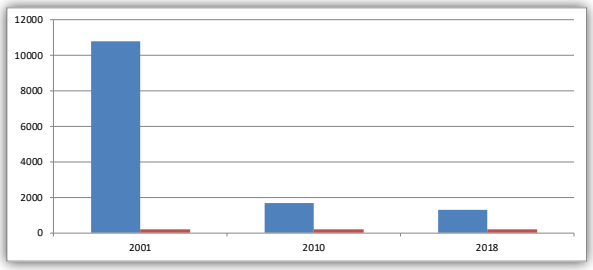
Iowa-1	260
Iowa-2	1202
Iowa-3	1215
Iowa-4	1338

State Staffing for Dam Safety

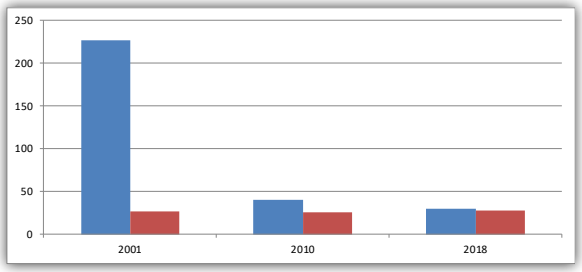
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

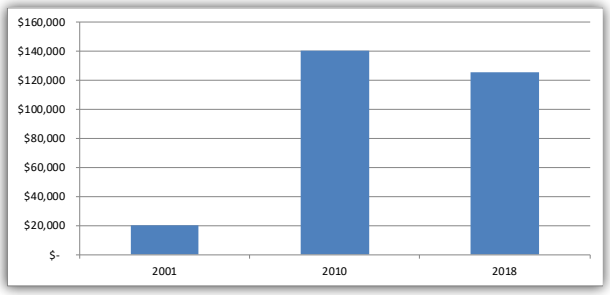


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

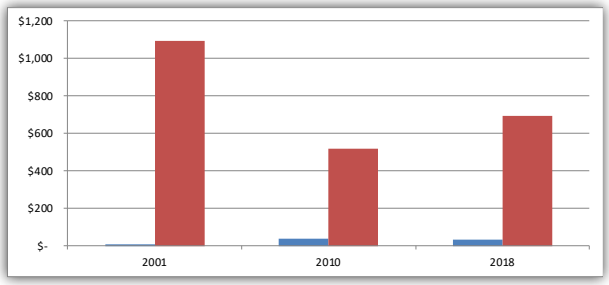


State Budgeting for Dam Safety

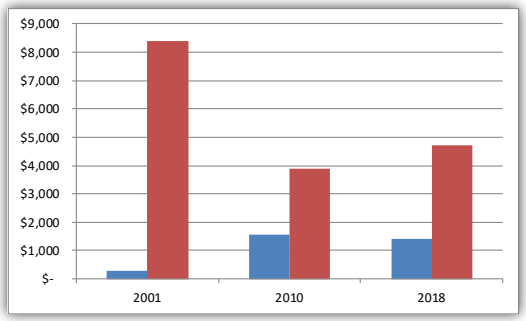
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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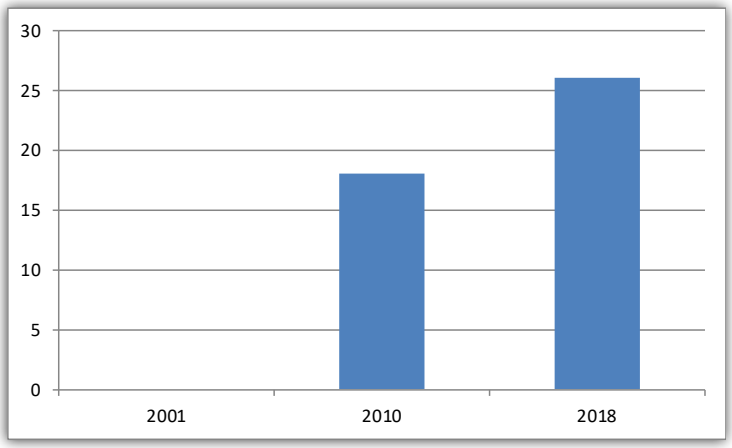
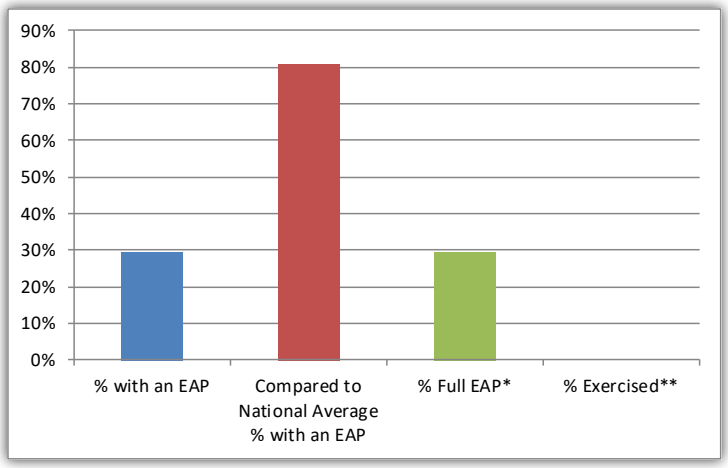
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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State Outreach Highlights

In 2018, Iowa conducted 50 meetings with dam owners as part of inspections. The meetings were used to explain dam safety and the importance of monitoring and maintenance.

Association of State Dam Safety Officials
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859.550.2788

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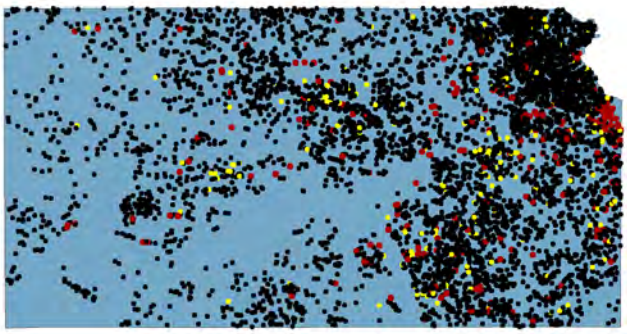
www.damsafety.org

Dam Safety Performance Report
KANSAS



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

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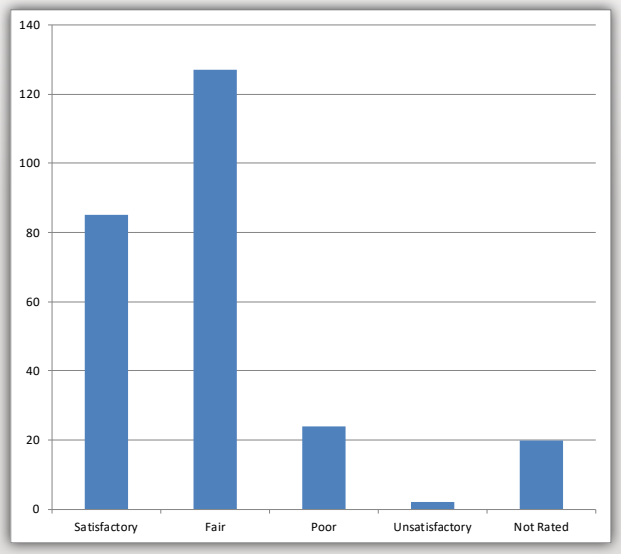
State NID Statistics

6403	NID Dams
289	NID High Hazard Potential Dams
6654	State-Regulated Dams
256	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

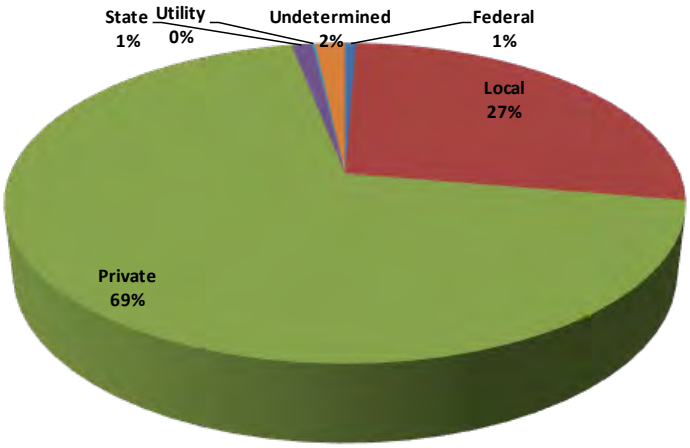
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

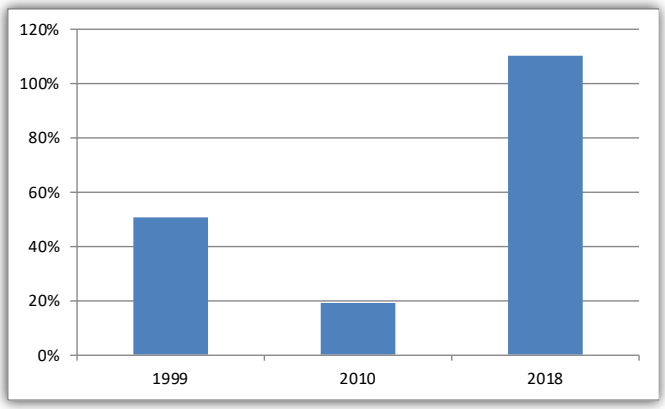
High Hazard Potential Dams Remediated – In calendar year 2018, one state-regulated high hazard potential dam was remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
54%	60%	84%	86%	**Kansas**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

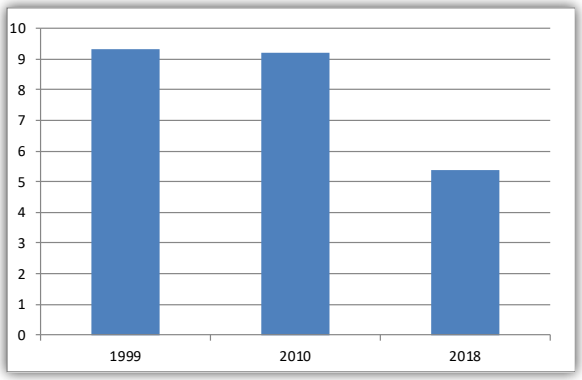
Legislation (5)	**94%**
Inspection (4)	**87%**
Enforcement (4)	**100%**
EAP & Response (4)	**78%**
Permitting (3)	**77%**
Education & Training (3)	**72%**
Public Relations (1)	**83%**
Weighted Percentage	**86%**

Estimated Breakdown of Dams per Congressional District

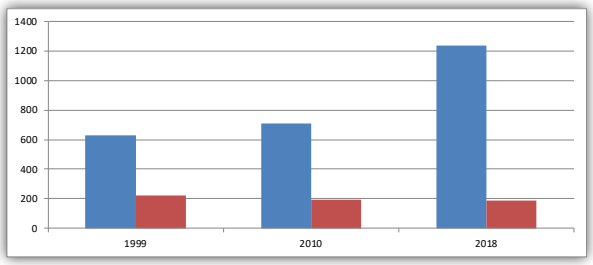
Kansas-1	2441
Kansas-2	2737
Kansas-3	175
Kansas-4	1049

State Staffing for Dam Safety

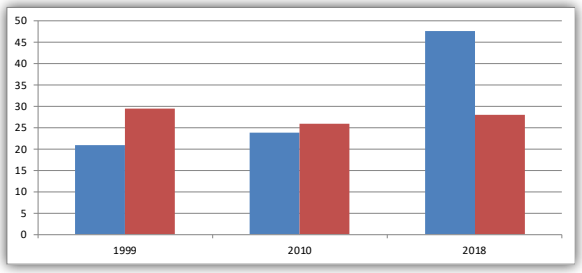
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

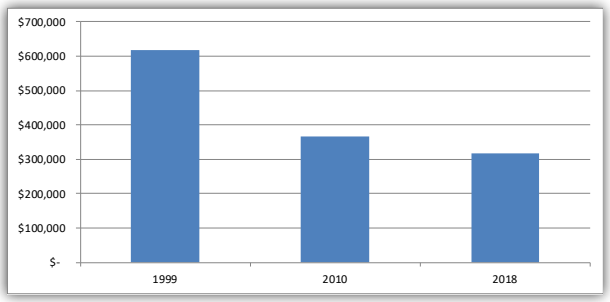


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

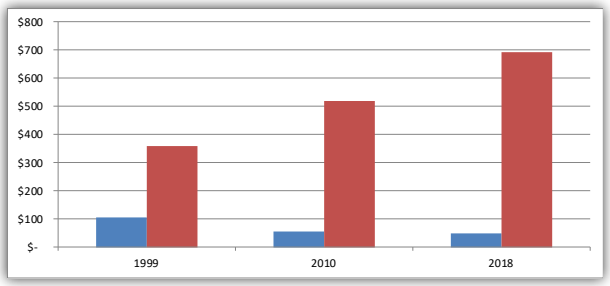


State Budgeting for Dam Safety

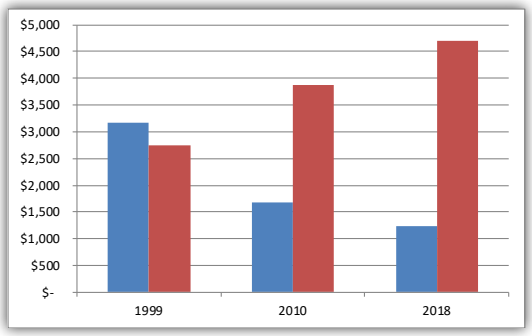
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

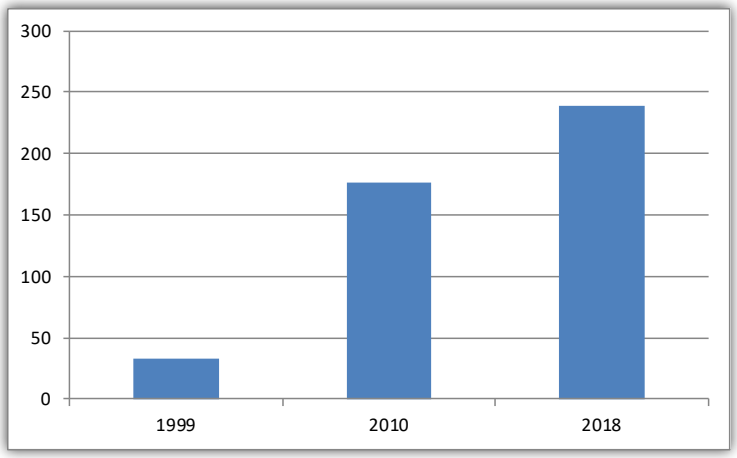


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

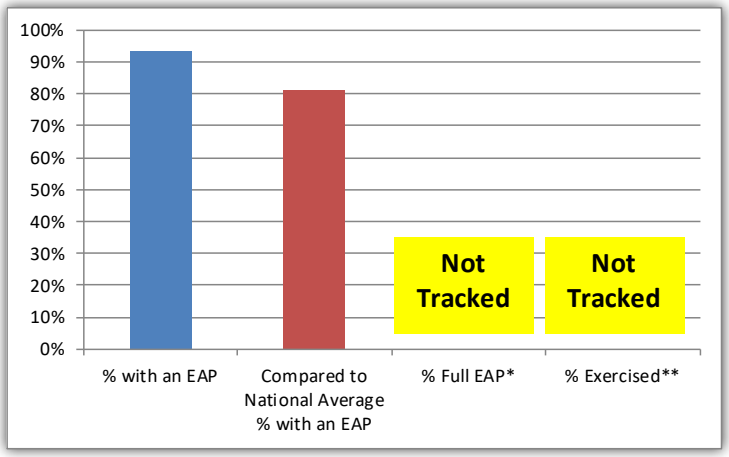
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Kansas held a Dam Safety Conference (180 attendees) and a Watershed District Contracting Officer Training (50 attendees).

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Kansas law exempts all dams less than 25 feet high or with a height of six feet or greater and a storage volume at the top of the emergency spillway elevation of less than 50 acre feet and all low hazard potential dams with a height of less than 30 feet and storage volume at the top of the emergency spillway elevation of less than 125 acre feet. In addition all low-hazard potential dams that are wastewater storage structures for a confined feeding facility are exempt.

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KENTUCKY

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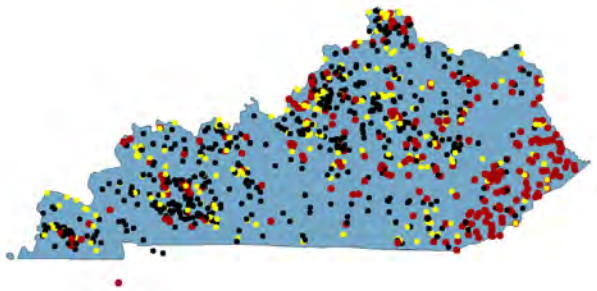

State NID Statistics

1089	NID Dams
271	NID High Hazard Potential Dams
955	State-Regulated Dams
179	State-Regulated High Hazard Potential Dams

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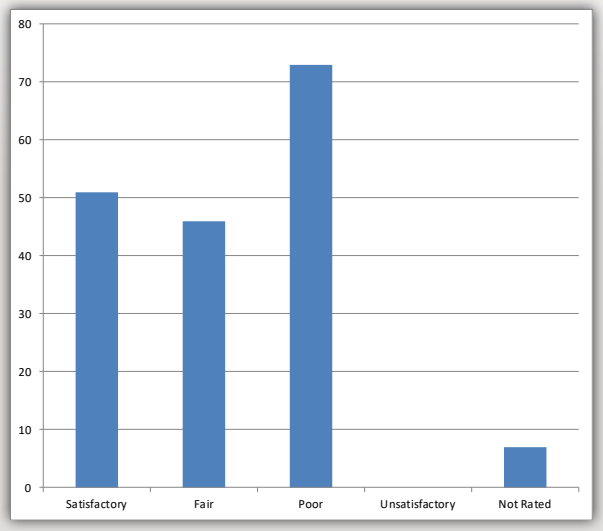

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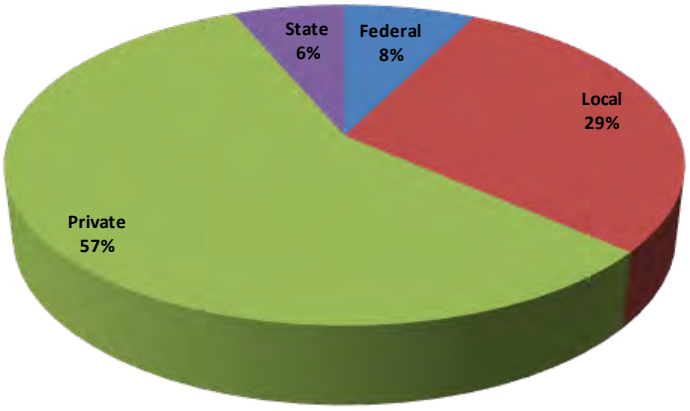
Dam Ownership



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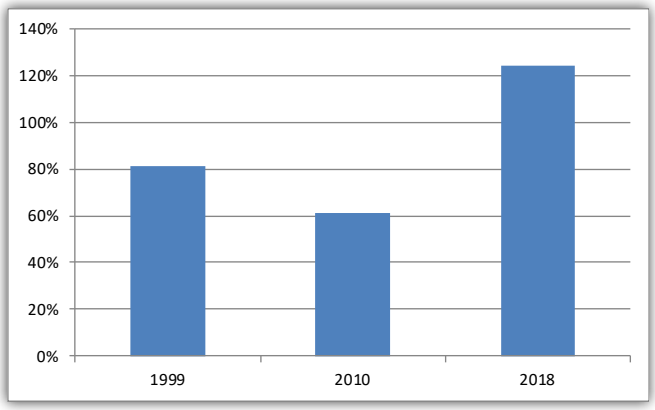
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
52%	78%	60%	63%	**Kentucky**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

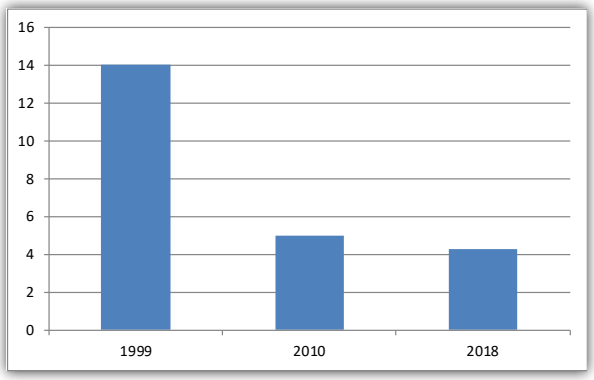
Legislation (5)	**82%**
Inspection (4)	**77%**
Enforcement (4)	**100%**
EAP & Response (4)	**11%**
Permitting (3)	**54%**
Education & Training (3)	**61%**
Public Relations (1)	**8%**
Weighted Percentage	**63%**

Estimated Breakdown of Dams per Congressional District

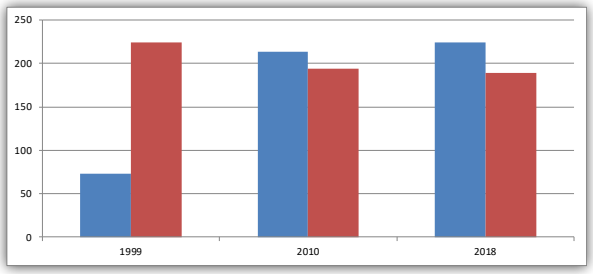
Kentucky-1	320	Kentucky-4	193
Kentucky-2	188	Kentucky-5	200
Kentucky-3	27	Kentucky-6	162

State Staffing for Dam Safety

Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)



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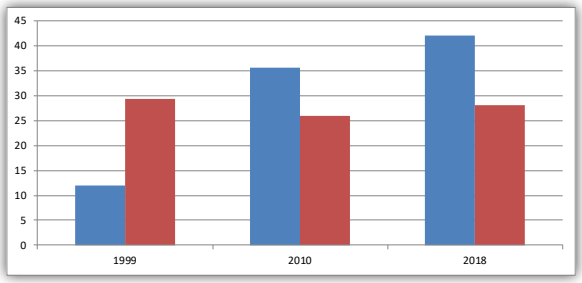
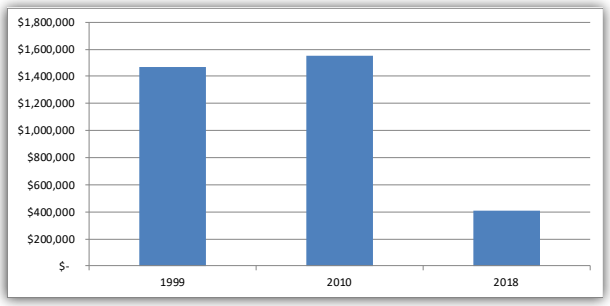
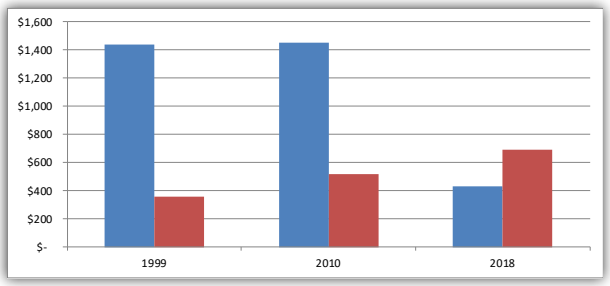


State Budgeting for Dam Safety

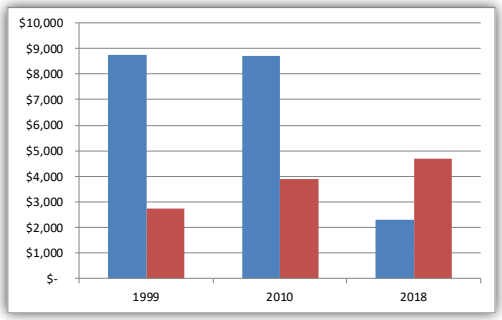
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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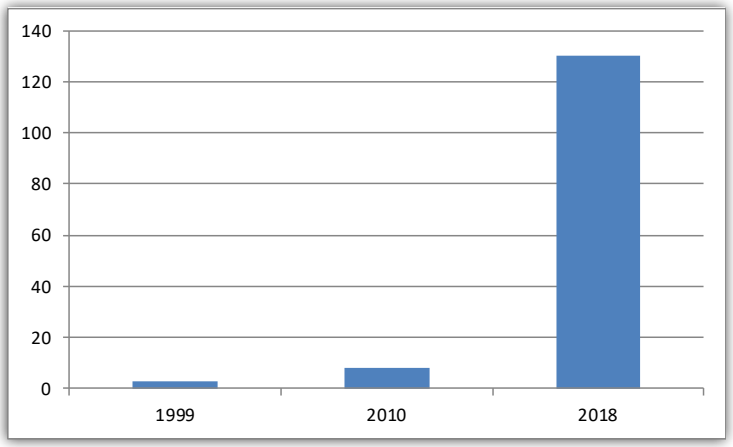
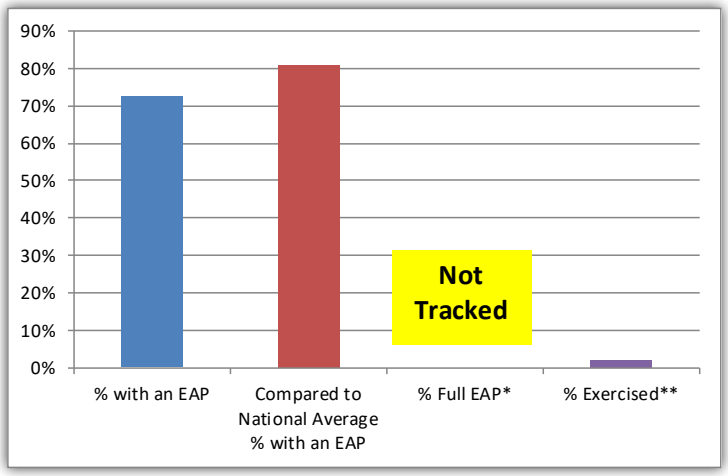
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Kentucky conducted 20 meetings with dam owners.

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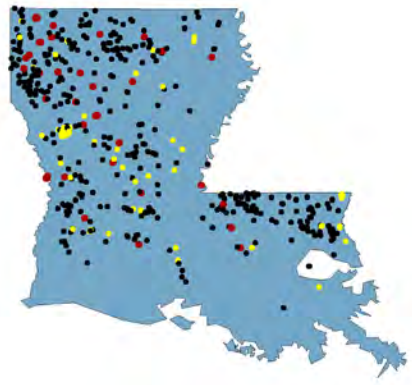
Dam Safety Performance Report
LOUISIANA



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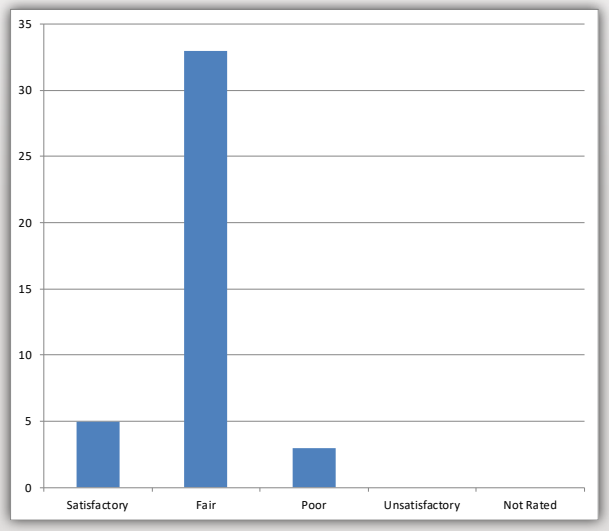

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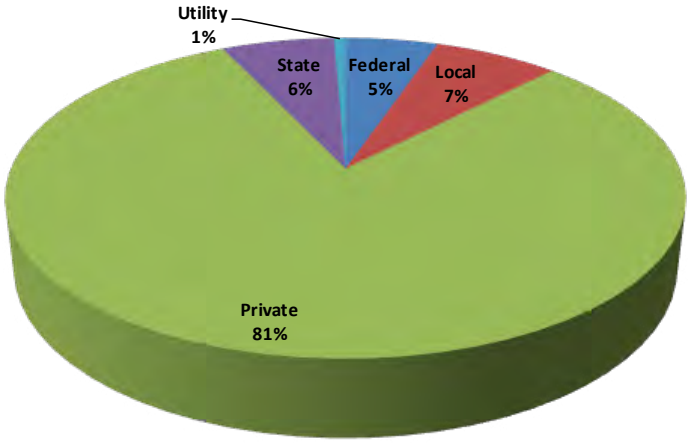
Dam Ownership



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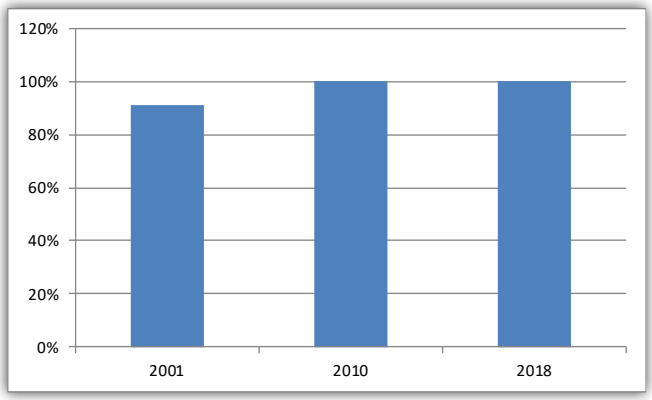

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Overall Weighted Percentage

1989	1998	2010	2018	
85%	97%	80%	91%	**Louisiana**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

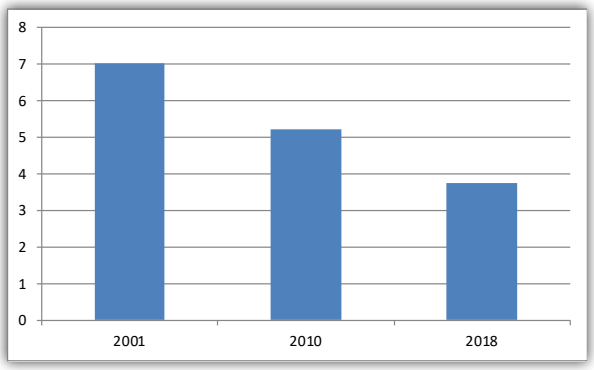
Legislation (5)	**88%**
Inspection (4)	**91%**
Enforcement (4)	**100%**
EAP & Response (4)	**94%**
Permitting (3)	**94%**
Education & Training (3)	**89%**
Public Relations (1)	**42%**
Weighted Percentage	**91%**

Estimated Breakdown of Dams per Congressional District

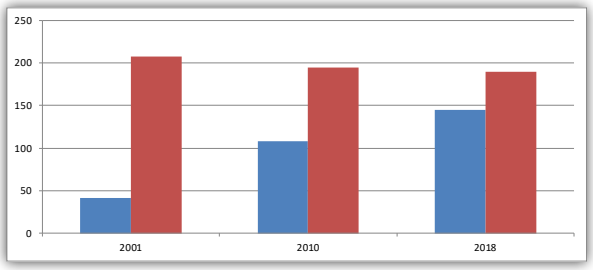
Louisiana-1	30	Louisiana-4	284
Louisiana-2	2	Louisiana-5	196
Louisiana-3	11	Louisiana-6	25

State Staffing for Dam Safety

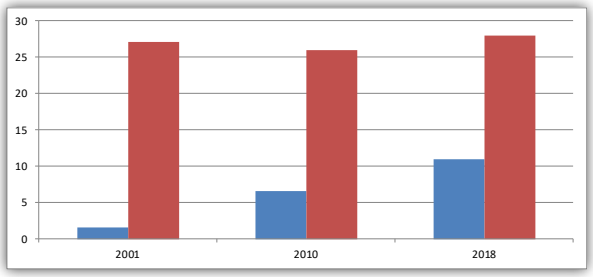
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

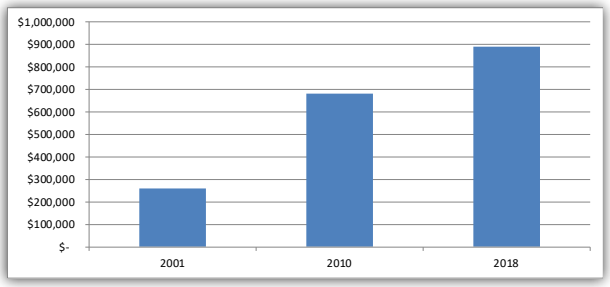


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

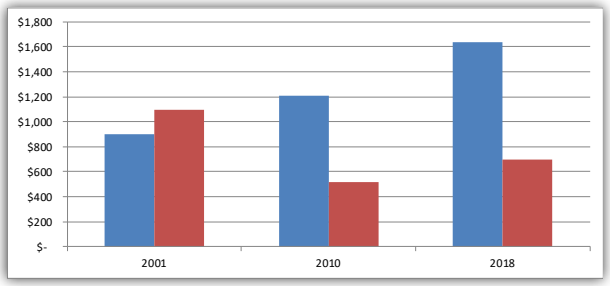


State Budgeting for Dam Safety

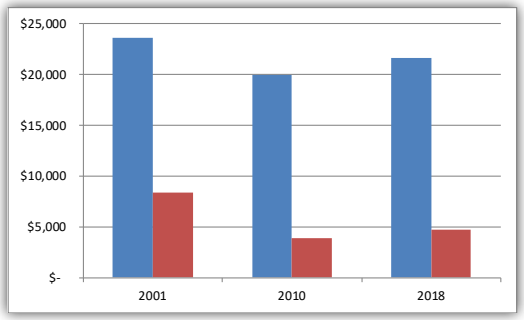
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



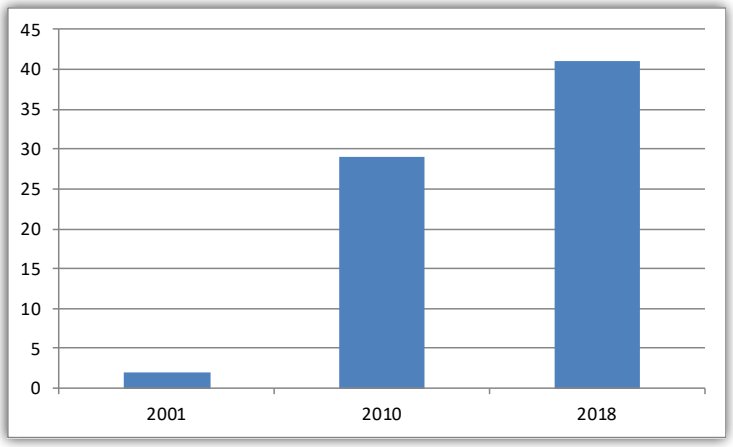
Note - Louisiana has a relatively small number of High Hazard Potential Dams compared to the national average.

Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

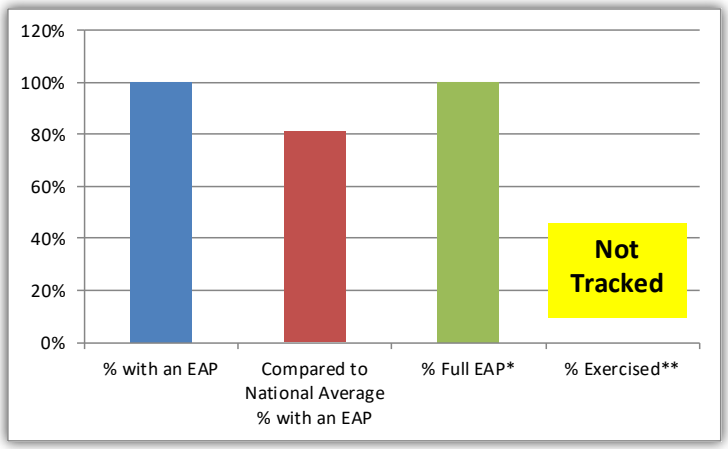
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

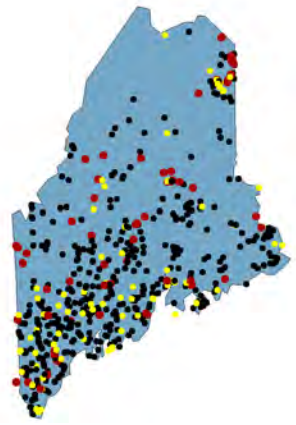
State Outreach Highlights

In 2018, Louisiana discussed safety concerns with dam owners after each inspection (45 estimated total).

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
MAINE



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

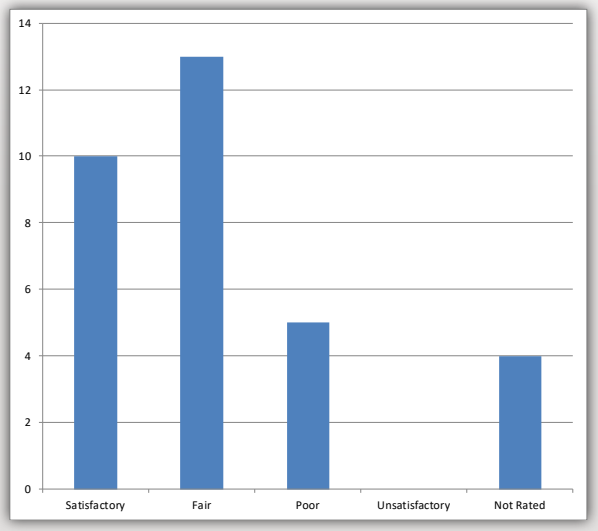
State NID Statistics

584	NID Dams
66	NID High Hazard Potential Dams
573	State-Regulated Dams
32	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

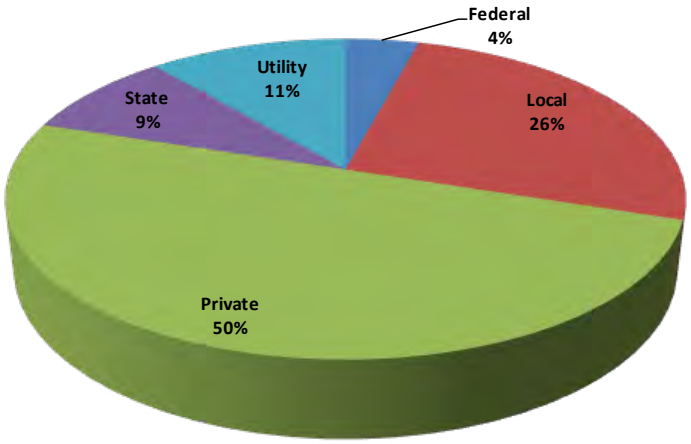
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

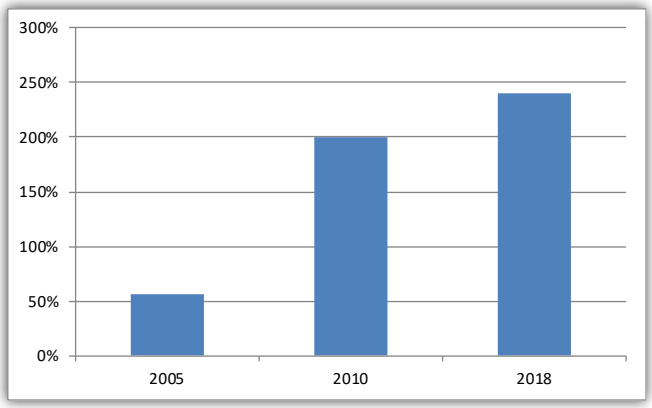
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
40%	67%	56%	56%	**Maine**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

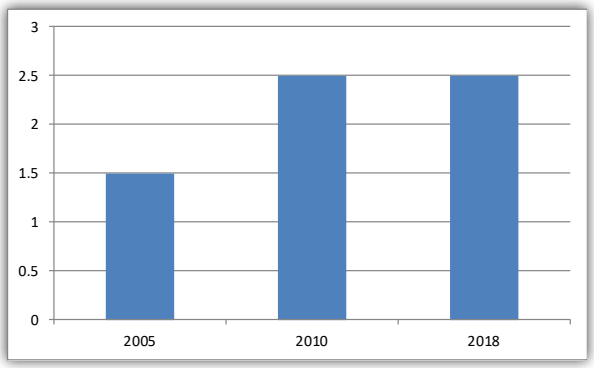
Legislation (5)	**58%**
Inspection (4)	**18%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**8%**
Education & Training (3)	**50%**
Public Relations (1)	**17%**
Weighted Percentage	**56%**

Estimated Breakdown of Dams per Congressional District

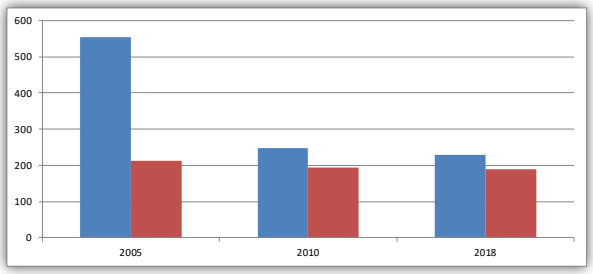
Maine-1	159
Maine-2	425

State Staffing for Dam Safety

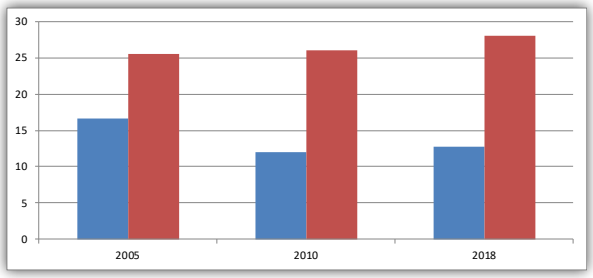
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

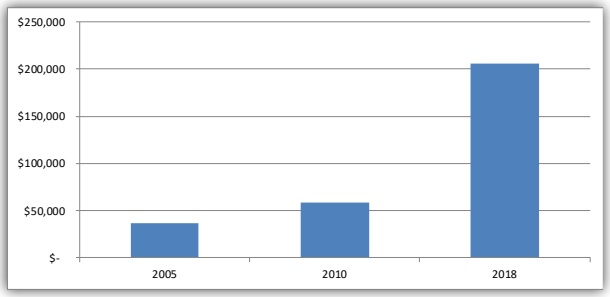


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

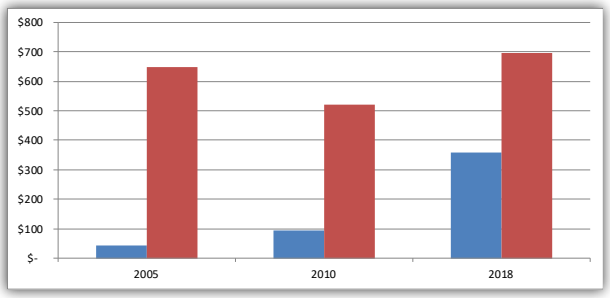


State Budgeting for Dam Safety

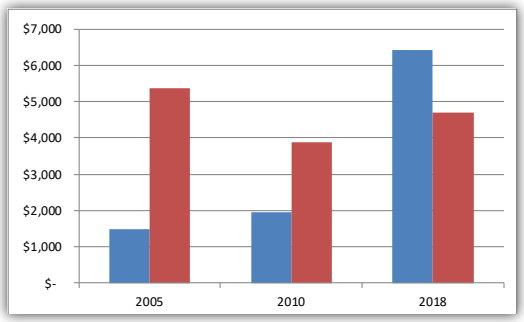
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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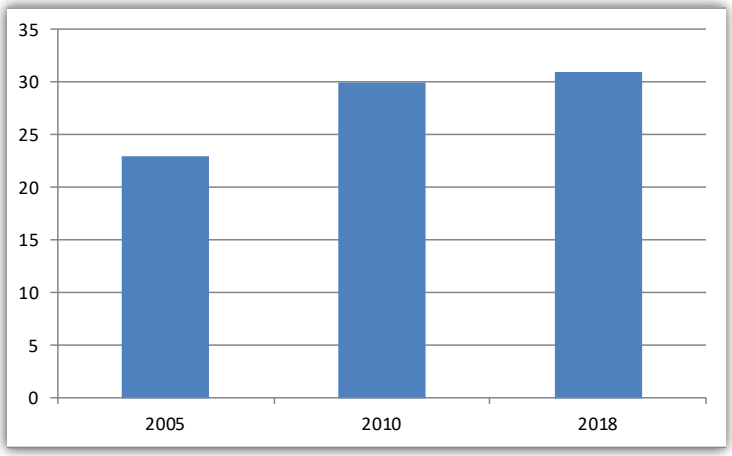
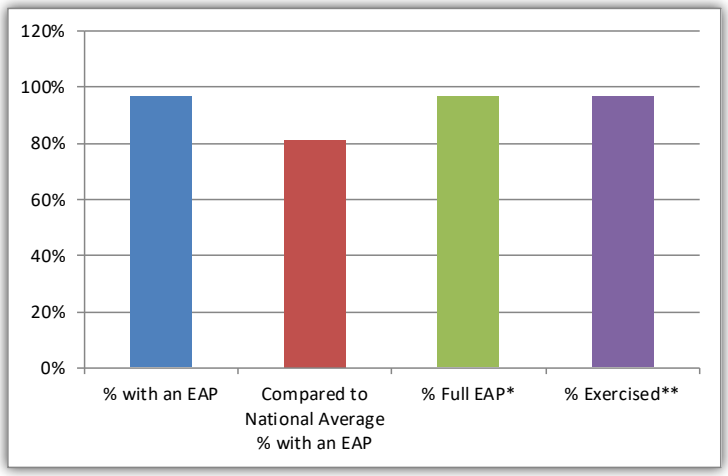
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Maine reported that the EAP TTX (tabletop exercise) was used for advocacy and 22 were carried out in 2018.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
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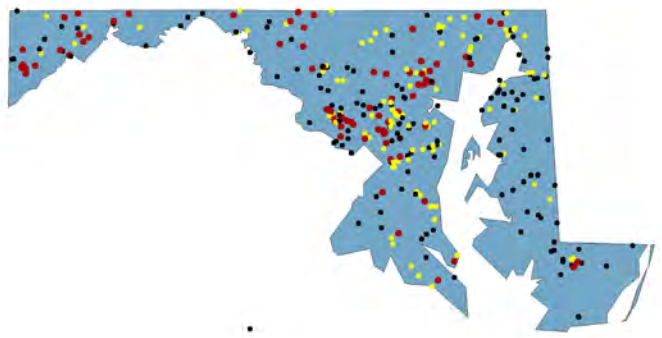
www.damsafety.org

Dam Safety Performance Report
MARYLAND



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State NID Statistics

400	NID Dams
91	NID High Hazard Potential Dams
531	State-Regulated Dams
92	State-Regulated High Hazard Potential Dams

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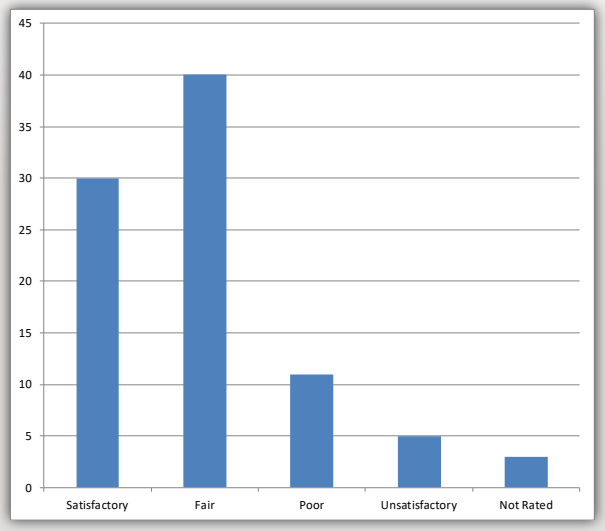
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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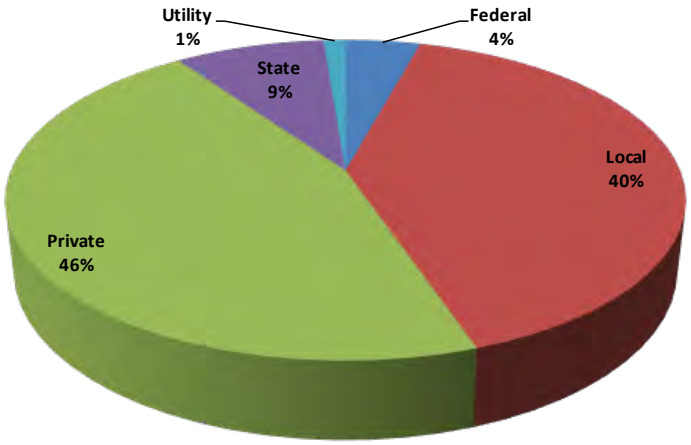
Dam Ownership



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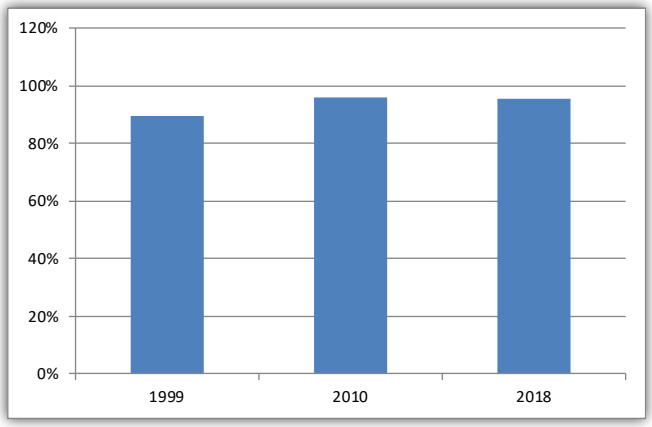
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
76%	76%	95%	95%	**Maryland**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

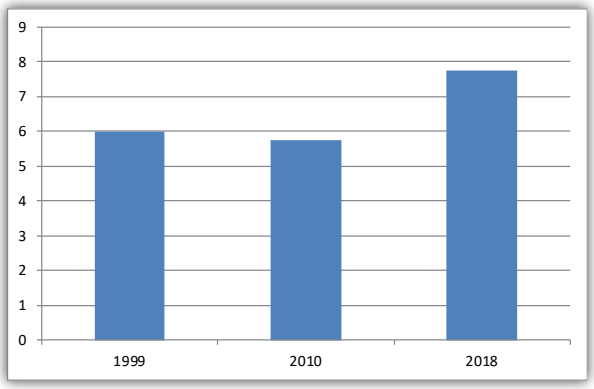
Legislation (5)	**94%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**100%**
Education & Training (3)	**94%**
Public Relations (1)	**42%**
Weighted Percentage	**95%**

Estimated Breakdown of Dams per Congressional District

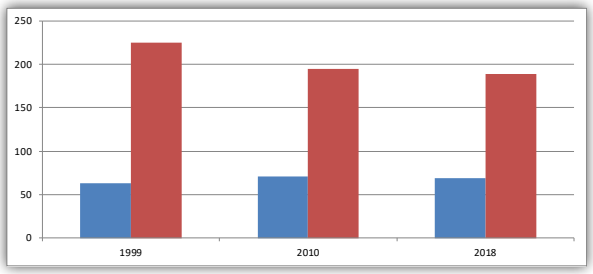
Maryland-1	118	Maryland-3	36	Maryland-5	55	Maryland-7	36
Maryland-2	9	Maryland-4	30	Maryland-6	134	Maryland-8	50

State Staffing for Dam Safety

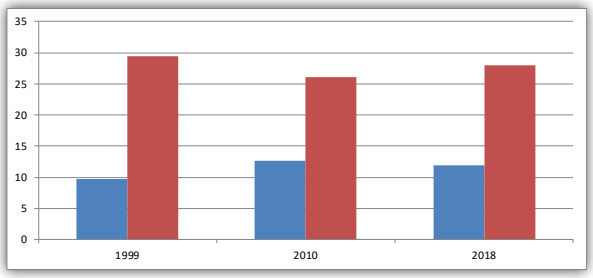
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

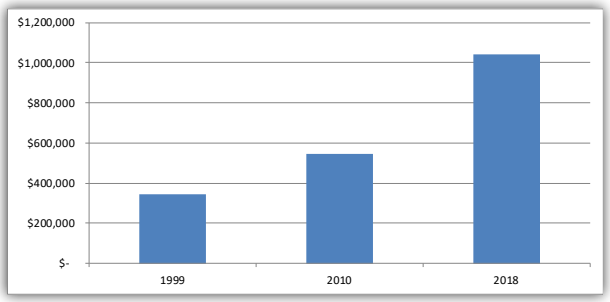


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

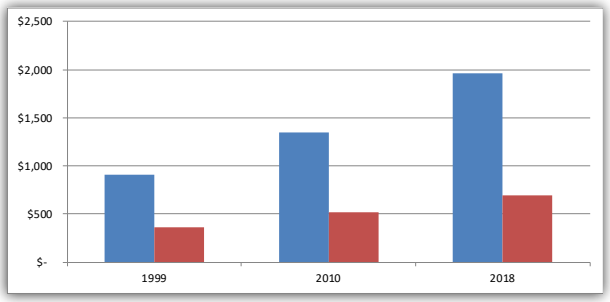


State Budgeting for Dam Safety

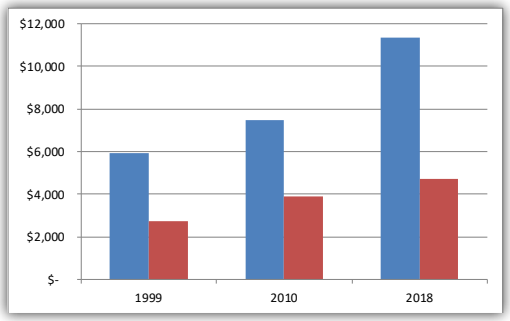
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

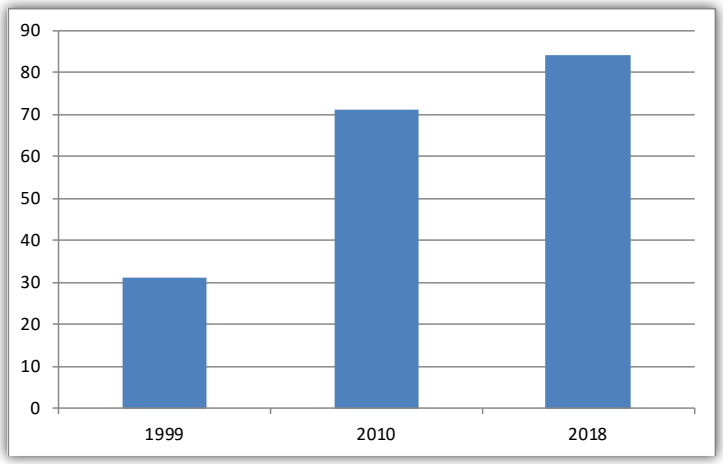


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

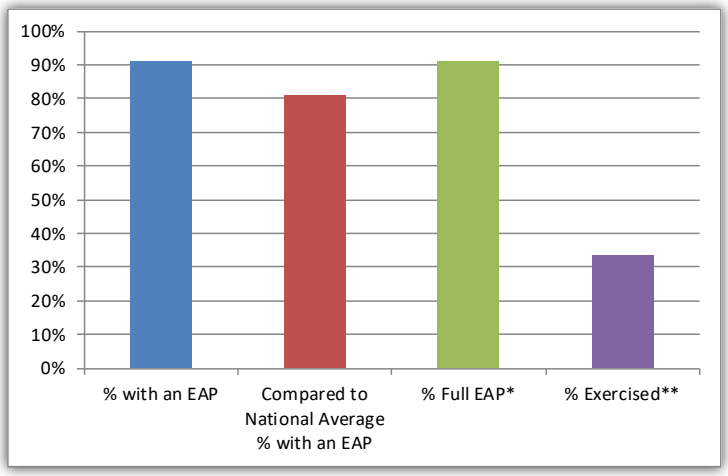
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Maryland conducted five EAP courses and one ASDSO course.

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Dam Safety Performance Report
MASSACHUSETTS

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

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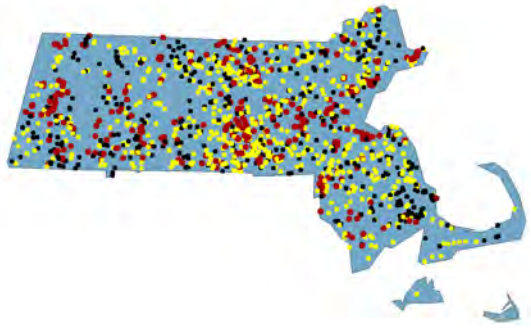


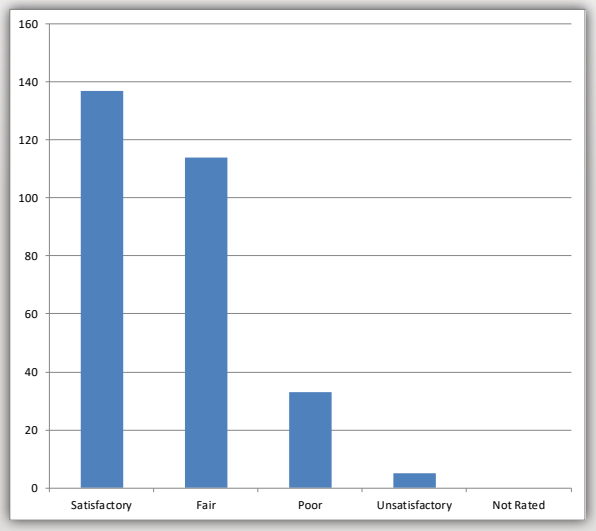
State NID Statistics

1327	NID Dams
328	NID High Hazard Potential Dams
1431	State-Regulated Dams
290	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

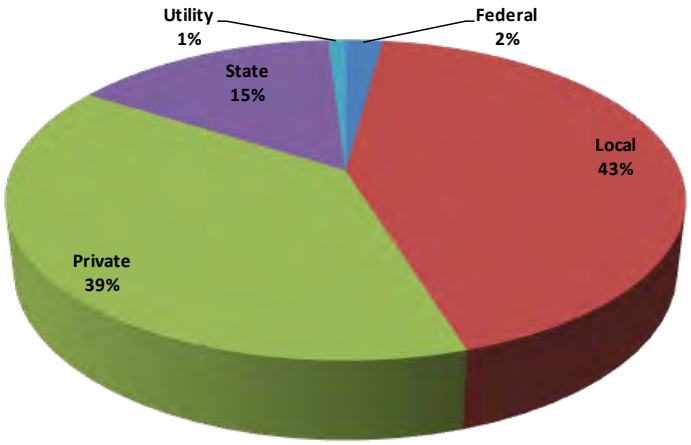
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

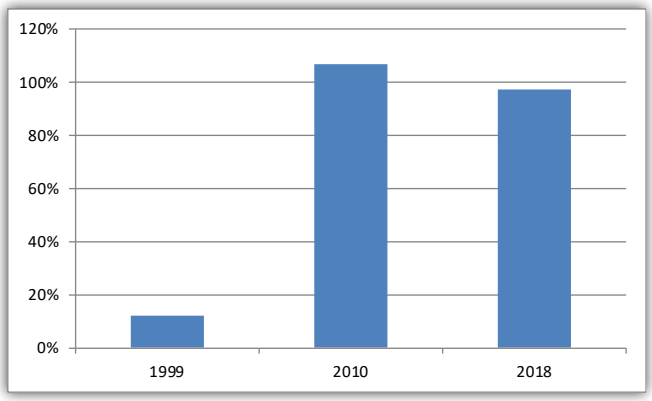
High Hazard Potential Dams Remediated – In calendar year 2018, seven state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
70%	89%	77%	77%	**Massachusetts**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

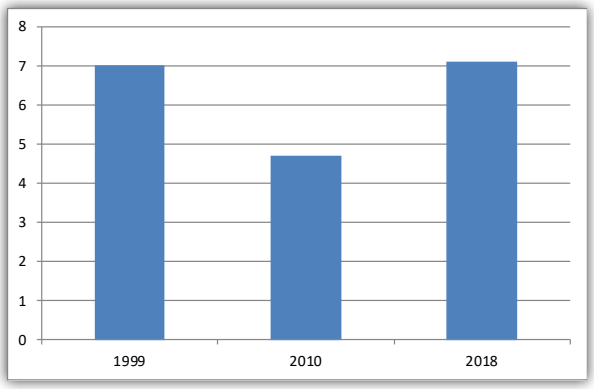
Legislation (5)	**91%**
Inspection (4)	**82%**
Enforcement (4)	**83%**
EAP & Response (4)	**67%**
Permitting (3)	**77%**
Education & Training (3)	**72%**
Public Relations (1)	**8%**
Weighted Percentage	**77%**

Estimated Breakdown of Dams per Congressional District

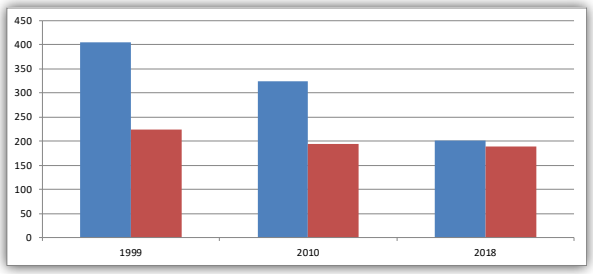
Massachusetts-1	326	Massachusetts-4	134	Massachusetts-7	6
Massachusetts-2	351	Massachusetts-5	57	Massachusetts-8	73
Massachusetts-3	170	Massachusetts-6	112	Massachusetts-9	100

State Staffing for Dam Safety

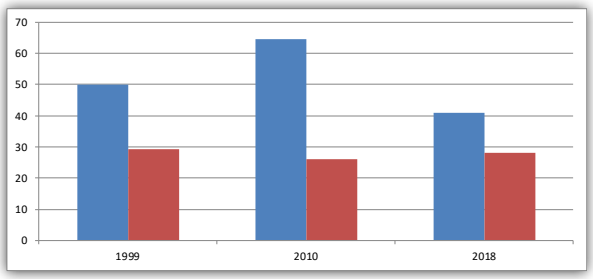
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

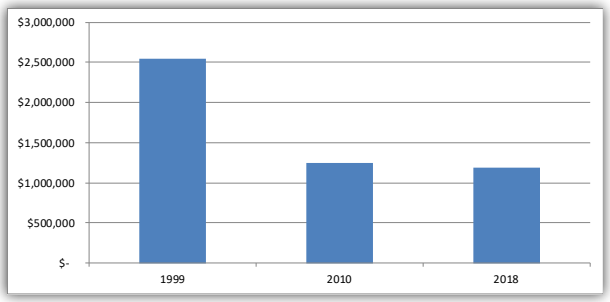


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

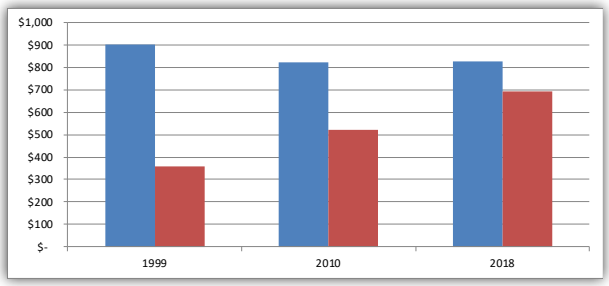


State Budgeting for Dam Safety

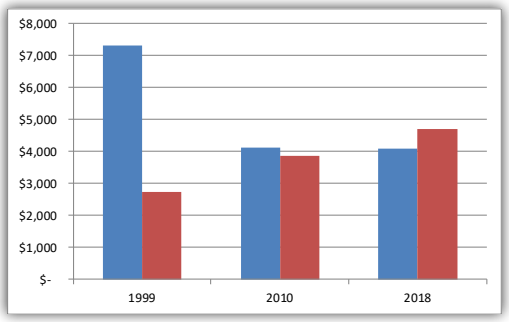
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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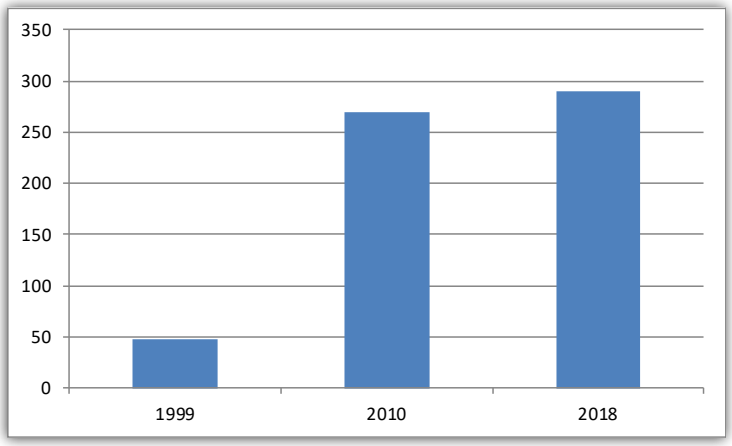
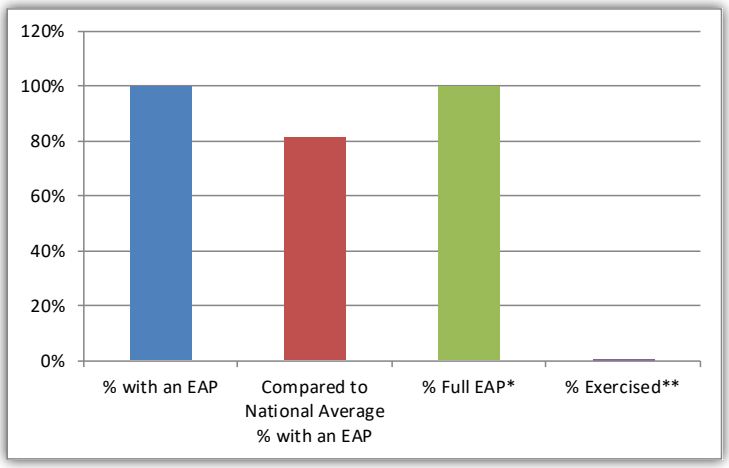
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Outreach to Dam Owners, Local Officials and the Public

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State Outreach Highlights

In 2018, Massachusetts reported 45 one-on-one meetings with dam owners to review progress of permitted repair projects in the field, meetings pertaining to EAPs, and field response for requests for assistance.

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Dam Safety Performance Report
MICHIGAN

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State NID Statistics

1059	NID Dams
172	NID High Hazard Potential Dams
1061	State-Regulated Dams
89	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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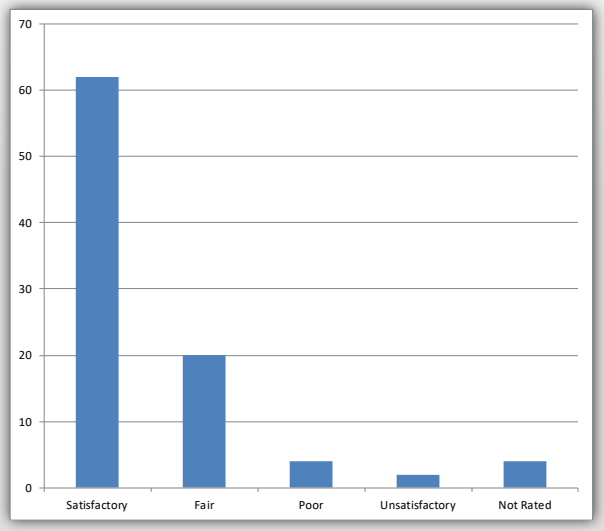
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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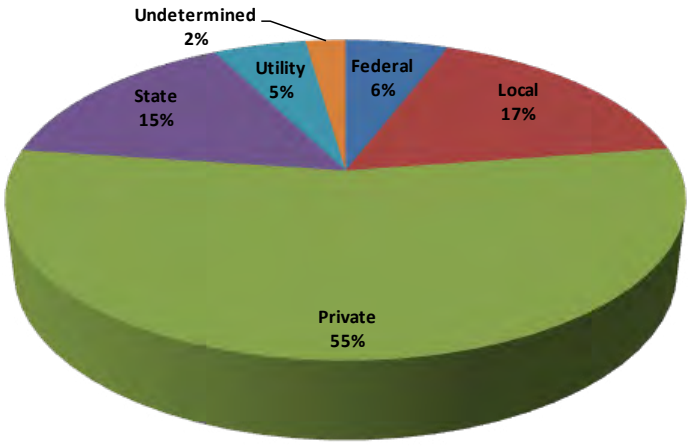
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

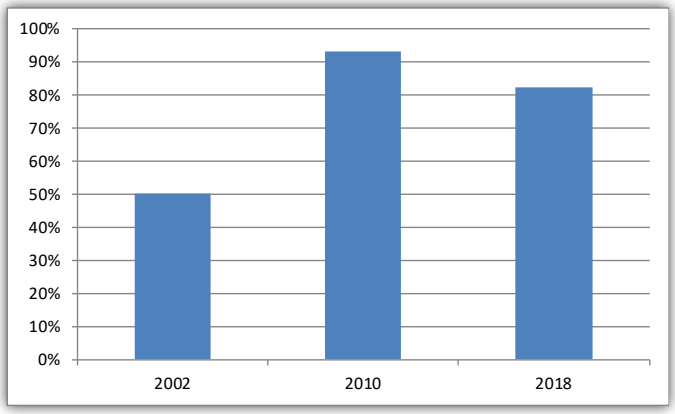
High Hazard Potential Dams Remediated – In calendar year 2018, three state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
30%	80%	91%	91%	**Michigan**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

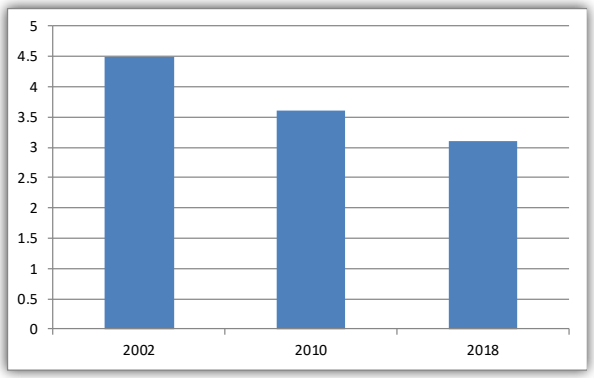
Legislation (5)	**82%**
Inspection (4)	**98%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**98%**
Education & Training (3)	**94%**
Public Relations (1)	**58%**
Weighted Percentage	**91%**

Estimated Breakdown of Dams per Congressional District

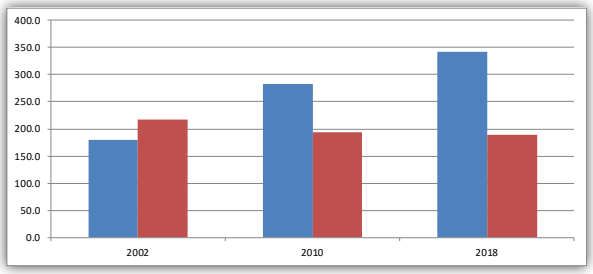
Michigan-1	352	Michigan-5	43	Michigan-9	5	Michigan-13	3
Michigan-2	45	Michigan-6	93	Michigan-10	67	Michigan-14	5
Michigan-3	53	Michigan-7	102	Michigan-11	31		
Michigan-4	177	Michigan-8	65	Michigan-12	19		

State Staffing for Dam Safety

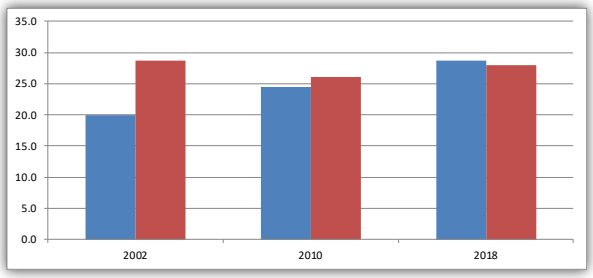
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

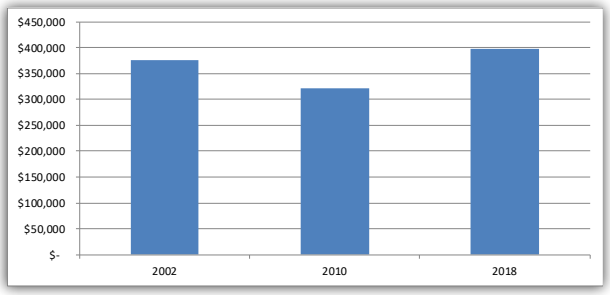


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

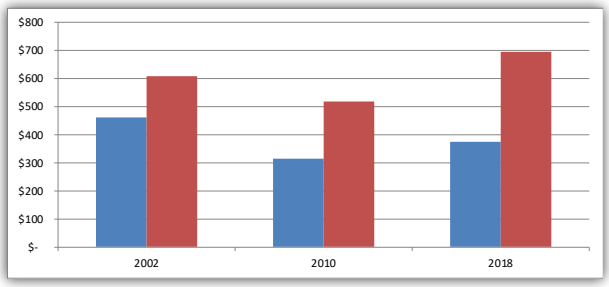


State Budgeting for Dam Safety

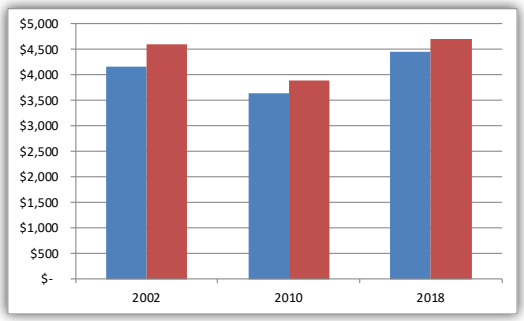
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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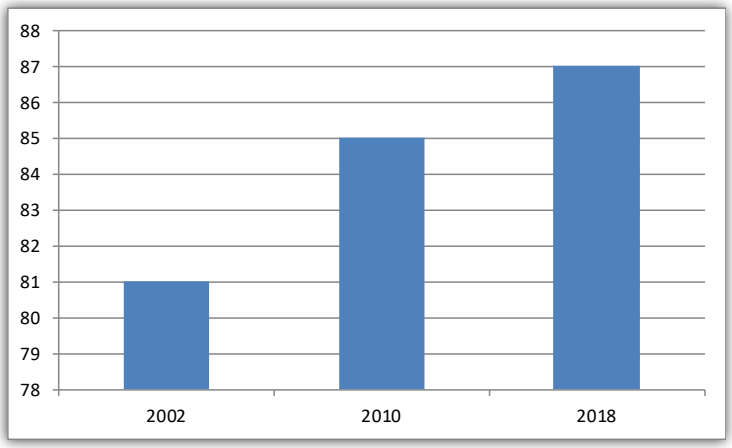
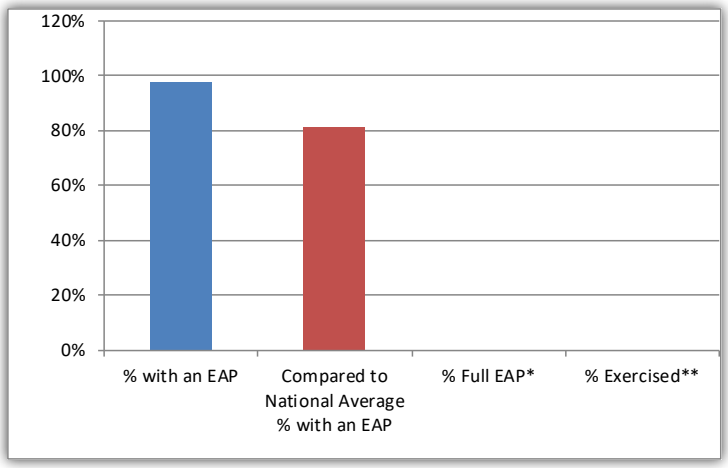
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Michigan reported 20 meetings, seminars, courses, and workshops that were sponsored by the state program and/or where state dam safety staff participated as a speaker. The number also includes direct meetings/ contact with dam owners to discuss issues with O&M and emergency preparedness.

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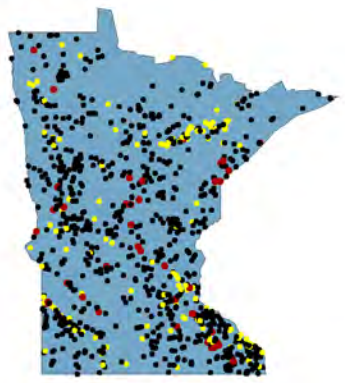
Dam Safety Performance Report
MINNESOTA



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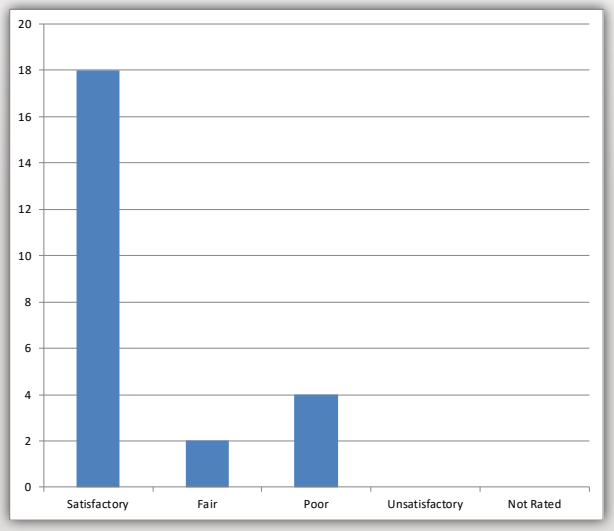
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

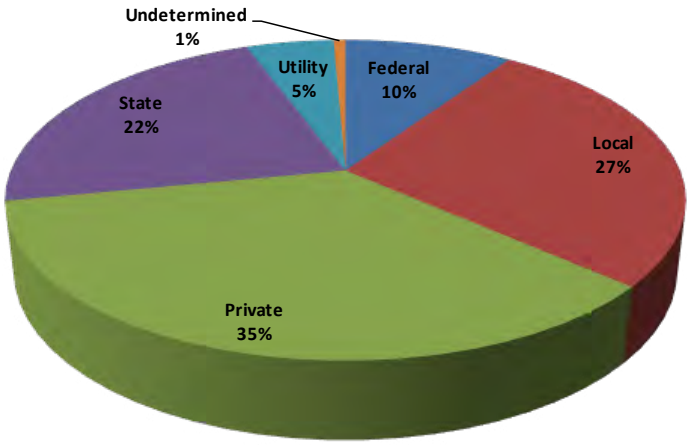
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

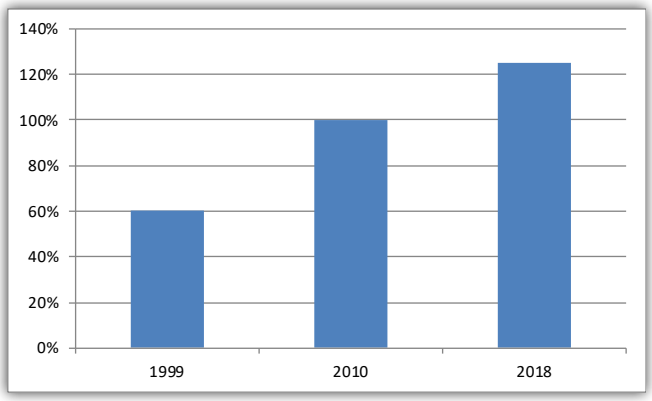
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
88%	78%	76%	77%	**Minnesota**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

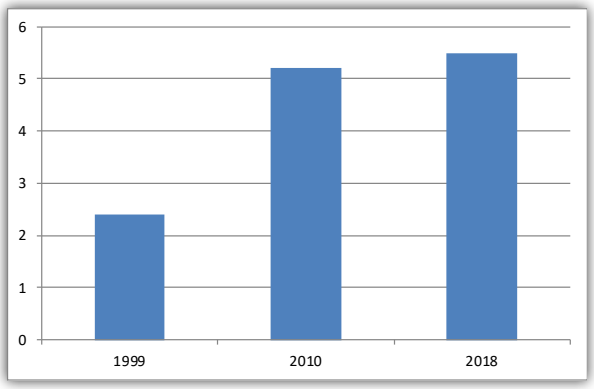
Legislation (5)	**97%**
Inspection (4)	**79%**
Enforcement (4)	**67%**
EAP & Response (4)	**78%**
Permitting (3)	**85%**
Education & Training (3)	**67%**
Public Relations (1)	**8%**
Weighted Percentage	**77%**

Estimated Breakdown of Dams per Congressional District

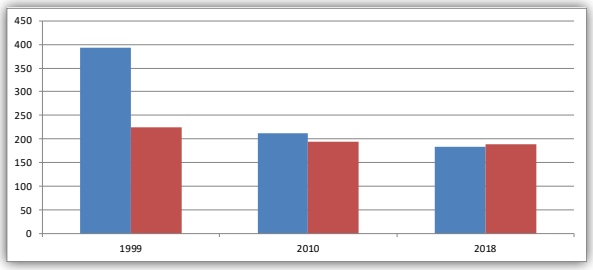
Minnesota-1	228	Minnesota-5	6
Minnesota-2	91	Minnesota-6	40
Minnesota-3	17	Minnesota-7	462
Minnesota-4	11	Minnesota-8	331

State Staffing for Dam Safety

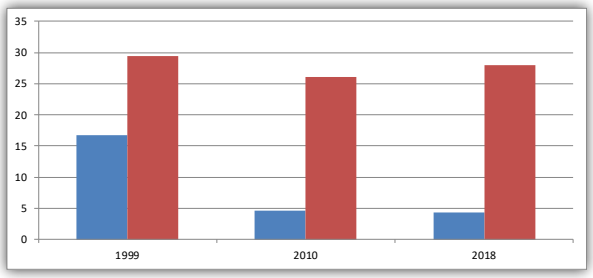
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

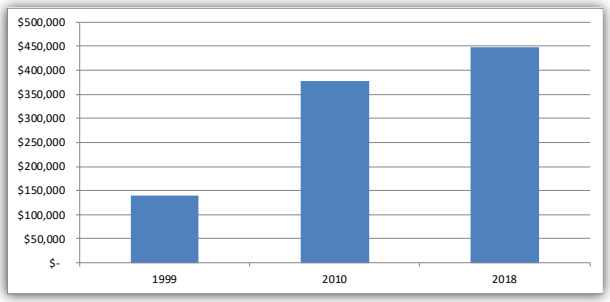


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

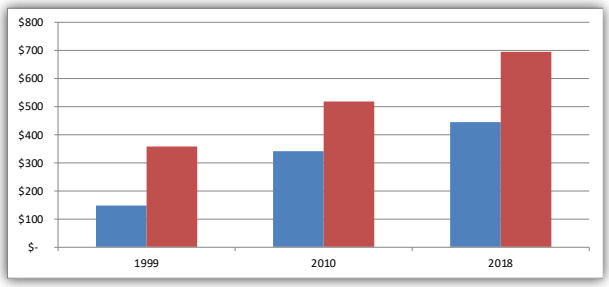


State Budgeting for Dam Safety

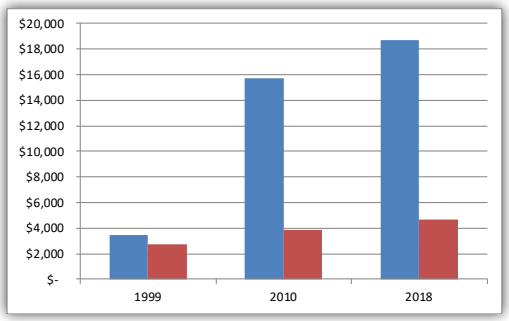
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

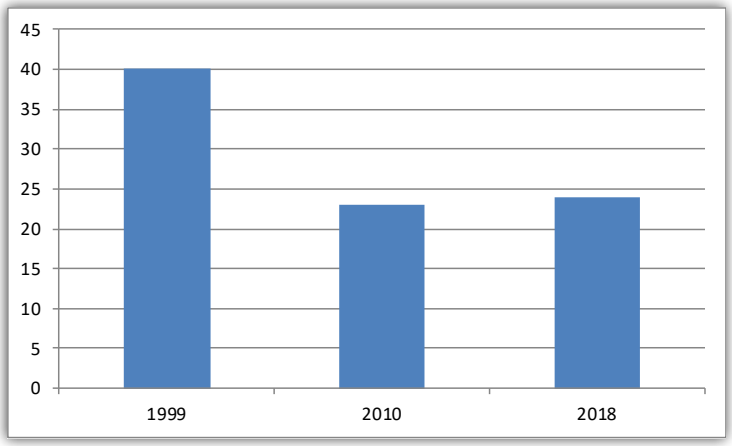


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

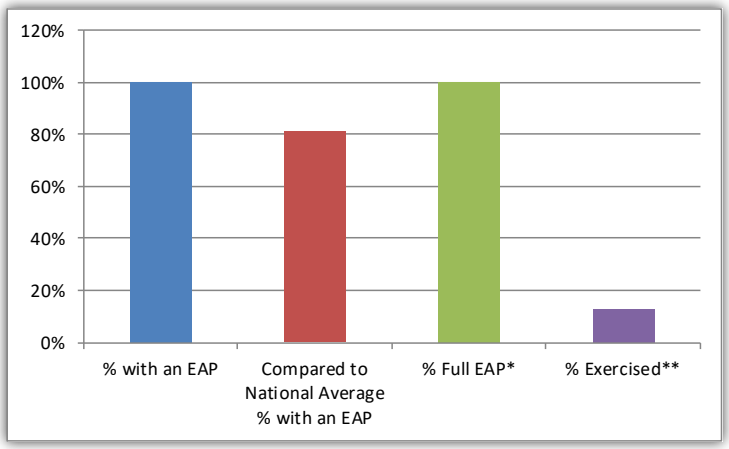
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

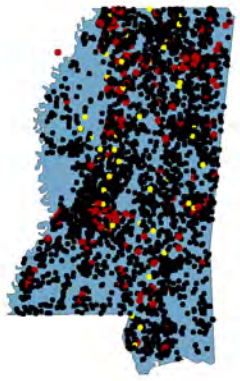
State Outreach Highlights

In 2018, Minnesota reported 24 direct meetings with dam owners.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
MISSISSIPPI



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

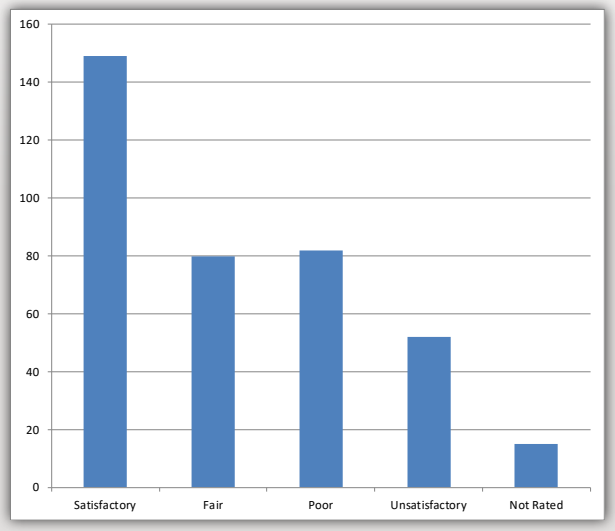
State NID Statistics

6081	NID Dams
381	NID High Hazard Potential Dams
6830	State-Regulated Dams
371	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

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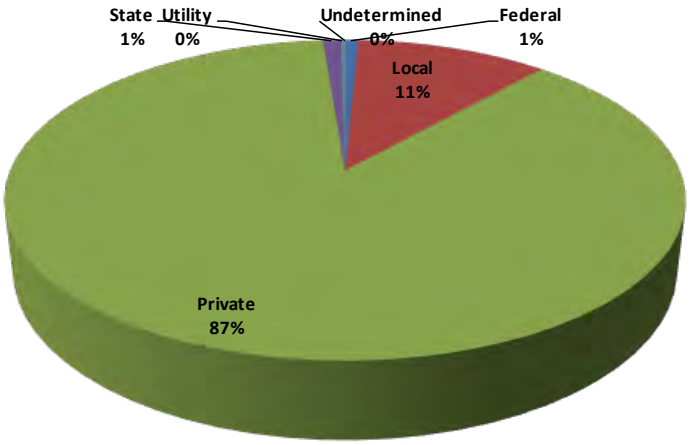
Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

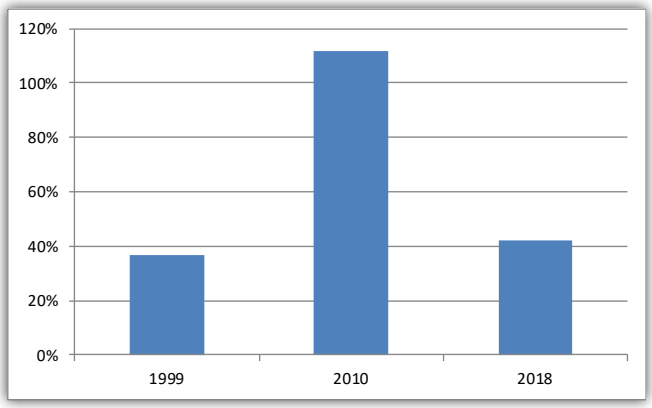
High Hazard Potential Dams Remediated – In calendar year 2018, eight state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
39%	73%	77%	86%	**Mississippi**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

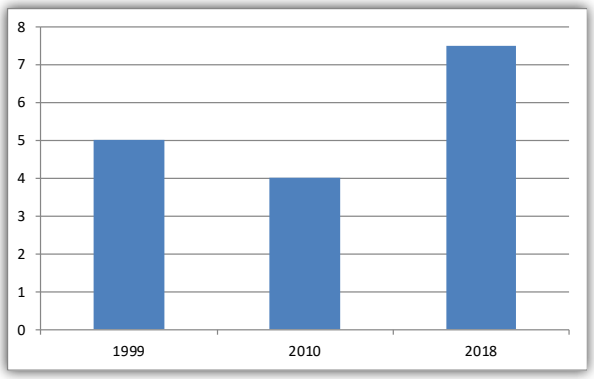
Legislation (5)	**85%**
Inspection (4)	**80%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**75%**
Education & Training (3)	**83%**
Public Relations (1)	**42%**
Weighted Percentage	**86%**

Estimated Breakdown of Dams per Congressional District

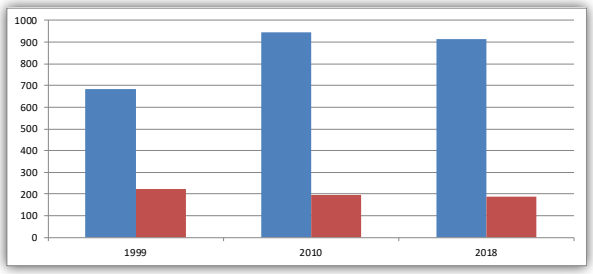
Mississippi-1	1694
Mississippi-2	1727
Mississippi-3	1664
Mississippi-4	997

State Staffing for Dam Safety

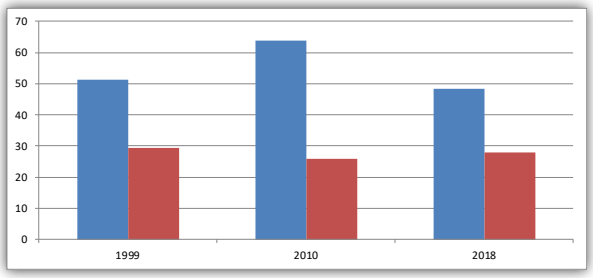
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

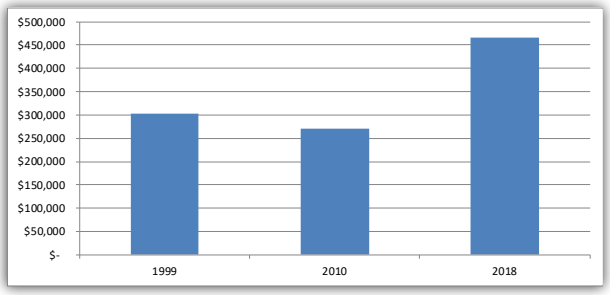


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

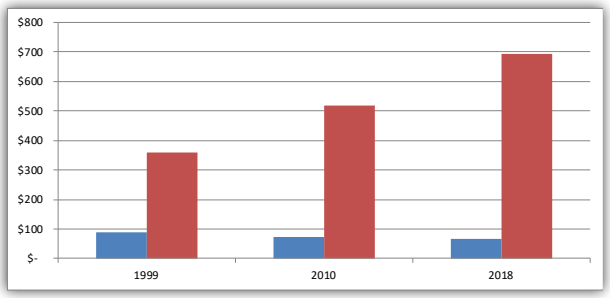


State Budgeting for Dam Safety

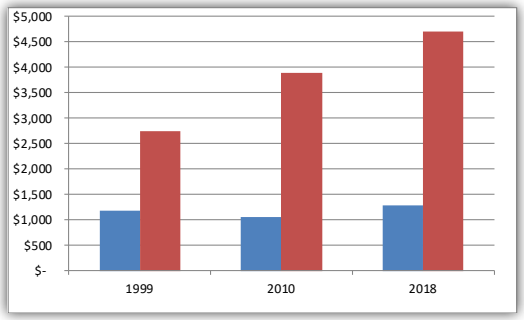
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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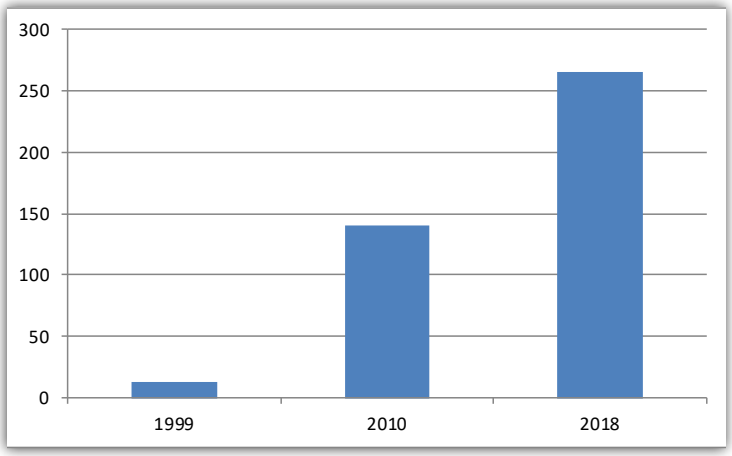
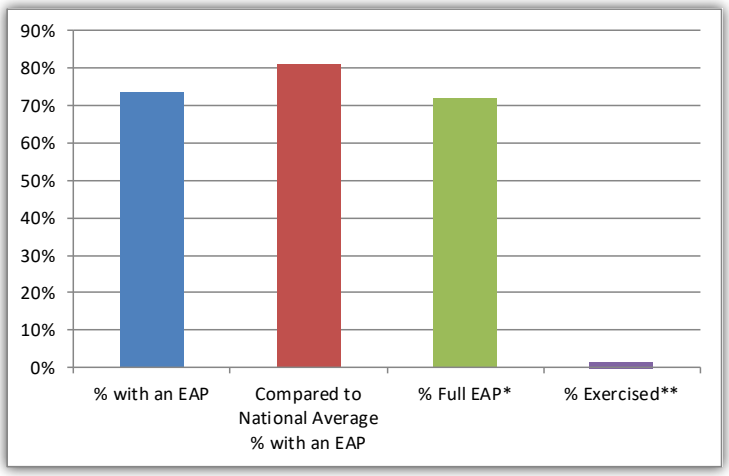
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

Mississippi estimated thirty dam safety seminars, courses, or workshops in 2018.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
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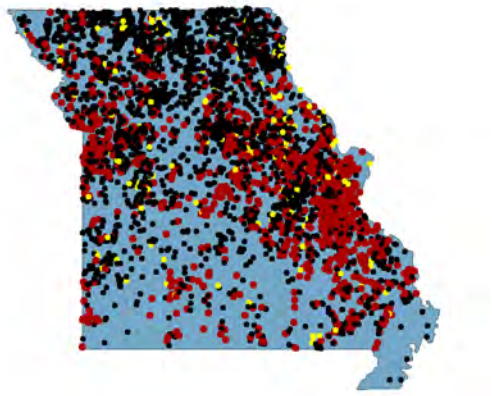
Dam Safety Performance Report
MISSOURI



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State NID Statistics

5379	NID Dams
1463	NID High Hazard Potential Dams
699	State-Regulated Dams
474	State-Regulated High Hazard Potential Dams

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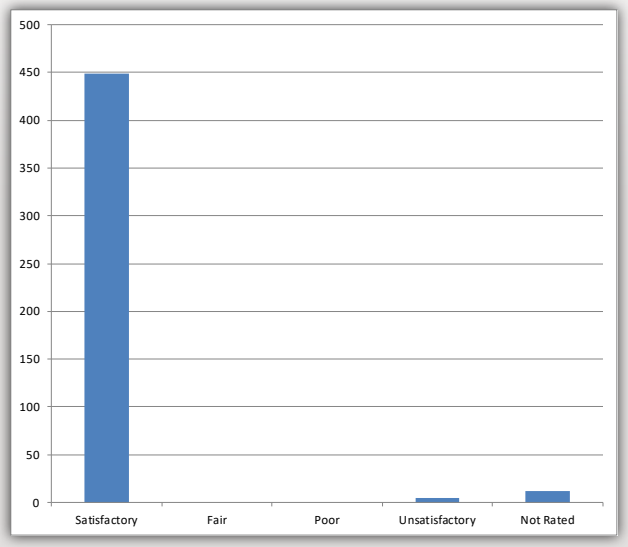
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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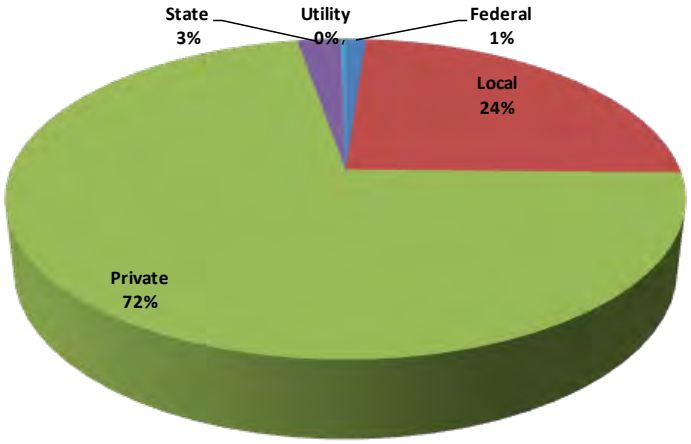
Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, five state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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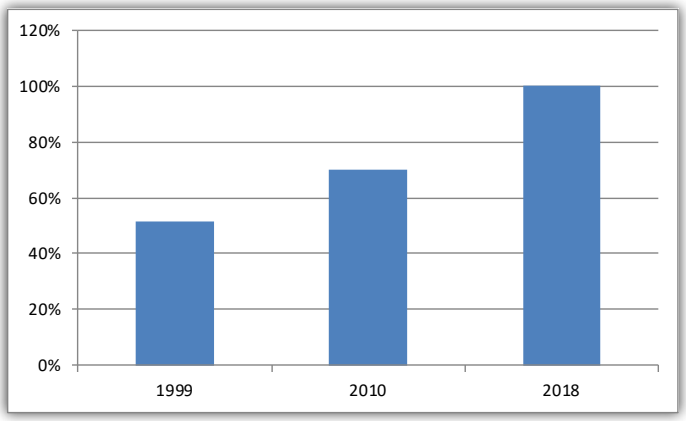
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
77%	83%	52%	82%	**Missouri**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

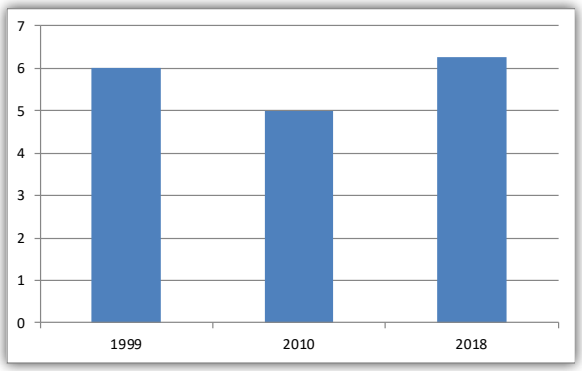
Legislation (5)	**88%**
Inspection (4)	**75%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**81%**
Education & Training (3)	**78%**
Public Relations (1)	**25%**
Weighted Percentage	**82%**

Estimated Breakdown of Dams per Congressional District

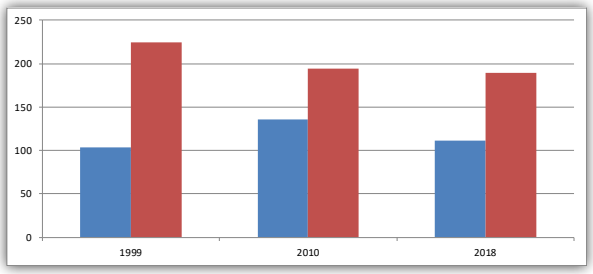
Missouri-1	3	Missouri-5	321
Missouri-2	78	Missouri-6	2278
Missouri-3	871	Missouri-7	96
Missouri-4	844	Missouri-8	886

State Staffing for Dam Safety

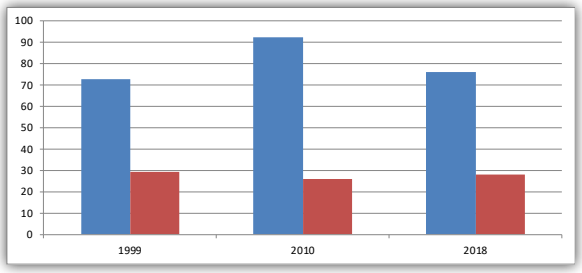
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

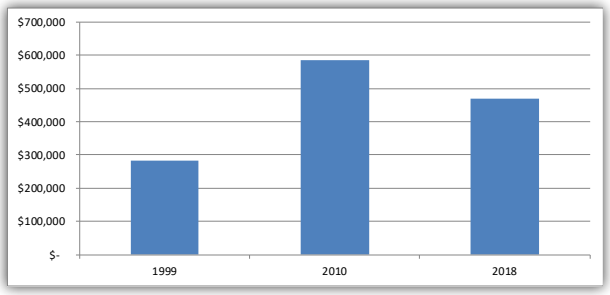


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

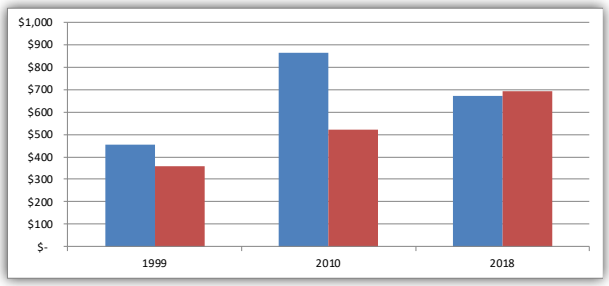


State Budgeting for Dam Safety

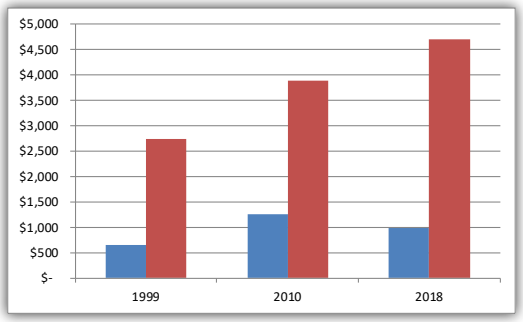
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

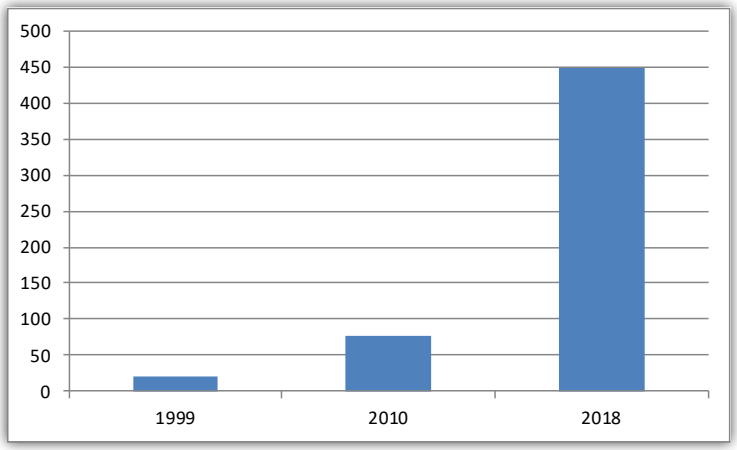


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

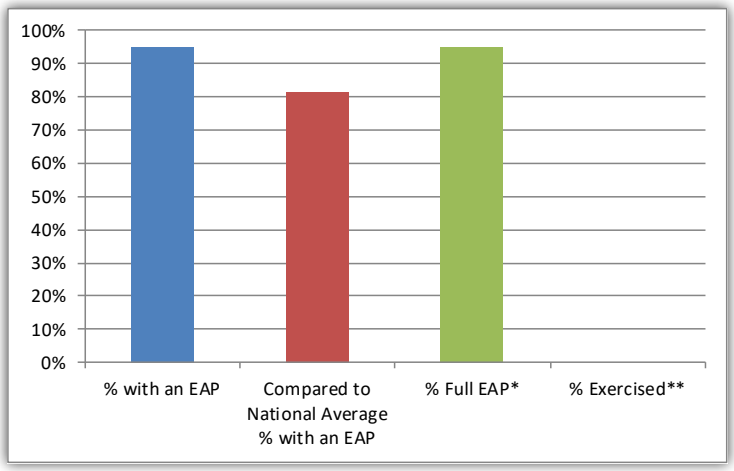
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Missouri reported 50 direct meetings on site with the owner to discuss the inspection, etc.

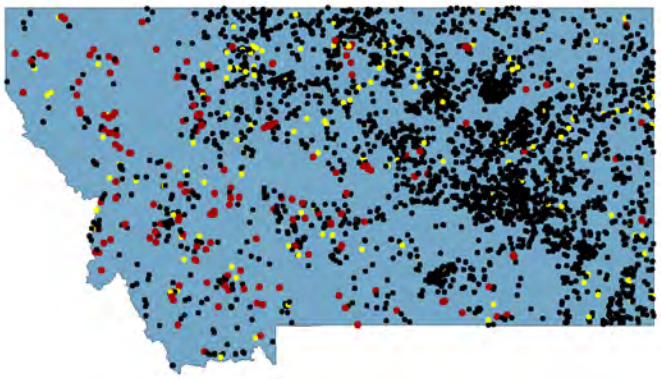
State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Missouri law exempts all agricultural purpose dams and dams less than 35 feet in height regardless of storage volume and potential hazard.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
MONTANA



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

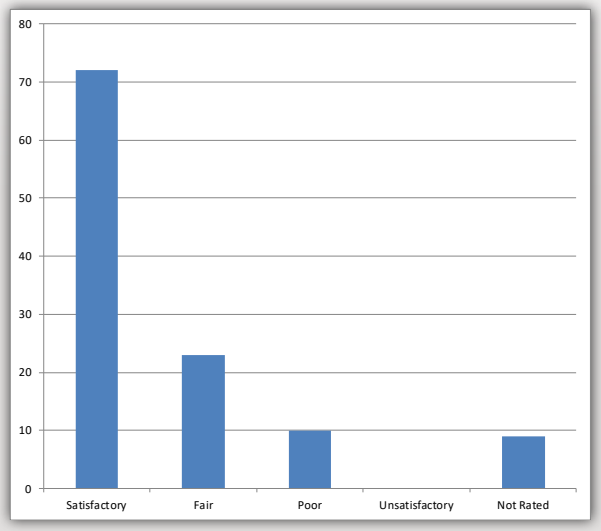
State NID Statistics

3306	NID Dams
221	NID High Hazard Potential Dams
2918	State-Regulated Dams
119	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

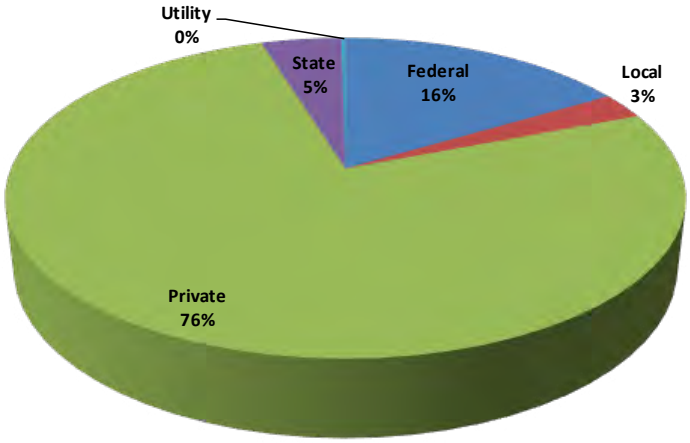
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

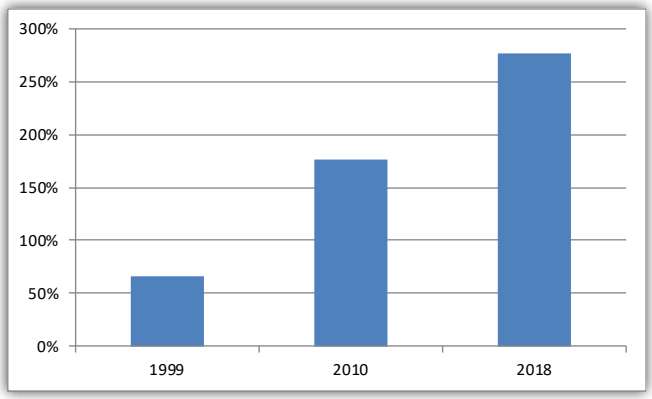
High Hazard Potential Dams Remediated – In calendar year 2018, one state-regulated high hazard potential dam was remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
76%	83%	91%	91%	**Montana**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

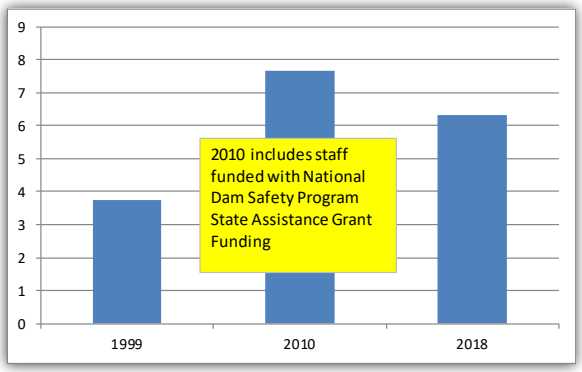
Legislation (5)	**94%**
Inspection (4)	**90%**
Enforcement (4)	**100%**
EAP & Response (4)	**78%**
Permitting (3)	**92%**
Education & Training (3)	**100%**
Public Relations (1)	**67%**
Weighted Percentage	**91%**

Estimated Breakdown of Dams per Congressional District

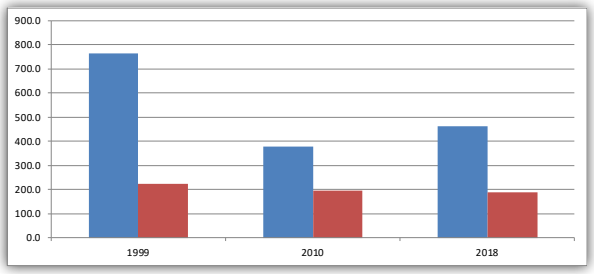
Montana has one Congressional District accounting for 3,301 dams.

State Staffing for Dam Safety

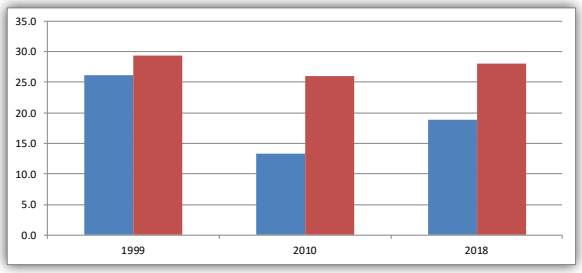
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

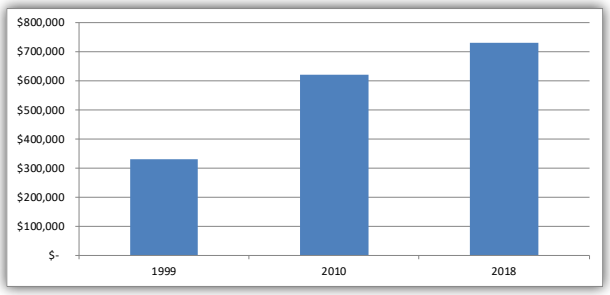


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

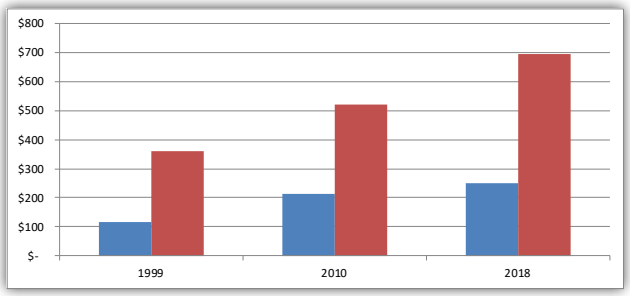


State Budgeting for Dam Safety

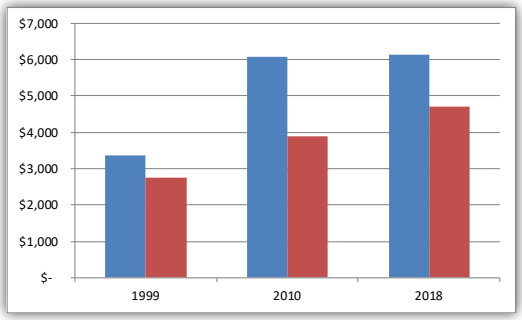
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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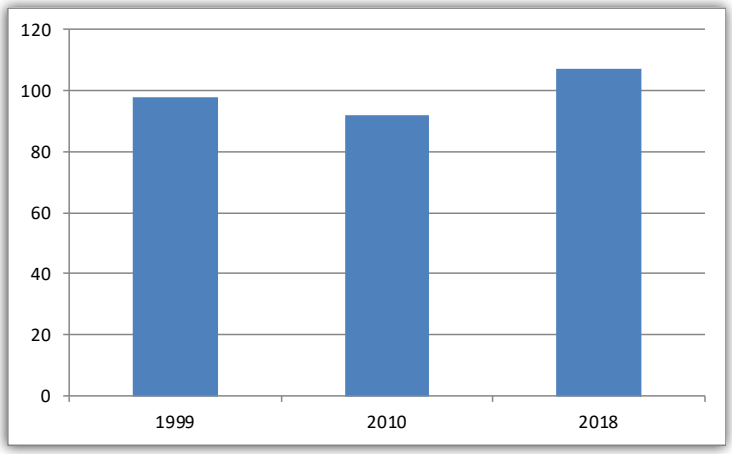
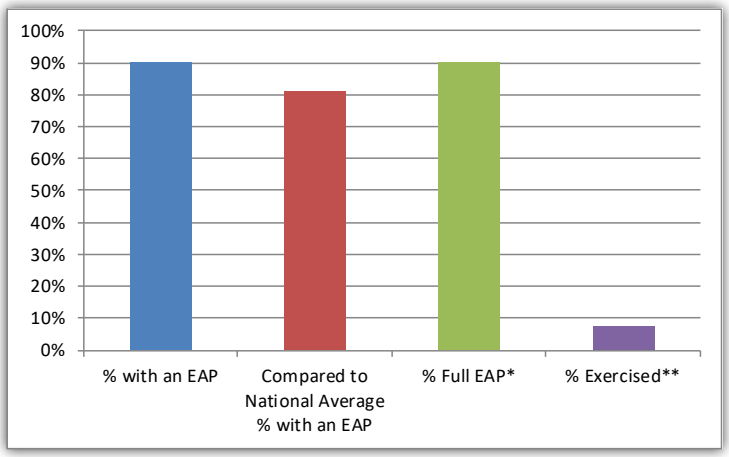
An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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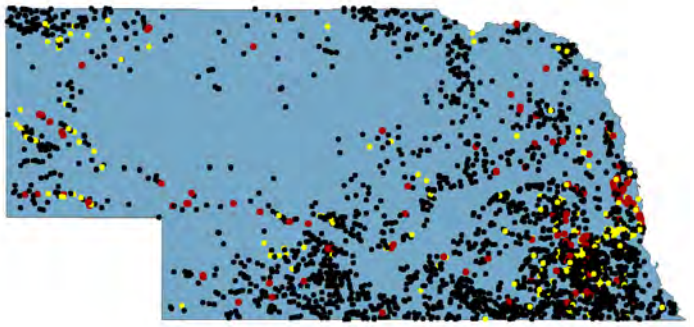
State Outreach Highlights

In 2018, Montana reported 10 outreach opportunities including several dam owner workshops focused on emergency planning held around the state. There were focused meetings with owners of dams with specific issues; Oroville lessons learned workshop in April 18; Assistance with MT association of dam owners workshop in October 18.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
NEBRASKA



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State NID Statistics

3007	NID Dams
149	NID High Hazard Potential Dams
2922	State-Regulated Dams
145	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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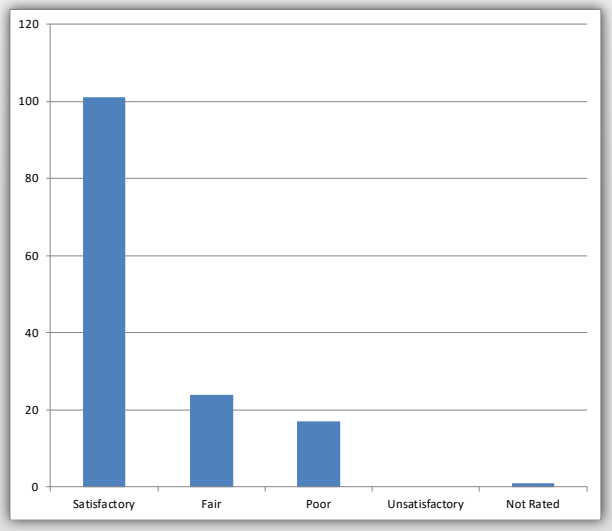
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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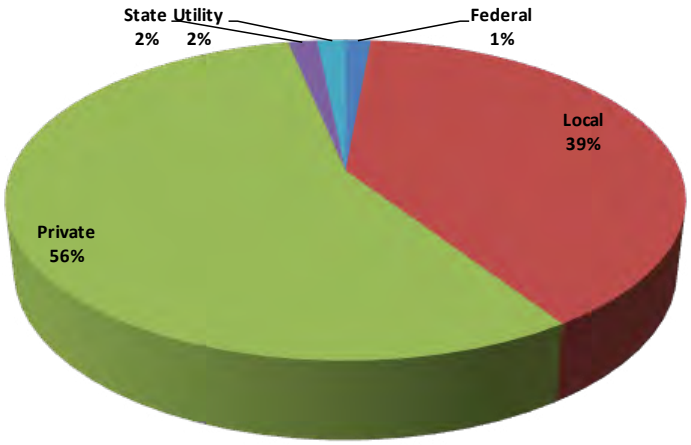
High Hazard Potential Dams Remediated – In calendar year 2018, three state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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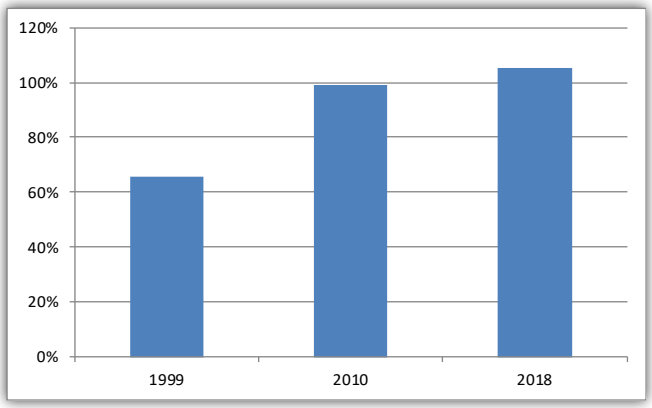
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
81%	62%	92%	84%	**Nebraska**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

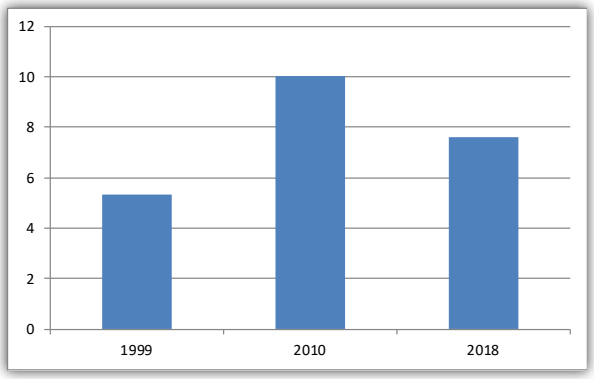
Legislation (5)	**94%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**65%**
Education & Training (3)	**78%**
Public Relations (1)	**8%**
Weighted Percentage	**84%**

Estimated Breakdown of Dams per Congressional District

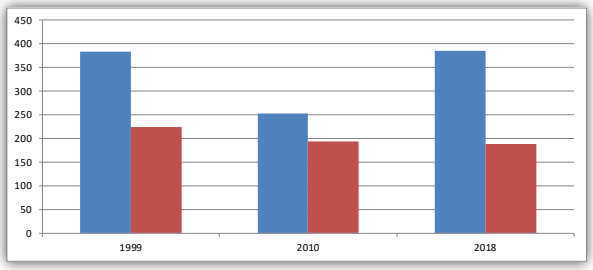
Nebraska-1	739
Nebraska-2	64
Nebraska-3	2206

State Staffing for Dam Safety

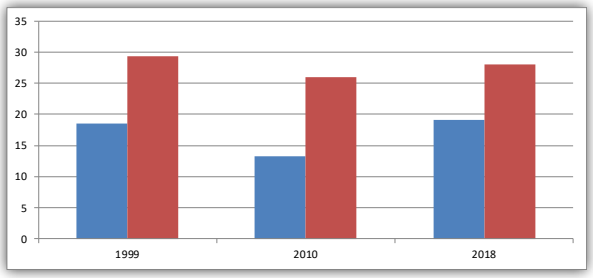
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

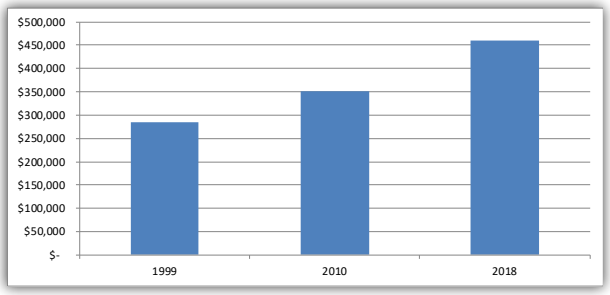


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

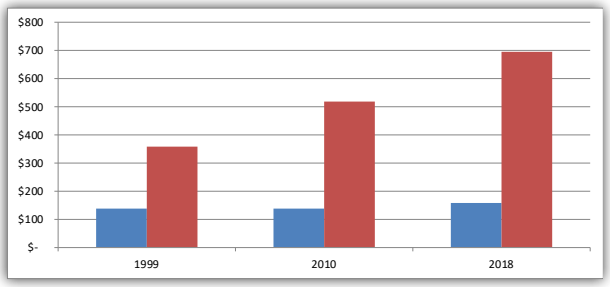


State Budgeting for Dam Safety

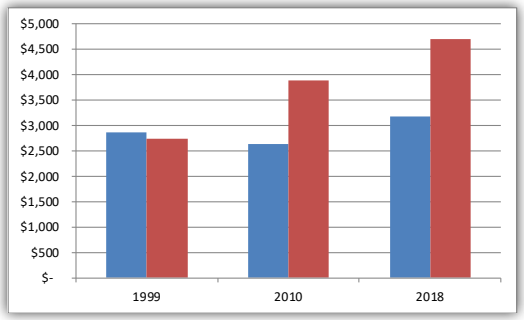
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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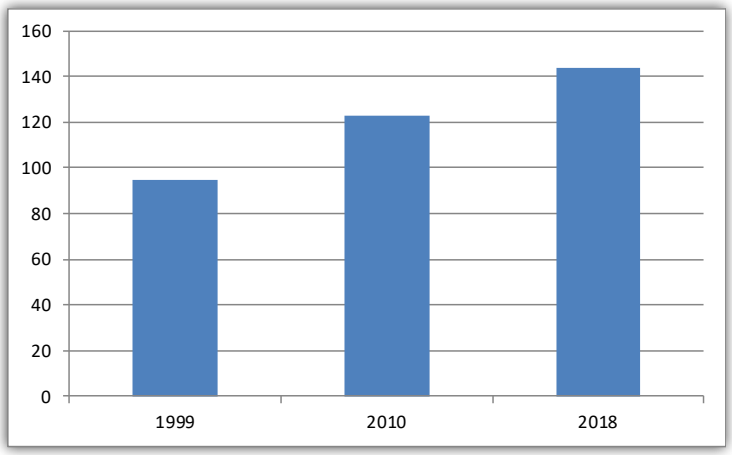
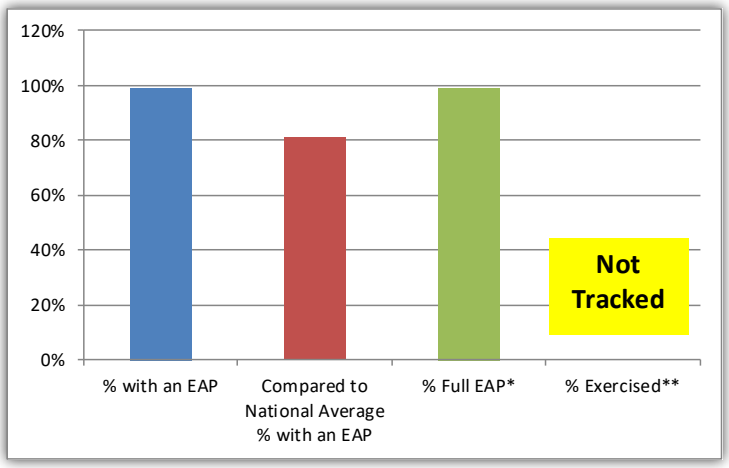
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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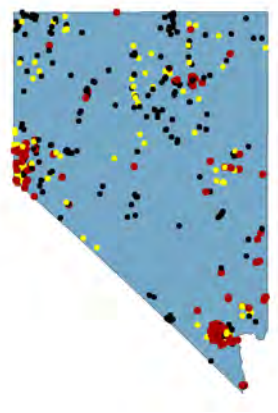
State Outreach Highlights

In 2018, Nebraska estimated thirty direct meetings with dam owners to discuss issues with operation and maintenance.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
NEVADA



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

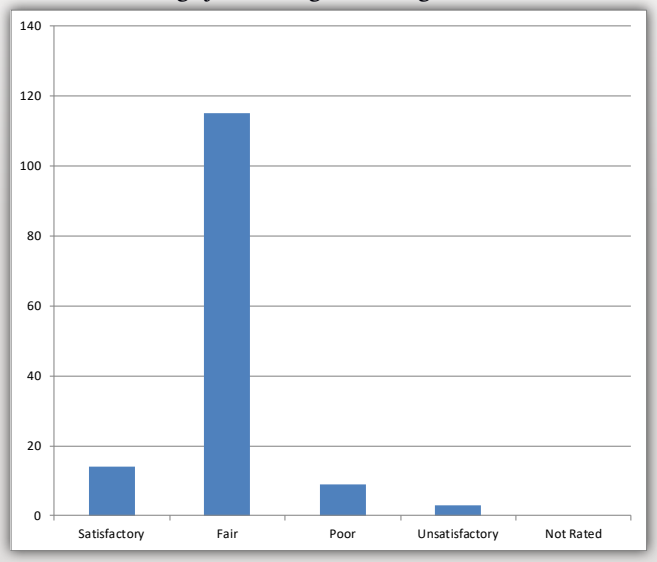
State NID Statistics

525	NID Dams
156	NID High Hazard Potential Dams
664	State-Regulated Dams
156	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

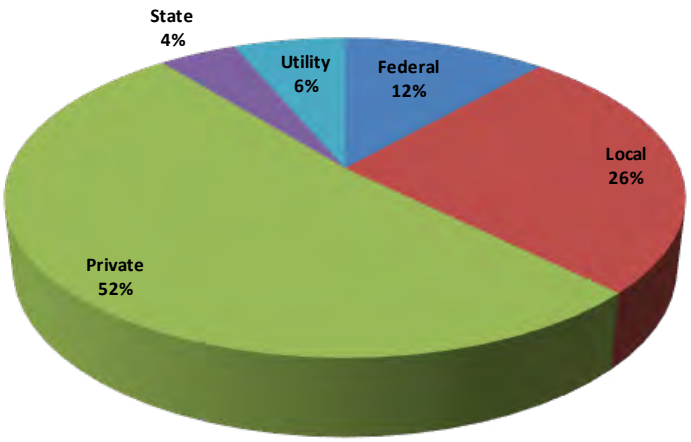
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

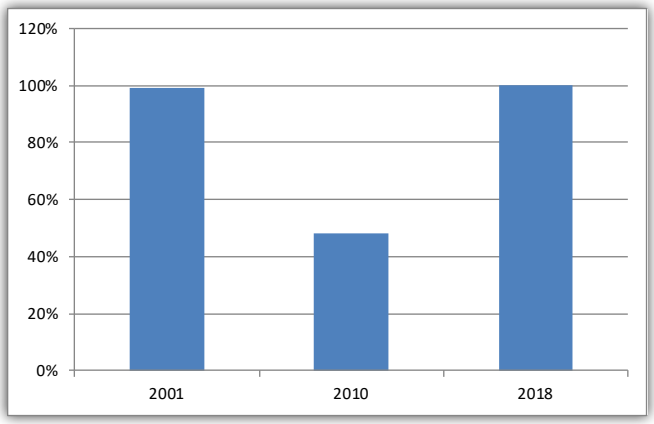
High Hazard Potential Dams Remediated – In calendar year 2018, one state-regulated high hazard potential dam was remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

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Overall Weighted Percentage

1989	1998	2010	2018	
66%	56%	89%	93%	**Nevada**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

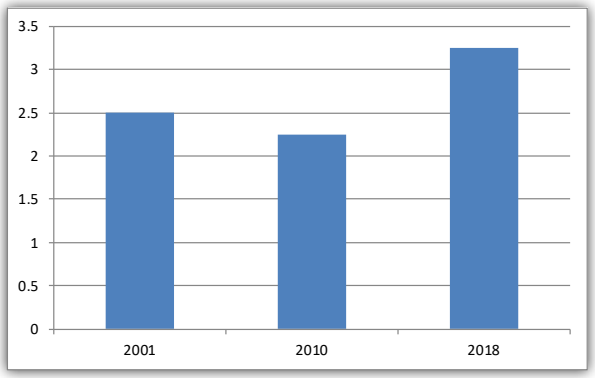
Legislation (5)	**94%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**90%**
Education & Training (3)	**100%**
Public Relations (1)	**25%**
Weighted Percentage	**93%**

Estimated Breakdown of Dams per Congressional District

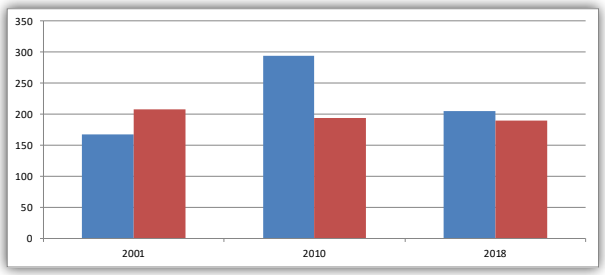
Nevada-1	11	Nevada-3	46
Nevada-2	321	Nevada-4	147

State Staffing for Dam Safety

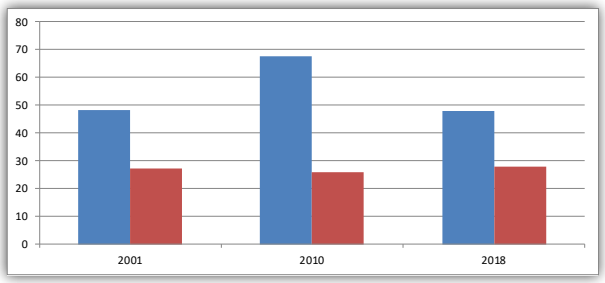
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

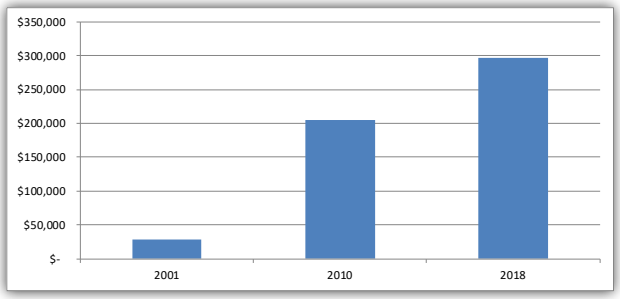


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

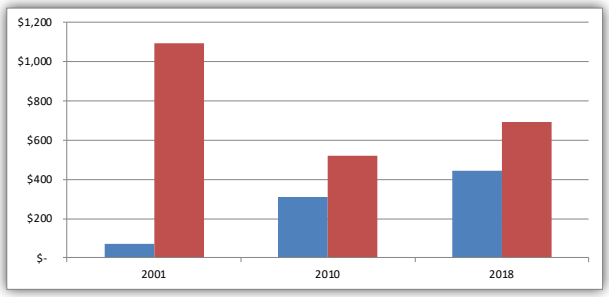


State Budgeting for Dam Safety

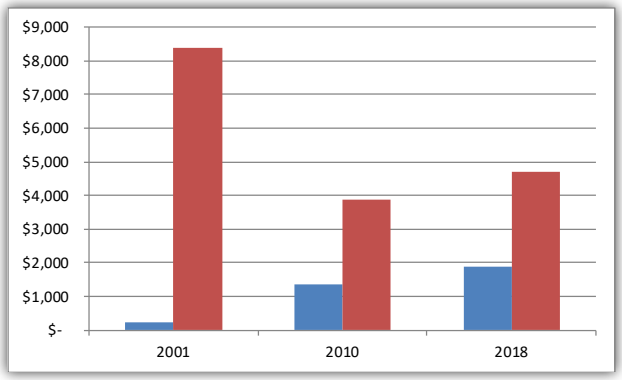
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

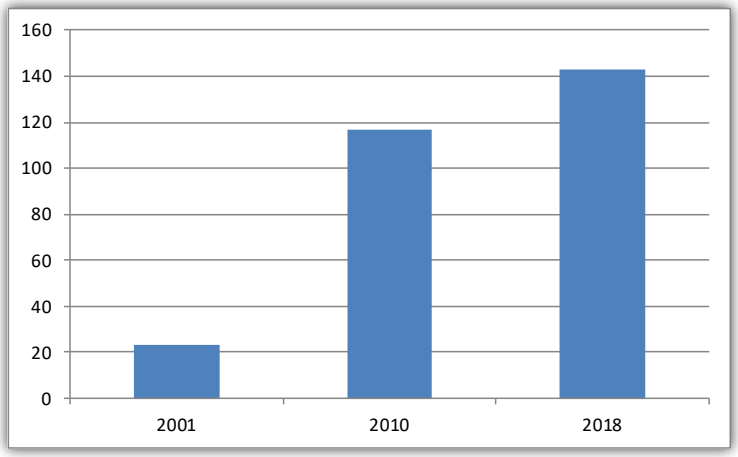


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

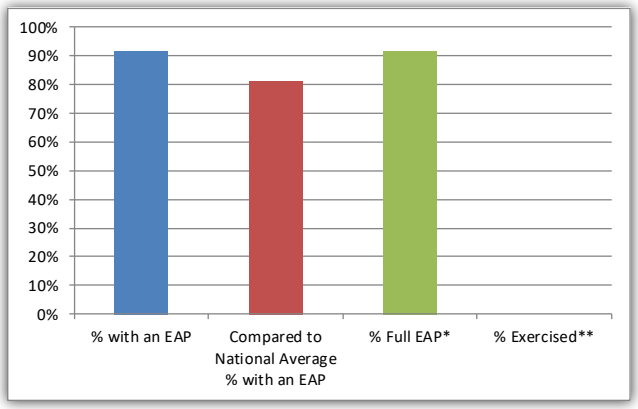
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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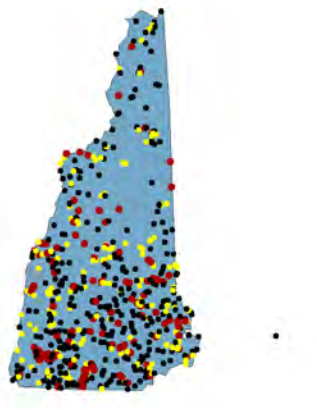
NEW HAMPSHIRE



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State NID Statistics

657	NID Dams
151	NID High Hazard Potential Dams
837	State-Regulated Dams
162	State-Regulated High Hazard Potential Dams

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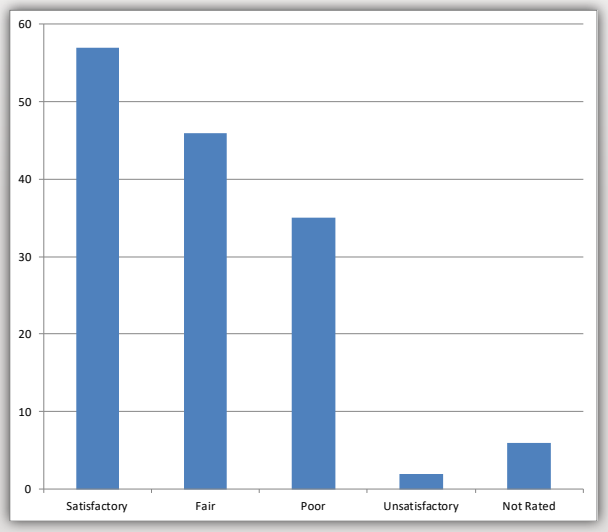
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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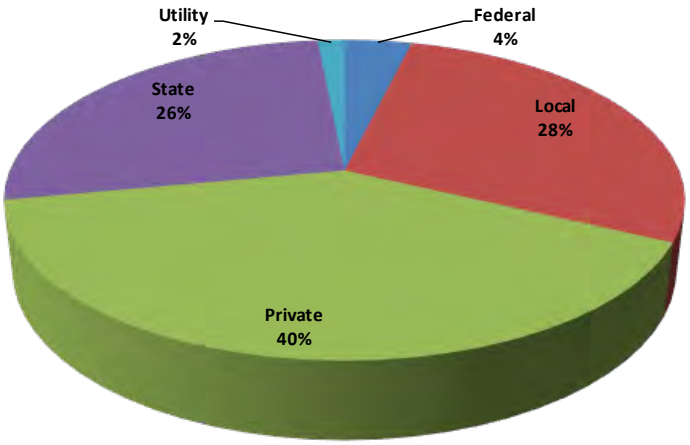
Dam Ownership



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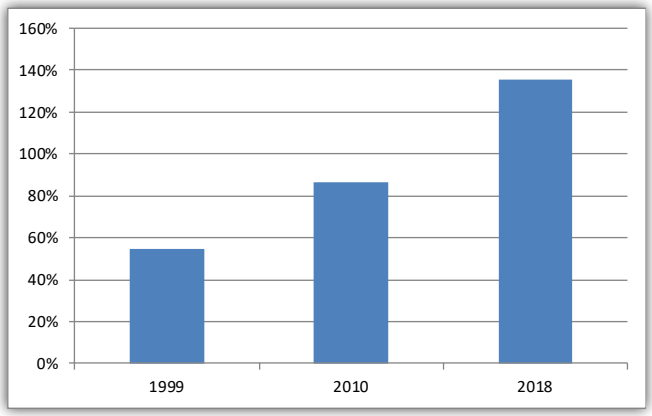
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
72%	82%	95%	96%	**New Hampshire**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

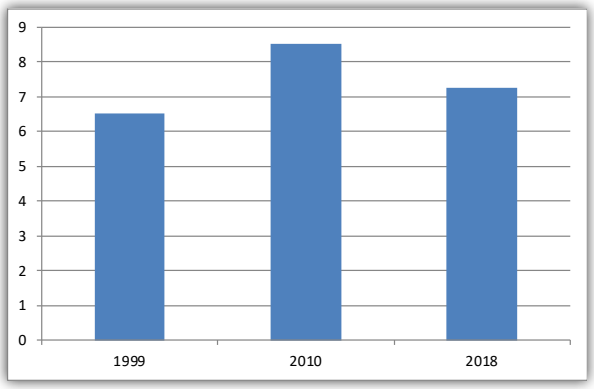
Legislation (5)	**94%**
Inspection (4)	**100%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**88%**
Education & Training (3)	**94%**
Public Relations (1)	**92%**
Weighted Percentage	**96%**

Estimated Breakdown of Dams per Congressional District

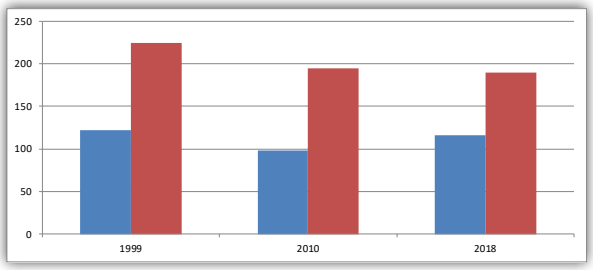
New Hampshire-1	193
New Hampshire-2	460

State Staffing for Dam Safety

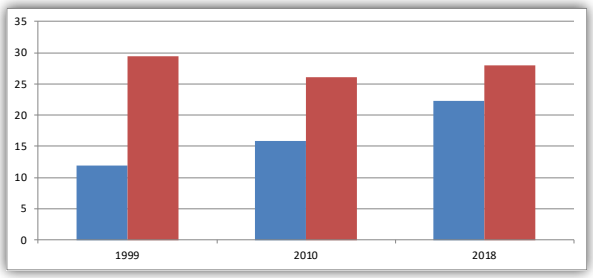
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

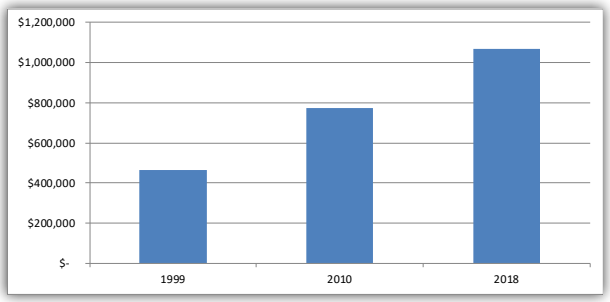


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

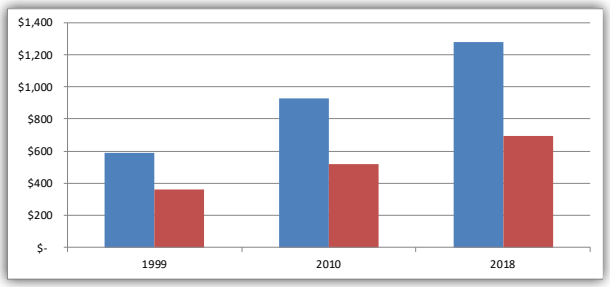


State Budgeting for Dam Safety

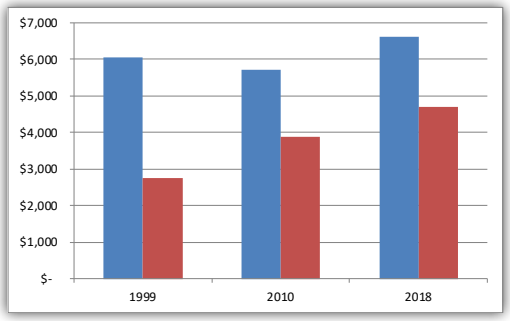
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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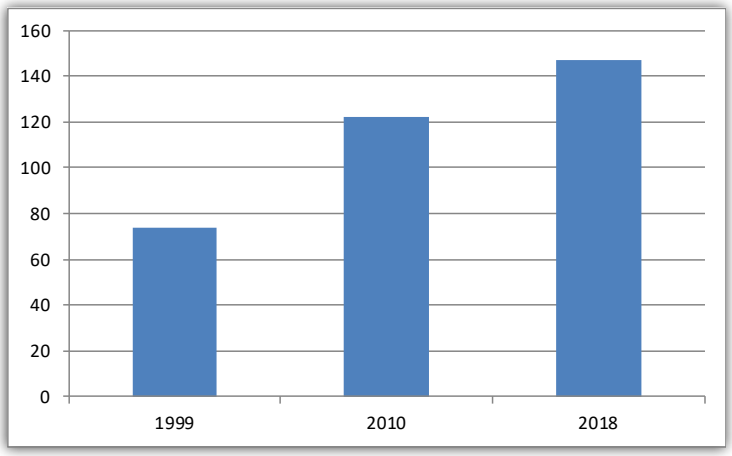
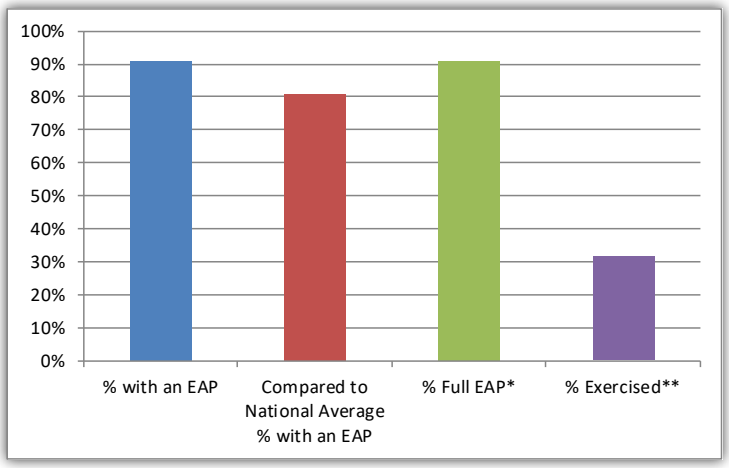
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, New Hampshire reported a minimum of 90 meetings with Dam owners at their annual dam inspections. There were also a minimum of 20 seminars, courses or lectures related to Dam Safety.

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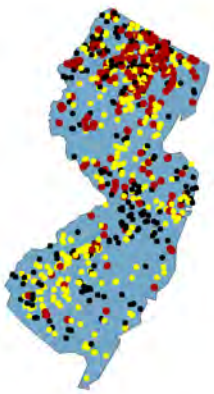
Dam Safety Performance Report
NEW JERSEY



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State NID Statistics

834	NID Dams
229	NID High Hazard Potential Dams
1708	State-Regulated Dams
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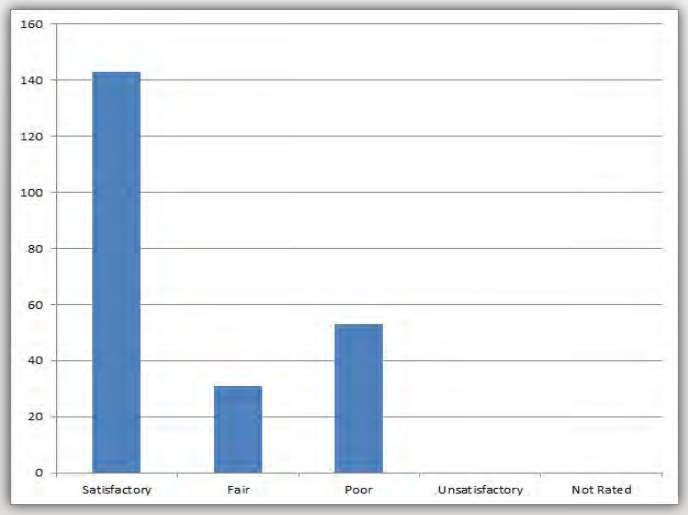
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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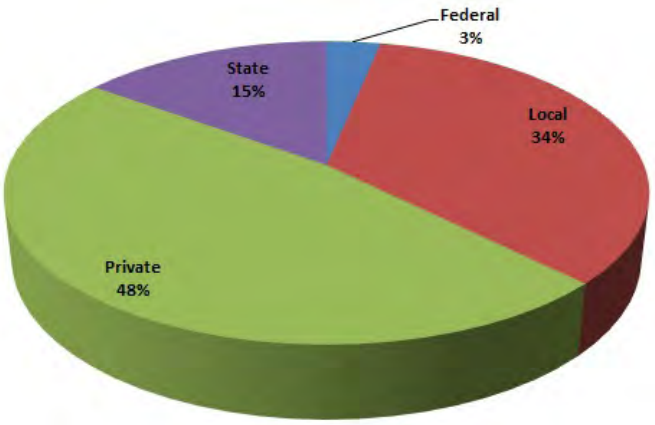
High Hazard Potential Dams Remediated – In calendar year 2018, five state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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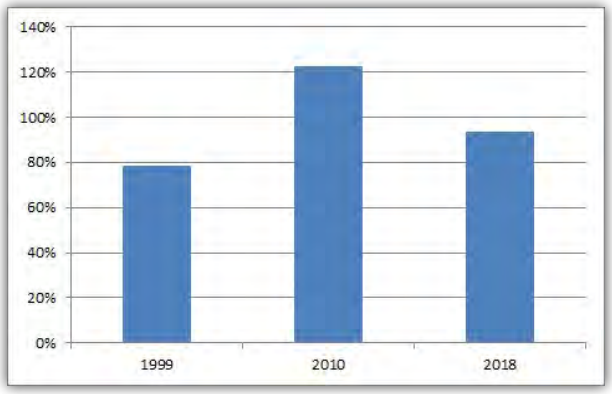
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

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Overall Weighted Percentage

1989	1998	2010	2018	
59%	89%	93%	93%	**New Jersey**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

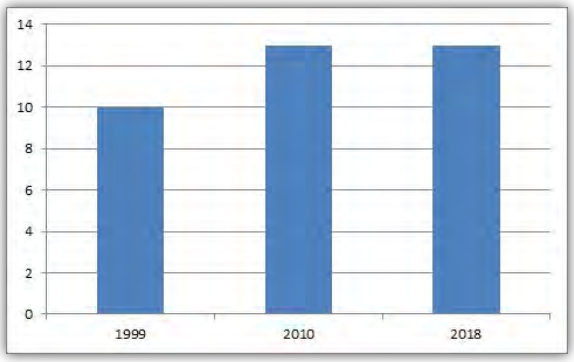
Legislation (5)	**88%**
Inspection (4)	**97%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**88%**
Education & Training (3)	**94%**
Public Relations (1)	**67%**
Weighted Percentage	**93%**

Estimated Breakdown of Dams per Congressional District

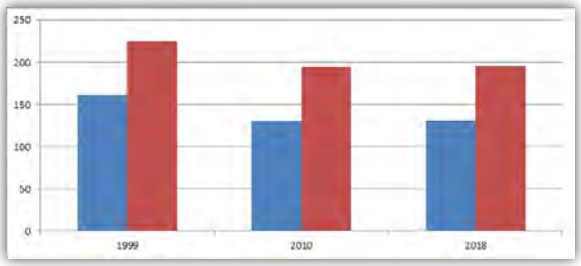
New Jersey-1	45	New Jersey-5	208	New Jersey-9	4
New Jersey-2	121	New Jersey-6	11	New Jersey-10	3
New Jersey-3	87	New Jersey-7	71	New Jersey-11	170
New Jersey-4	73	New Jersey-8	2	New Jersey-12	39

State Staffing for Dam Safety

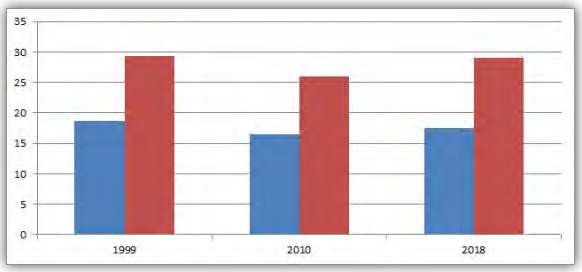
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

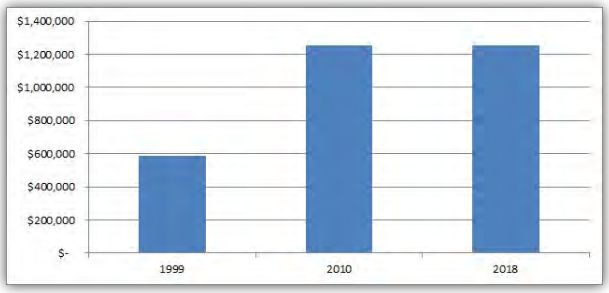


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

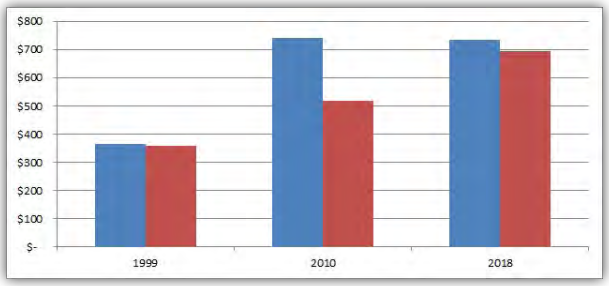


State Budgeting for Dam Safety

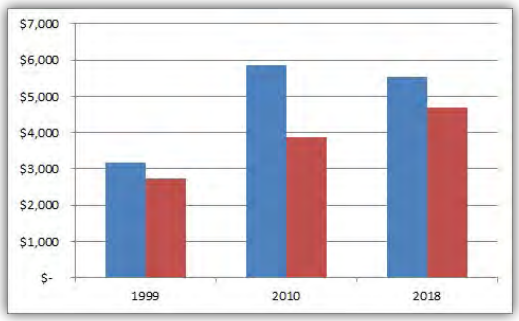
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

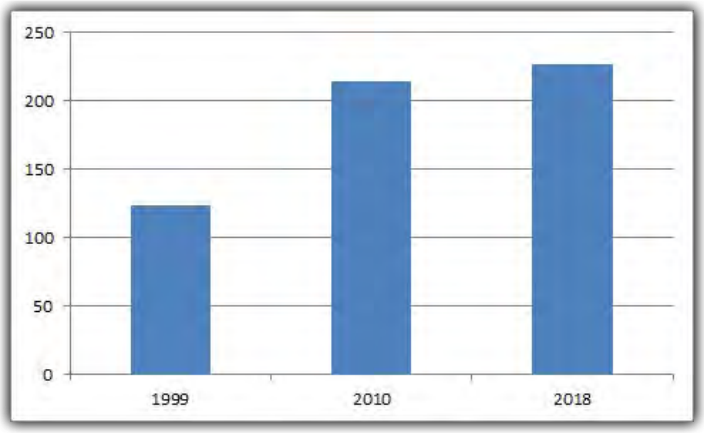


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

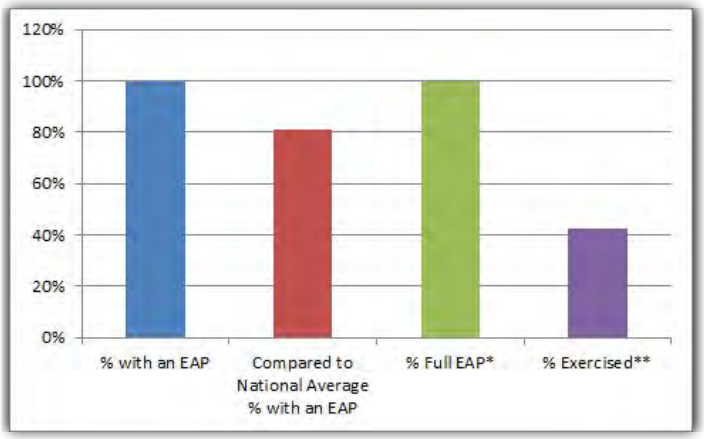
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

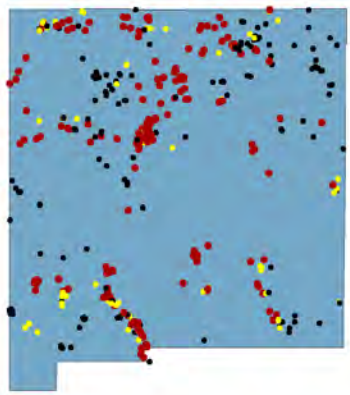
State Outreach Highlights

In 2018, New Jersey reported 100 outreach opportunities, including numerous meetings with dam owners, workshops for dam owners as well as local emergency management officials. Our website provides updated Dam Safety information. We also have continued a semiannual emailed newsletter to dam owners, local officials and engineers. Any pertinent information is also issued to owners and officials by email blasts where necessary.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
www.damsafety.org

Dam Safety Performance Report
NEW MEXICO



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

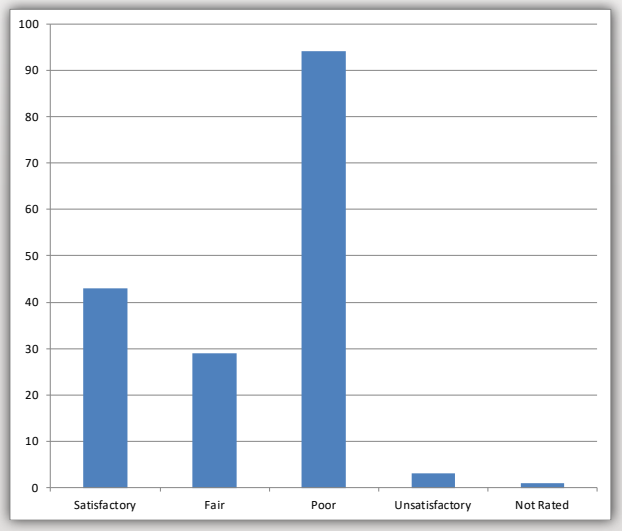
State NID Statistics

407	NID Dams
219	NID High Hazard Potential Dams
298	State-Regulated Dams
170	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

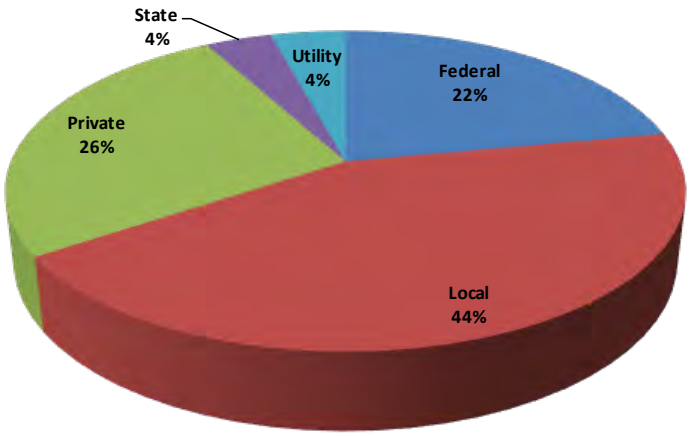
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

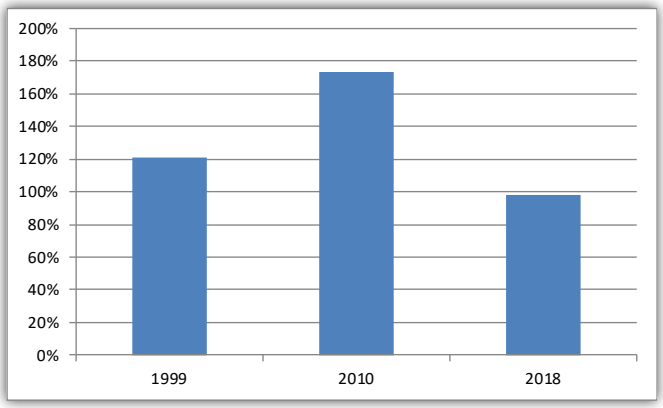
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
73%	70%	80%	81%	**New Mexico**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

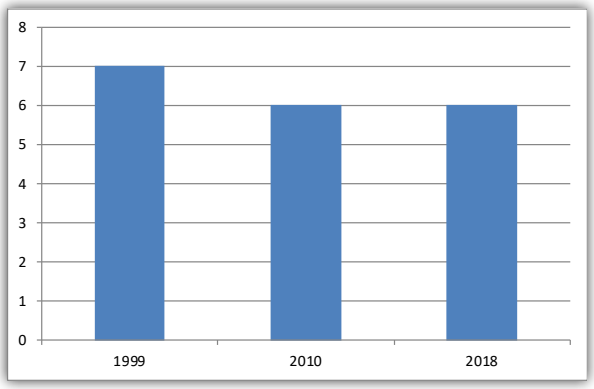
Legislation (5)	**79%**
Inspection (4)	**88%**
Enforcement (4)	**83%**
EAP & Response (4)	**94%**
Permitting (3)	**88%**
Education & Training (3)	**67%**
Public Relations (1)	**17%**
Weighted Percentage	**81%**

Estimated Breakdown of Dams per Congressional District

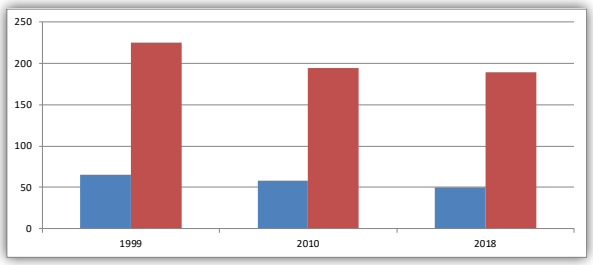
New Mexico-1	29
New Mexico-2	183
New Mexico-3	204

State Staffing for Dam Safety

Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)



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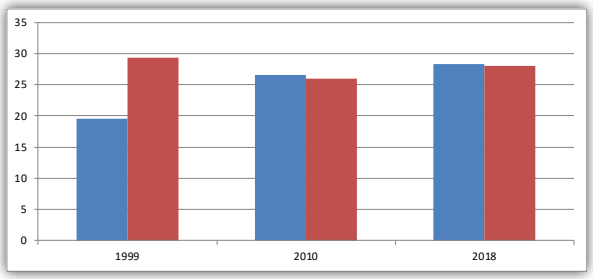
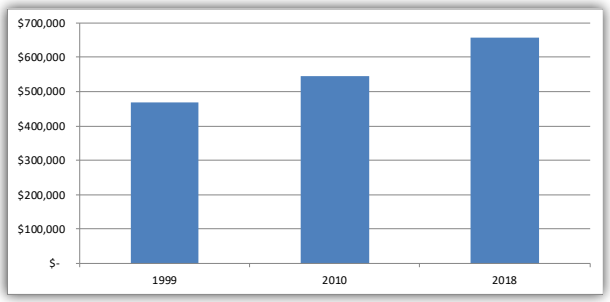
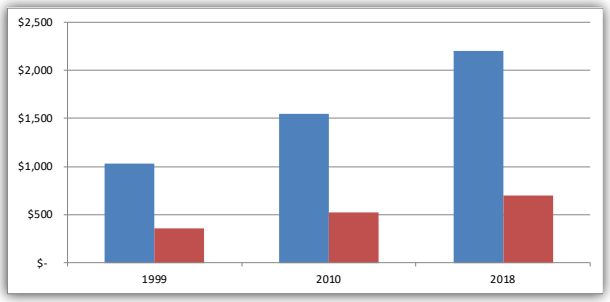


State Budgeting for Dam Safety

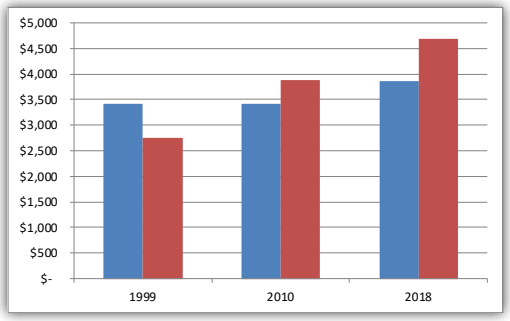
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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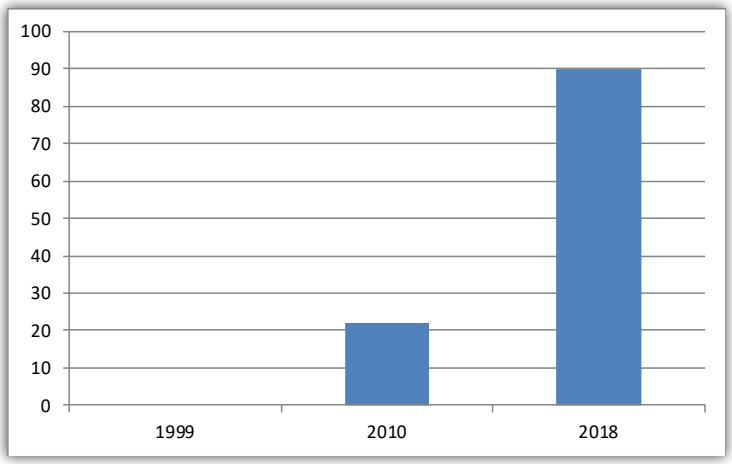
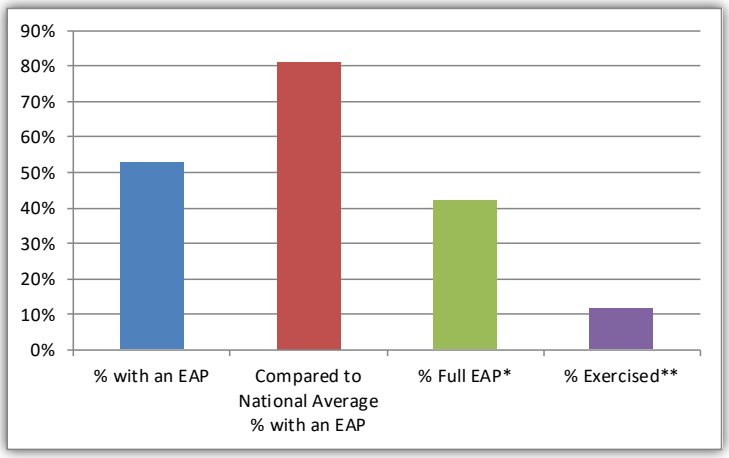
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, New Mexico reported 24 direct meetings with dam owners during field inspections to discuss compliance issues, operation and maintenance practices, engineering for dam modification and rehabilitation, management of state funds for dam rehabilitation.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

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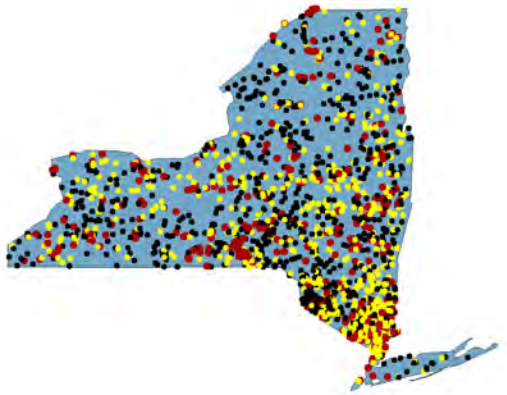
Dam Safety Performance Report
NEW YORK



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State NID Statistics

1934	NID Dams
424	NID High Hazard Potential Dams
5893	State-Regulated Dams
407	State-Regulated High Hazard Potential Dams

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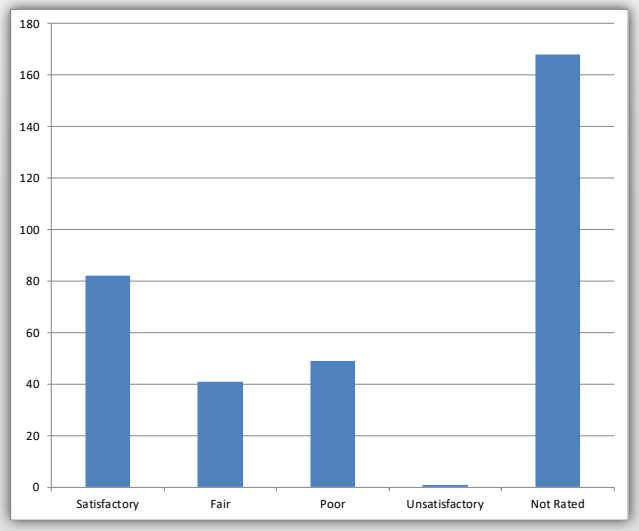
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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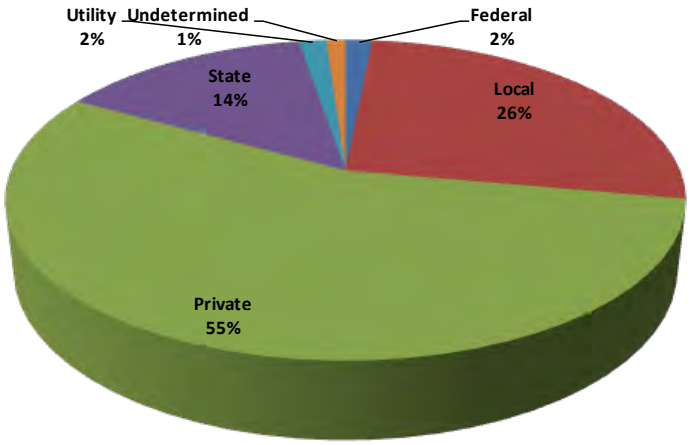
High Hazard Potential Dams Remediated – In calendar year 2018, the state did not report how many high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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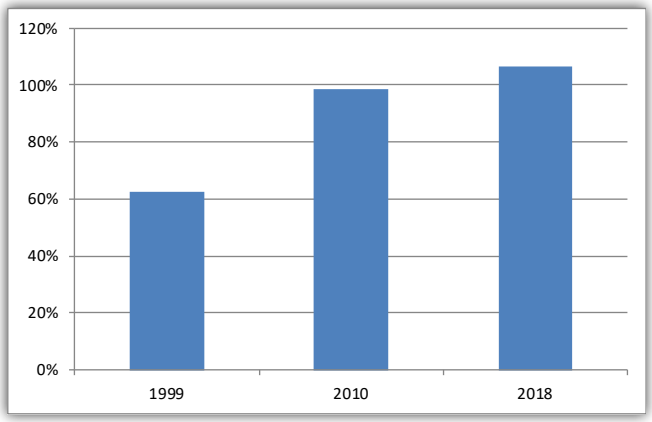
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
61%	data not available	91%	90%	**New York**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

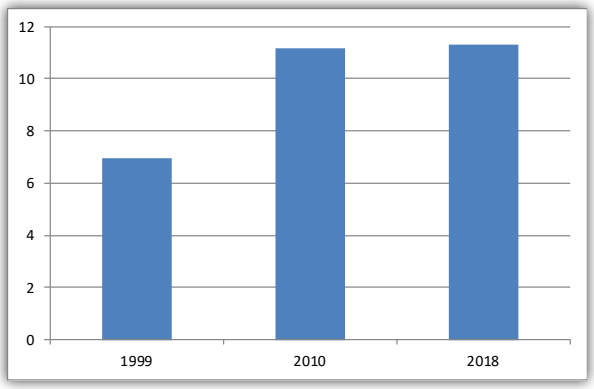
Legislation (5)	**91%**
Inspection (4)	**87%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**90%**
Education & Training (3)	**94%**
Public Relations (1)	**58%**
Weighted Percentage	**90%**

Estimated Breakdown of Dams per Congressional District

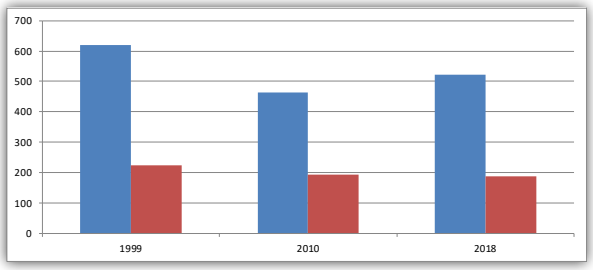
New York-1	11	New York-11	4	New York-18	229	New York-23	189
New York-2	4	New York-13	1	New York-19	460	New York-24	59
New York-3	4	New York-14	1	New York-20	76	New York-25	21
New York-4	2	New York-16	17	New York-21	431	New York-26	6
New York-10	1	New York-17	80	New York-22	233	New York-27	103

State Staffing for Dam Safety

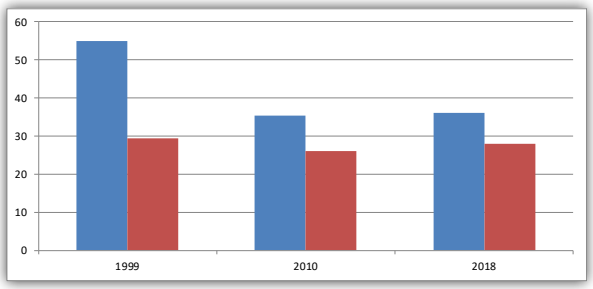
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

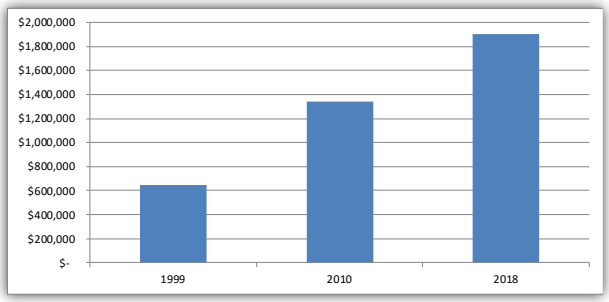


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

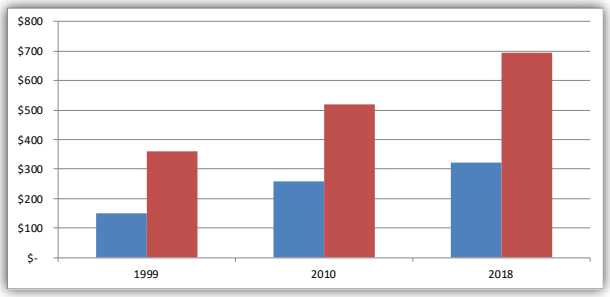


State Budgeting for Dam Safety

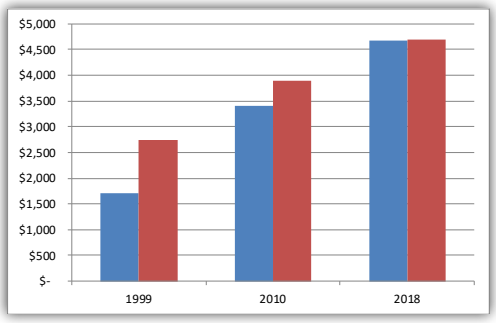
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

Emergency Action Planning

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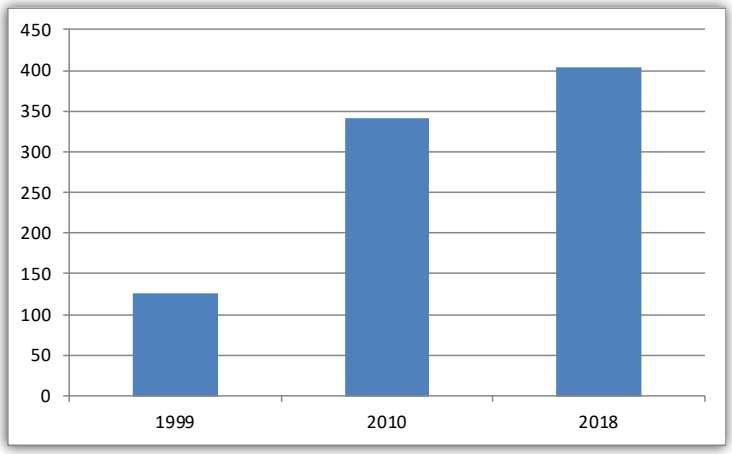
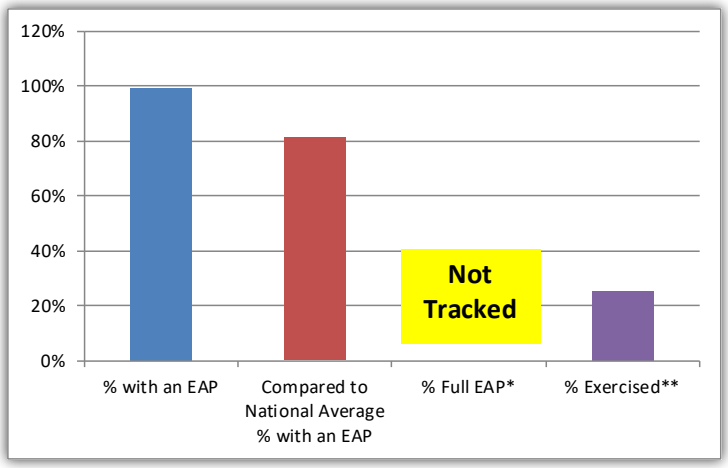
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, New York frequently met with dam owners individually, and participated in numerous courses, workshops, and meetings sponsored by other organizations. The program also sent copies of all High Hazard and Moderate Hazard dam inspection reports to the municipal executive and county emergency managers for the community in which the dam is located.

Association of State Dam Safety Officials
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Dam Safety Performance Report
NORTH CAROLINA

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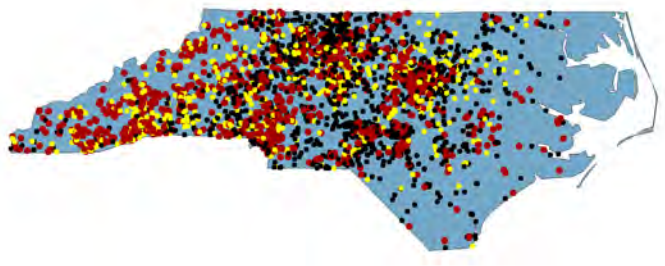


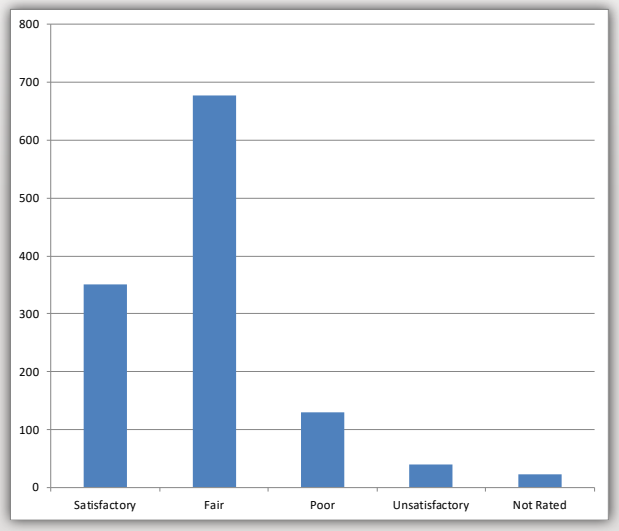
State NID Statistics

3191	NID Dams
1307	NID High Hazard Potential Dams
2252	State-Regulated Dams
1253	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

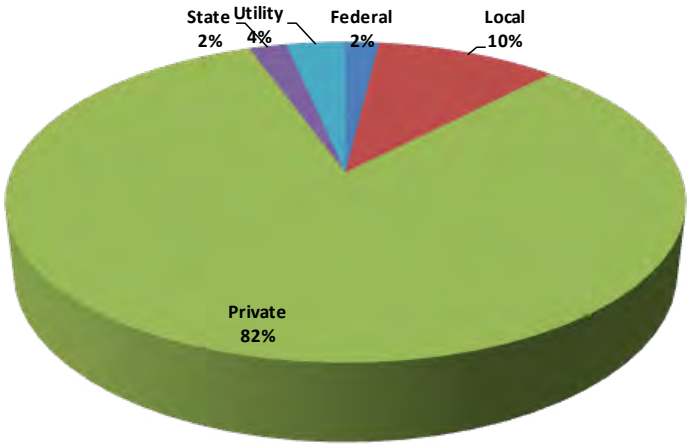
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

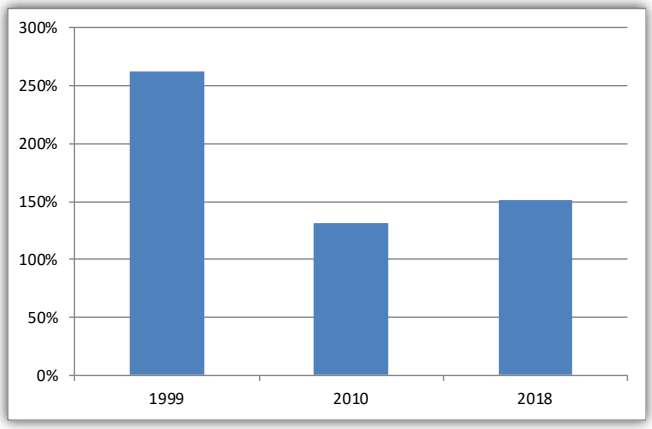
High Hazard Potential Dams Remediated – In calendar year 2018, thirty state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
76%	65%	69%	81%	**North Carolina**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

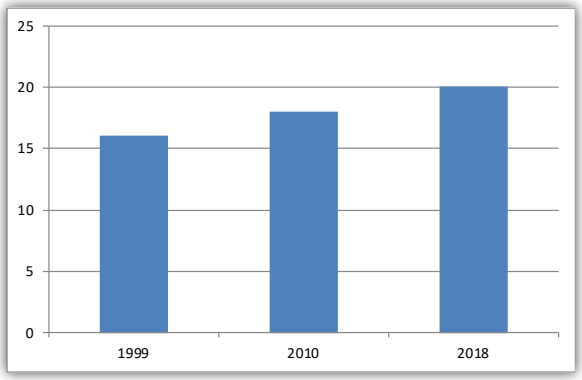
Legislation (5)	**82%**
Inspection (4)	**65%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**77%**
Education & Training (3)	**89%**
Public Relations (1)	**25%**
Weighted Percentage	**81%**

Estimated Breakdown of Dams per Congressional District

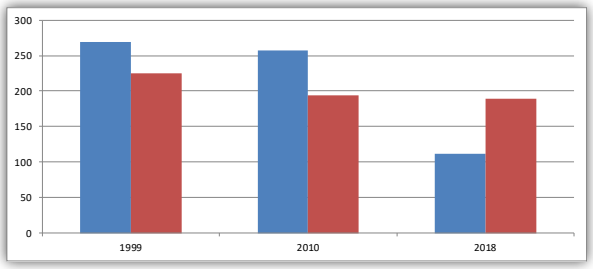
North Carolina-1	152	North Carolina-6	452	North Carolina-11	465
North Carolina-2	303	North Carolina-7	131	North Carolina-12	95
North Carolina-3	41	North Carolina-8	334	North Carolina-13	223
North Carolina-4	187	North Carolina-9	216		
North Carolina-5	328	North Carolina-10	264		

State Staffing for Dam Safety

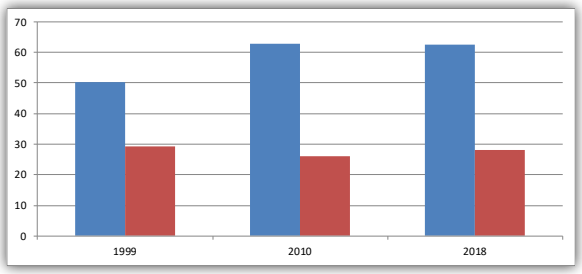
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

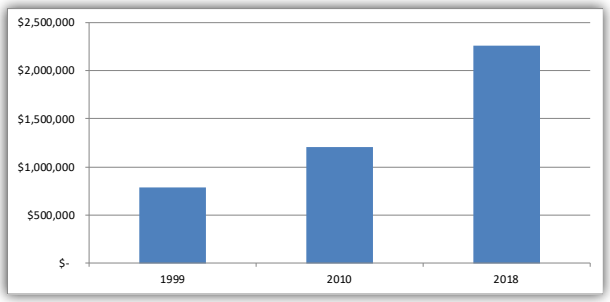


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

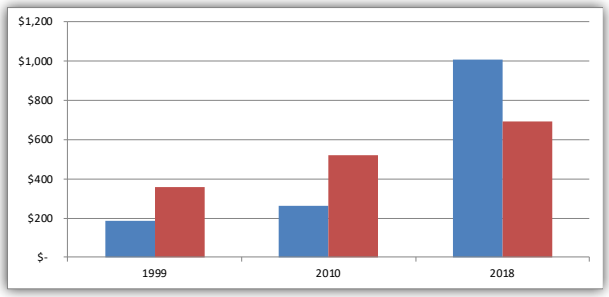


State Budgeting for Dam Safety

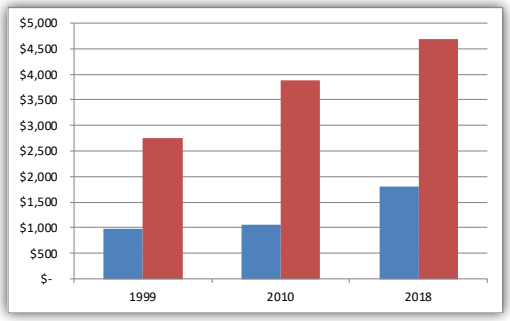
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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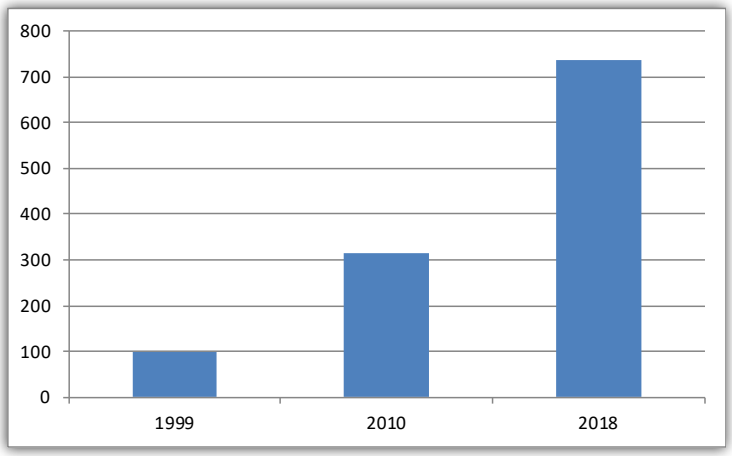
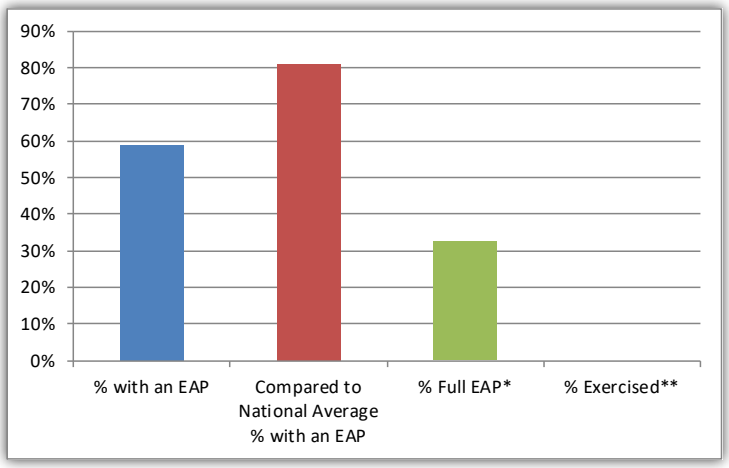
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Outreach to Dam Owners, Local Officials and the Public

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State Outreach Highlights

In 2018, North Carolina reported 25 outreach opportunities including several EAP tabletop exercises for dams, as well as meetings with dam owners to discuss plan submittals for dam construction, repair, modification, and jurisdictional determination meetings with dam owners.

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Dam Safety Performance Report
NORTH DAKOTA

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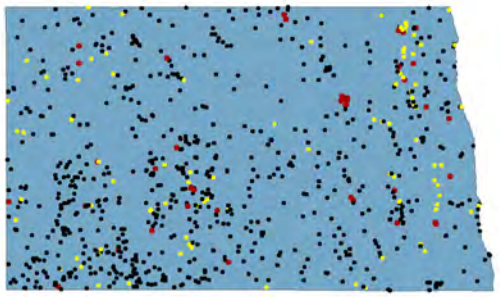

State NID Statistics

932	NID Dams
47	NID High Hazard Potential Dams
1228	State-Regulated Dams
48	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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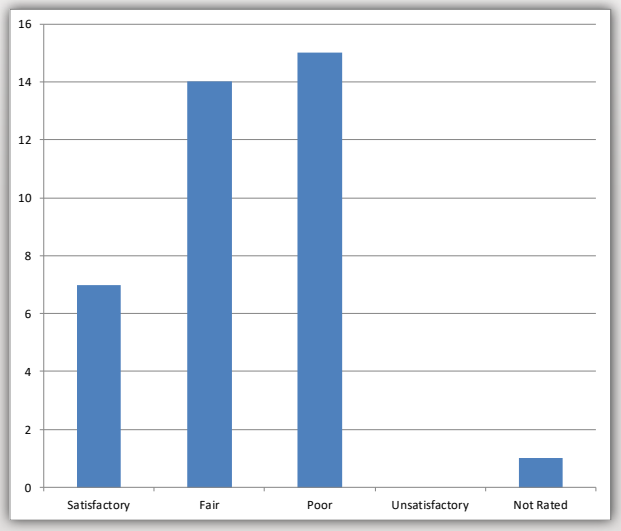
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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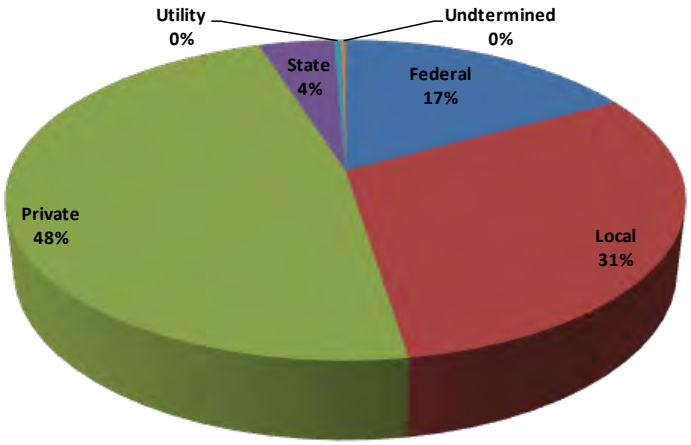
Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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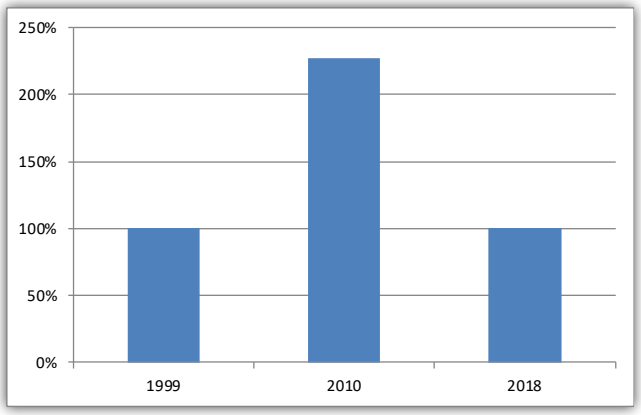
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
65%	46%	55%	68%	**North Dakota**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

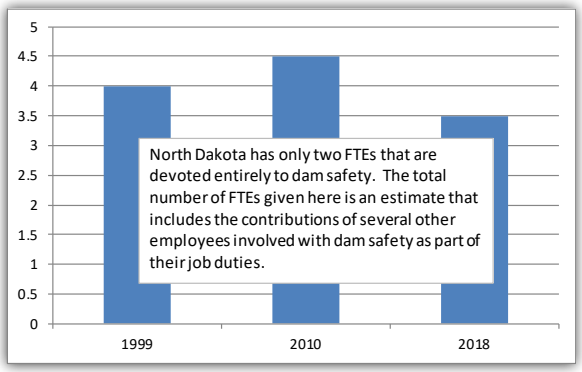
Legislation (5)	**70%**
Inspection (4)	**70%**
Enforcement (4)	**83%**
EAP & Response (4)	**83%**
Permitting (3)	**40%**
Education & Training (3)	**61%**
Public Relations (1)	**25%**
Weighted Percentage	**68%**

Estimated Breakdown of Dams per Congressional District

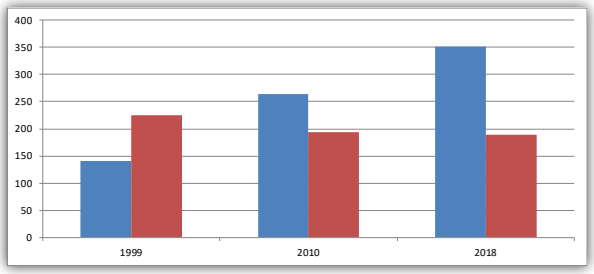
North Dakota has one Congressional District accounting for 935 dams.

State Staffing for Dam Safety

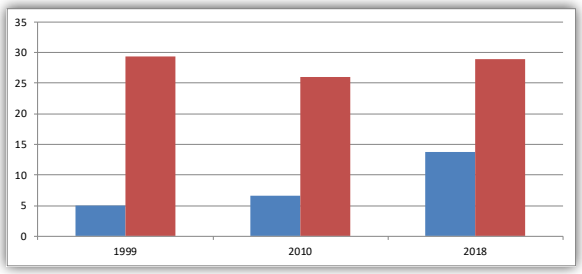
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

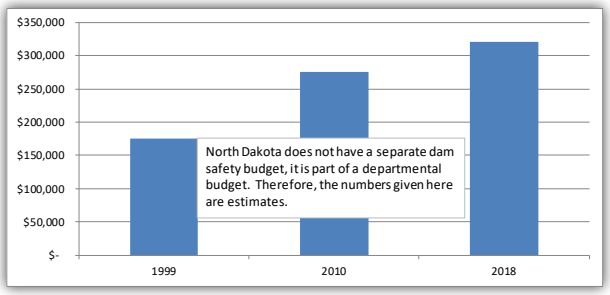


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

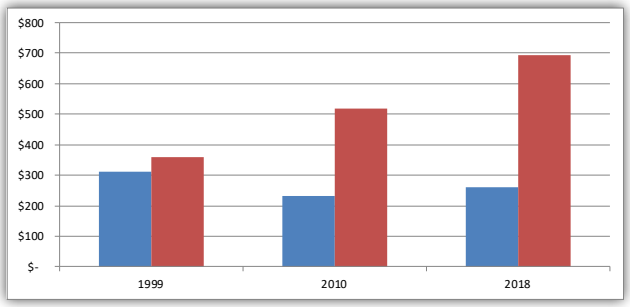


State Budgeting for Dam Safety

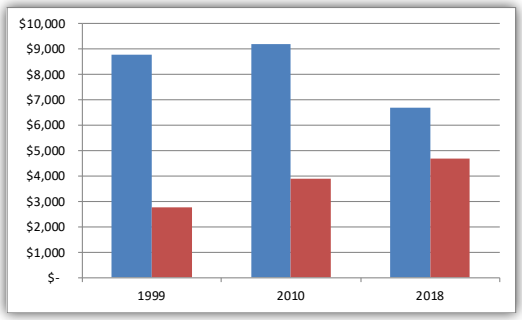
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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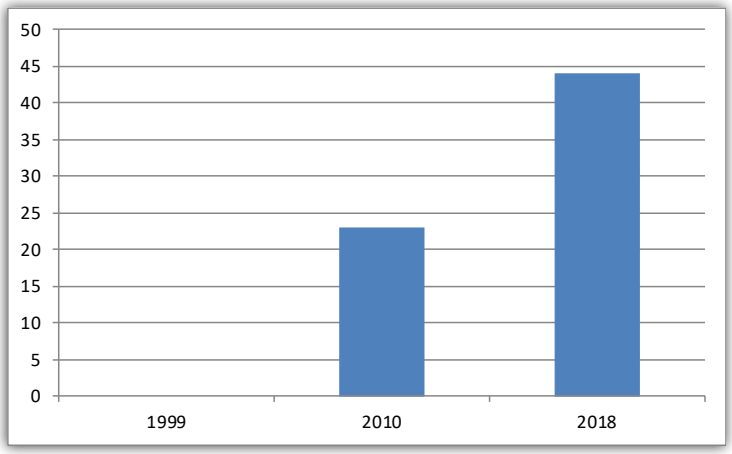
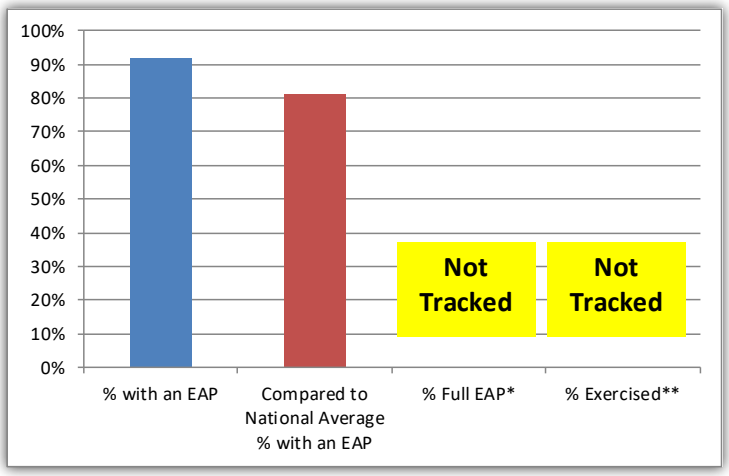
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

North Dakota conducted a public awareness campaign regarding low head dams and reported nine direct meetings with dam owners in 2018.

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Dam Safety Performance Report
OHIO

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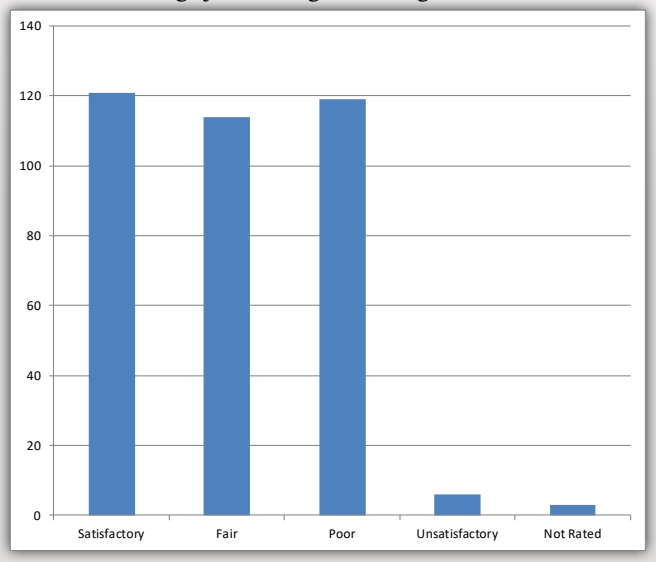
State NID Statistics

1407	NID Dams
412	NID High Hazard Potential Dams
1478	State-Regulated Dams
366	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

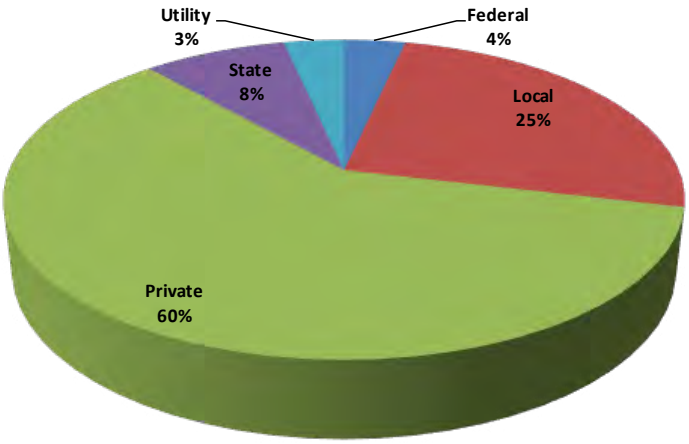
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

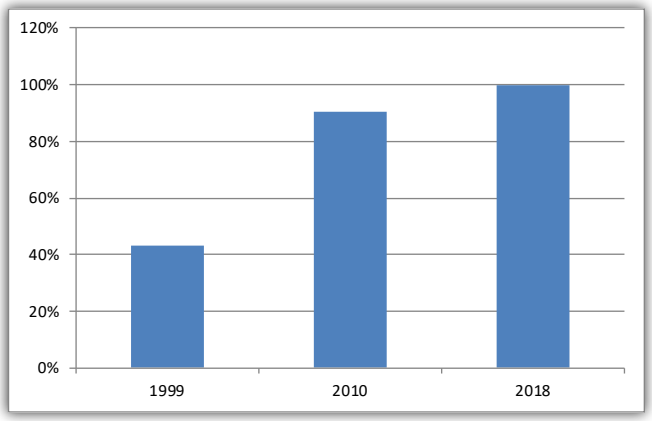
High Hazard Potential Dams Remediated – In calendar year 2018, seven state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

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The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
86%	79%	88%	89%	**Ohio**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

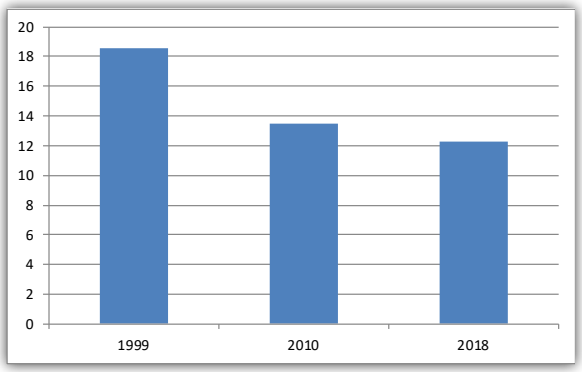
Legislation (5)	**91%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**88%**
Education & Training (3)	**89%**
Public Relations (1)	**17%**
Weighted Percentage	**89%**

Estimated Breakdown of Dams per Congressional District

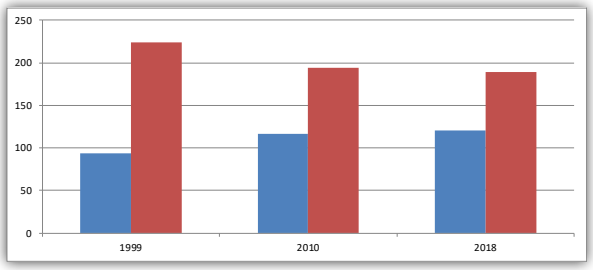
Ohio-1	62	Ohio-7	156	Ohio-13	56
Ohio-2	114	Ohio-8	61	Ohio-14	100
Ohio-3	6	Ohio-9	5	Ohio-15	187
Ohio-4	85	Ohio-10	26	Ohio-16	80
Ohio-5	71	Ohio-11	11		
Ohio-6	297	Ohio-12	95		

State Staffing for Dam Safety

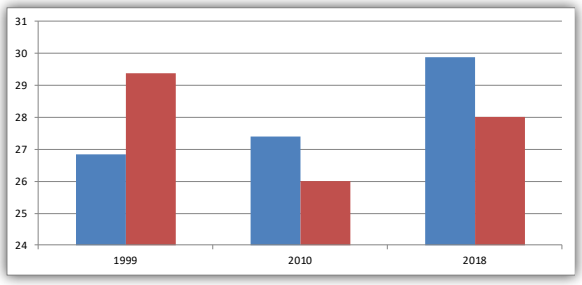
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

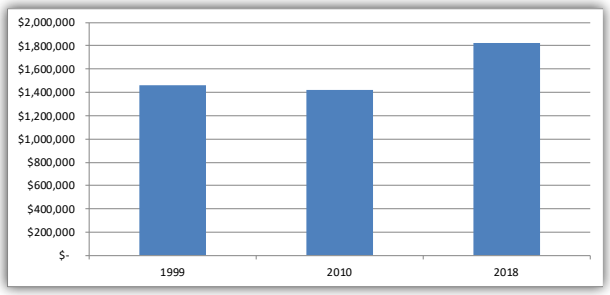


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

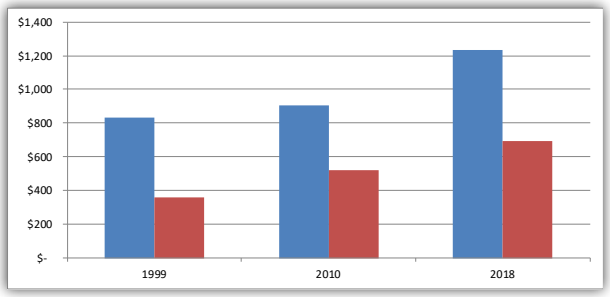


State Budgeting for Dam Safety

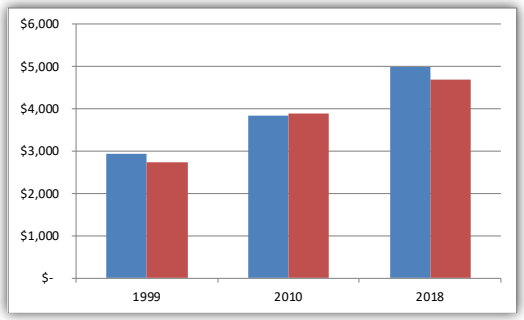
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

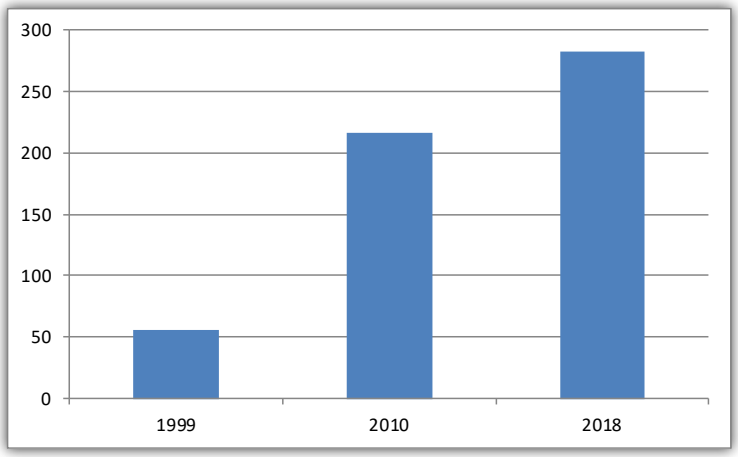


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

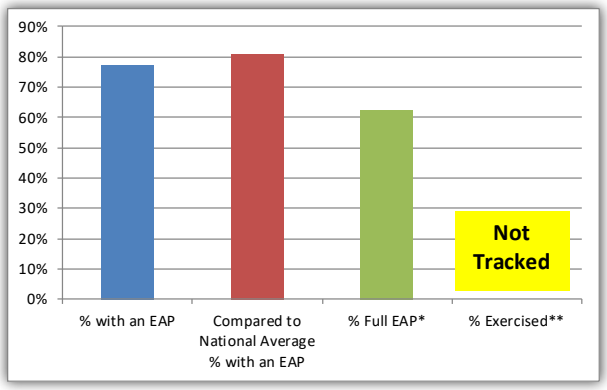
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

Association of State Dam Safety Officials

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www.damsafety.org

Dam Safety Performance Report
OKLAHOMA

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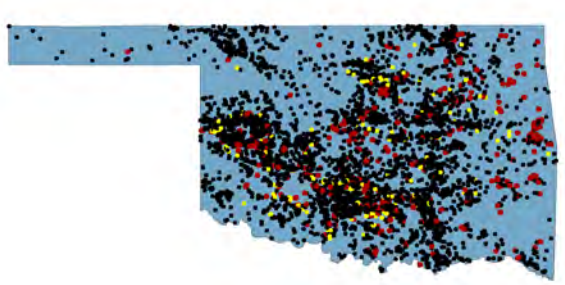

State NID Statistics

4986	NID Dams
449	NID High Hazard Potential Dams
4635	State-Regulated Dams
367	State-Regulated High Hazard Potential Dams

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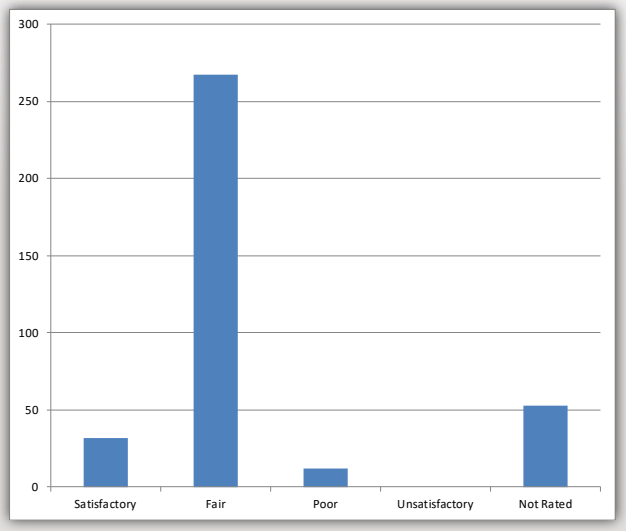
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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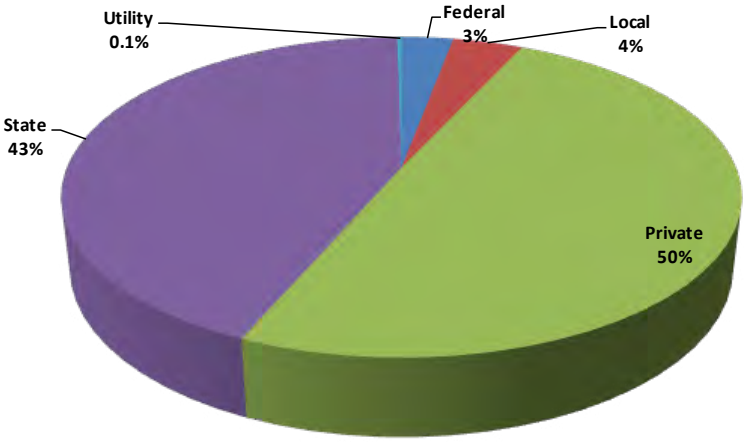
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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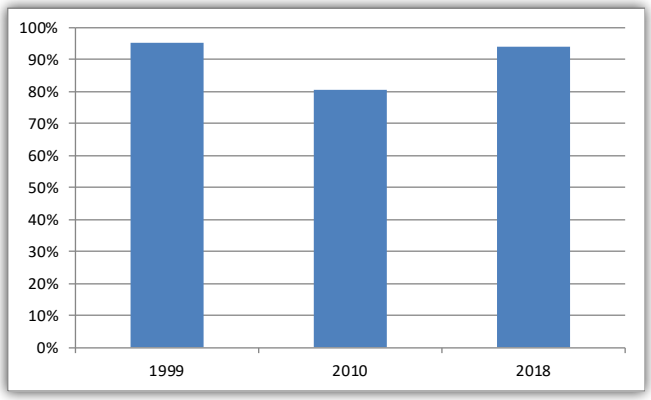
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
83%	85%	82%	88%	**Oklahoma**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

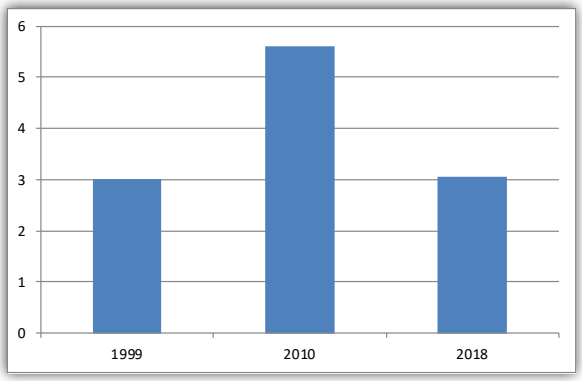
Legislation (5)	**97%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**78%**
Permitting (3)	**73%**
Education & Training (3)	**89%**
Public Relations (1)	**58%**
Weighted Percentage	**88%**

Estimated Breakdown of Dams per Congressional District

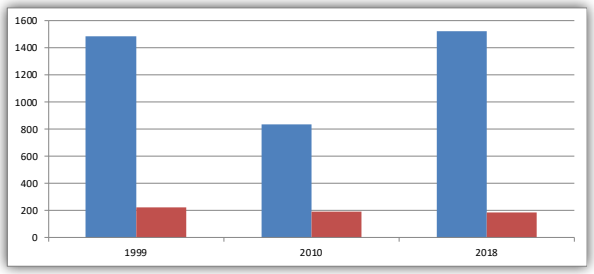
Oklahoma-1	113
Oklahoma-2	1054
Oklahoma-3	2405
Oklahoma-4	1224
Oklahoma-5	190

State Staffing for Dam Safety

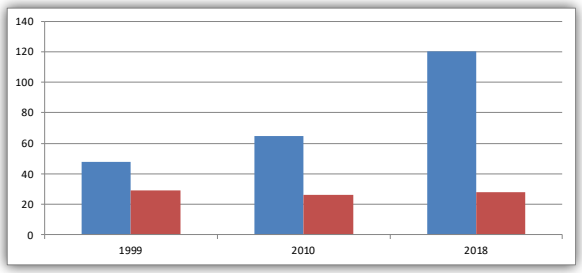
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

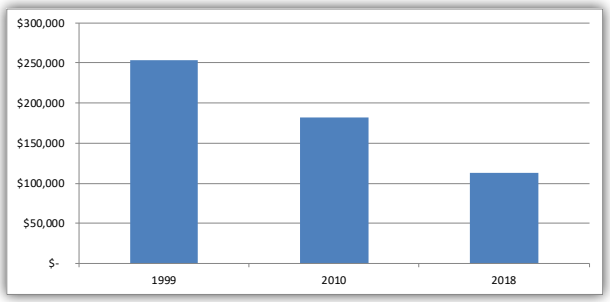


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

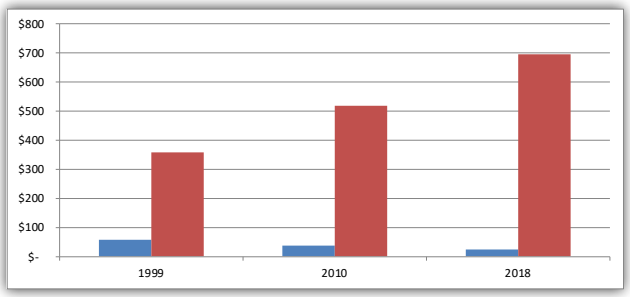


State Budgeting for Dam Safety

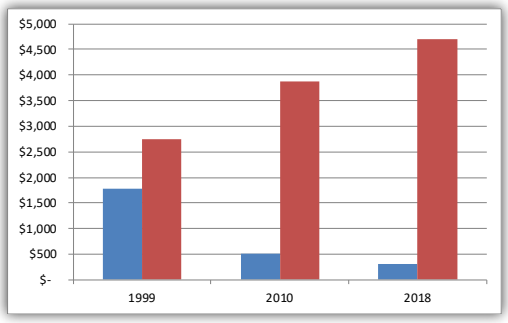
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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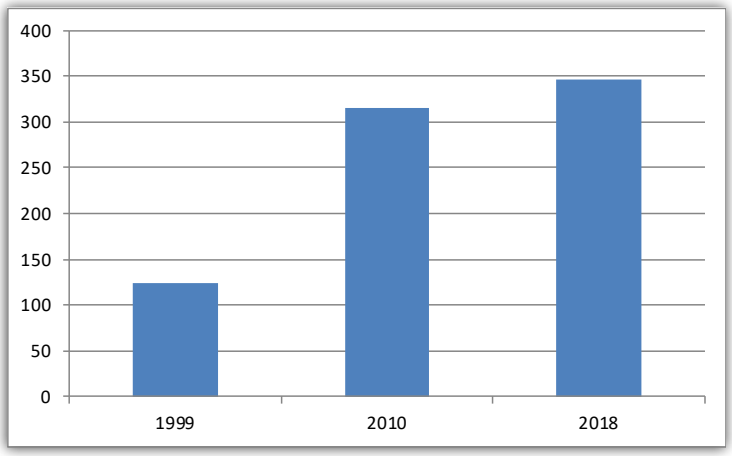
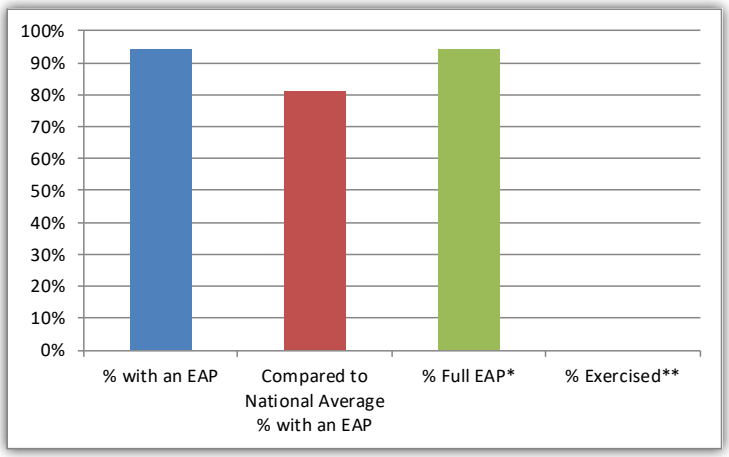
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Oklahoma conducted 24 low hazard dam inspections, a one-day dam safety training for dam owners and public officials, presented at the ASDSO annual conference, the OFMA spring conference, and the NDSPTS in Emmitsburg, and conducted three real estate workshops.

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Dam Safety Performance Report
OREGON

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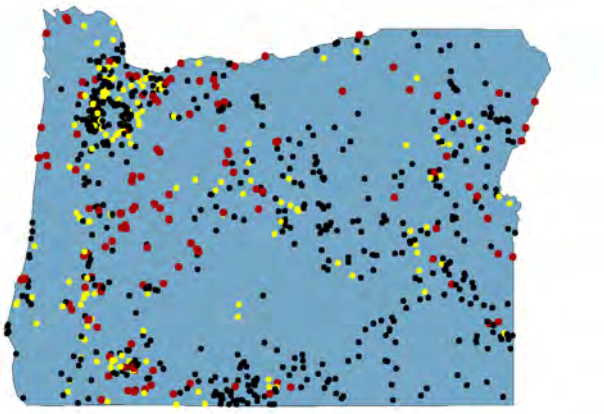

State NID Statistics

882	NID Dams
158	NID High Hazard Potential Dams
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75	State-Regulated High Hazard Potential Dams

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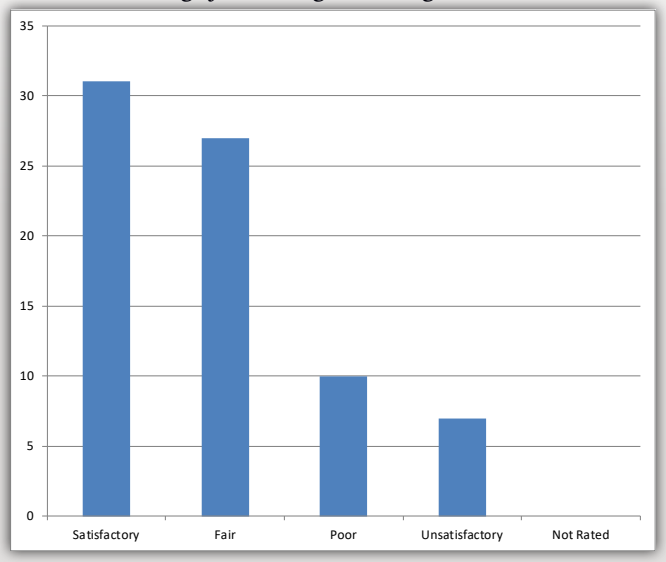
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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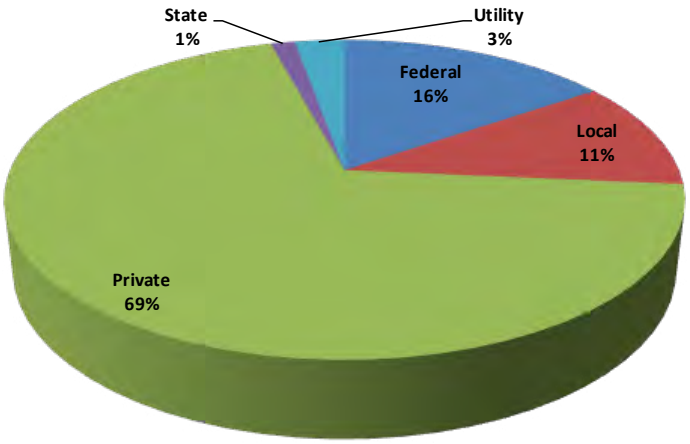
Dam Ownership



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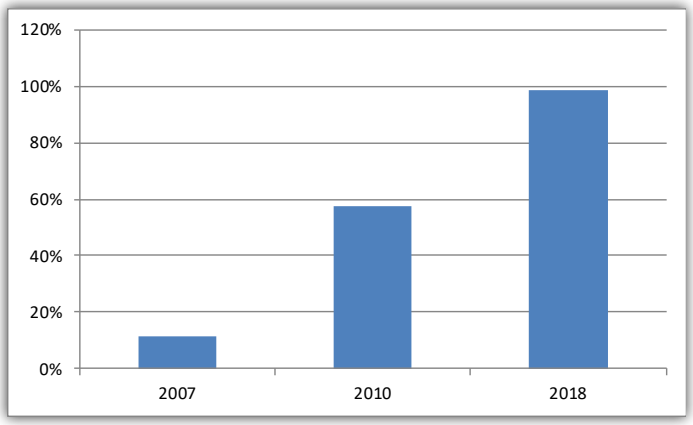
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
31%	65%	60%	72%	**Oregon**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

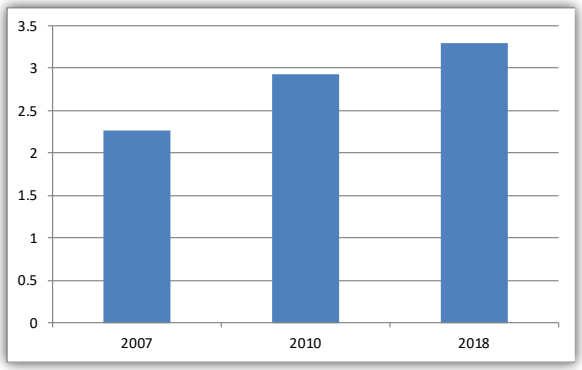
Legislation (5)	**79%**
Inspection (4)	**82%**
Enforcement (4)	**67%**
EAP & Response (4)	**61%**
Permitting (3)	**63%**
Education & Training (3)	**78%**
Public Relations (1)	**67%**
Weighted Percentage	**72%**

Estimated Breakdown of Dams per Congressional District

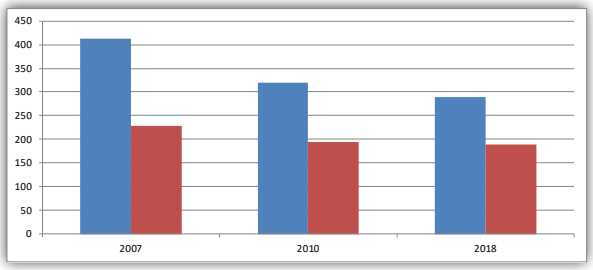
Oregon-1	91
Oregon-2	508
Oregon-3	38
Oregon-4	123
Oregon-5	117

State Staffing for Dam Safety

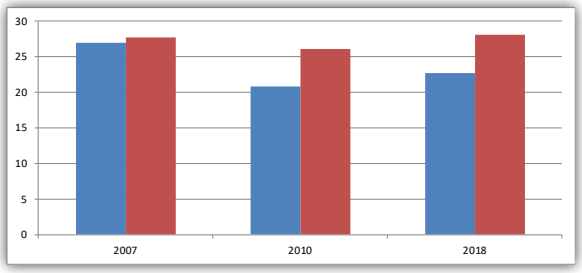
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

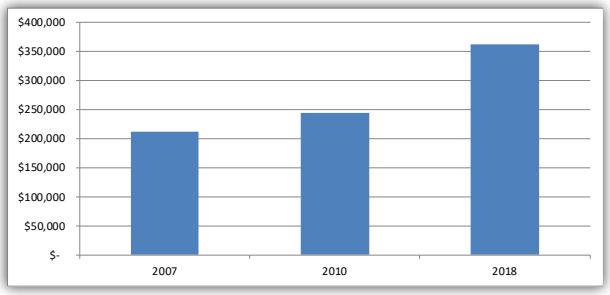


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

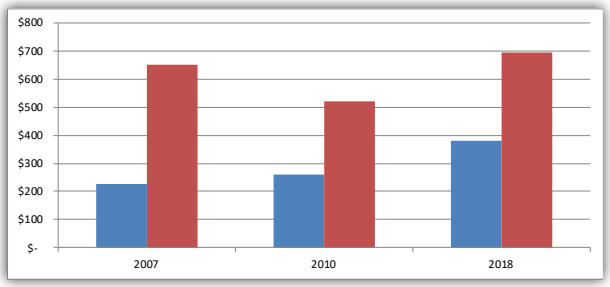


State Budgeting for Dam Safety

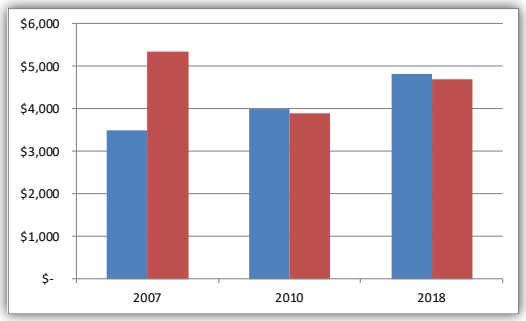
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

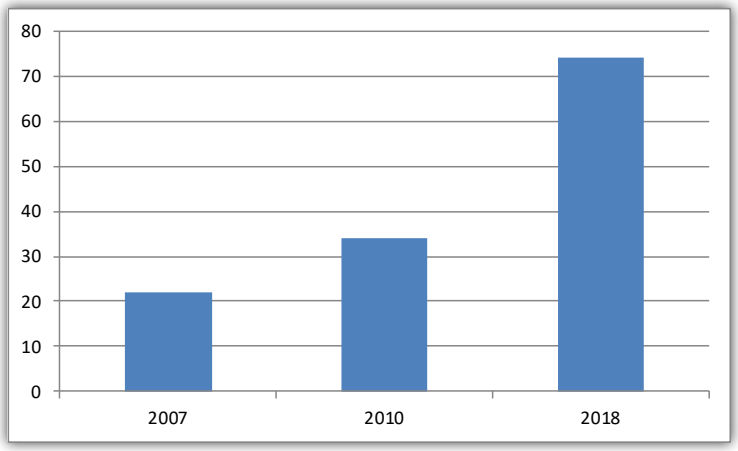


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

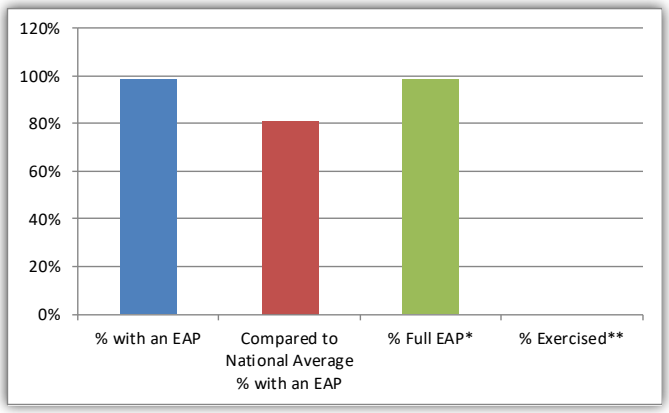
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

Association of State Dam Safety Officials

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Dam Safety Performance Report
PENNSYLVANIA

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

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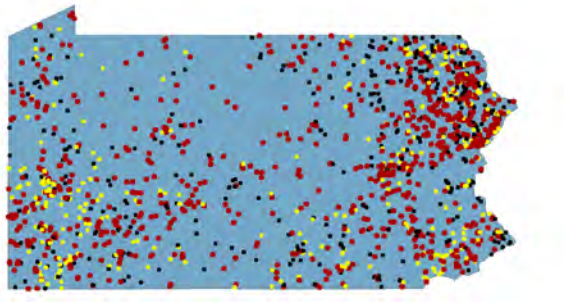


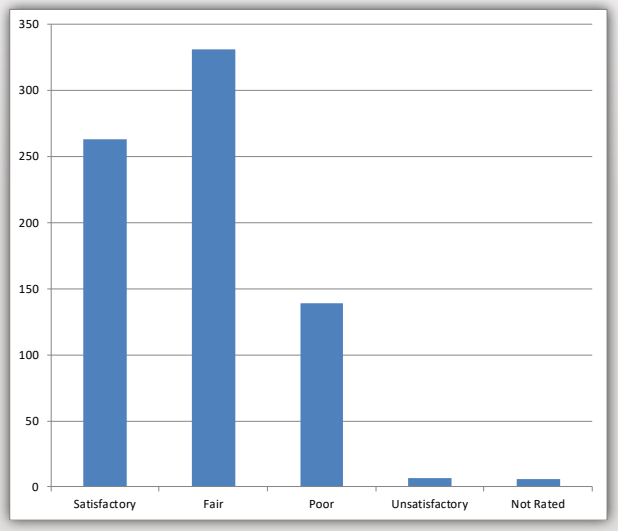
State NID Statistics

1514	NID Dams
797	NID High Hazard Potential Dams
3382	State-Regulated Dams
744	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

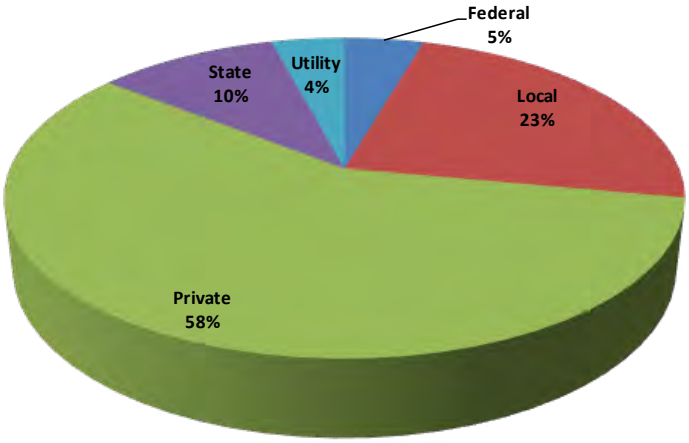
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

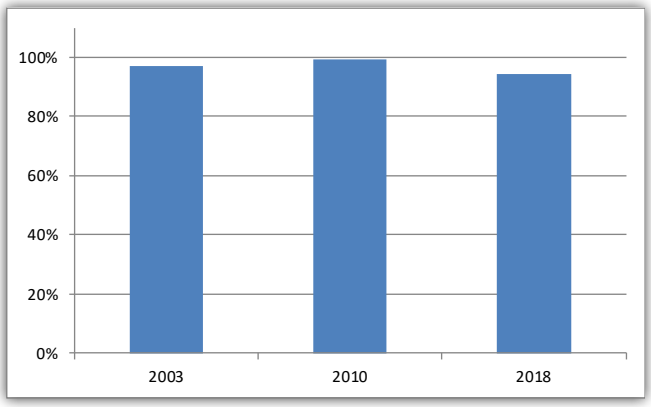
High Hazard Potential Dams Remediated – In calendar year 2018, five state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
93%	96%	88%	89%	**Pennsylvania**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

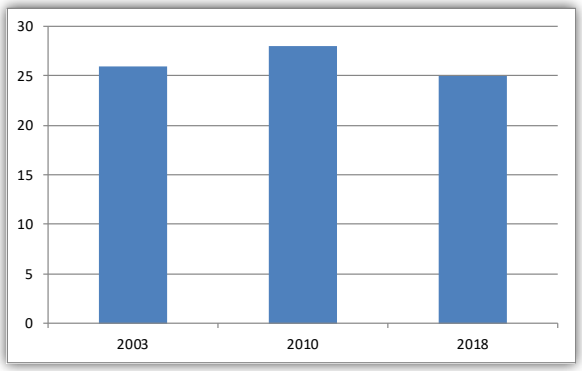
Legislation (5)	**97%**
Inspection (4)	**87%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**98%**
Education & Training (3)	**72%**
Public Relations (1)	**50%**
Weighted Percentage	**89%**

Estimated Breakdown of Dams per Congressional District

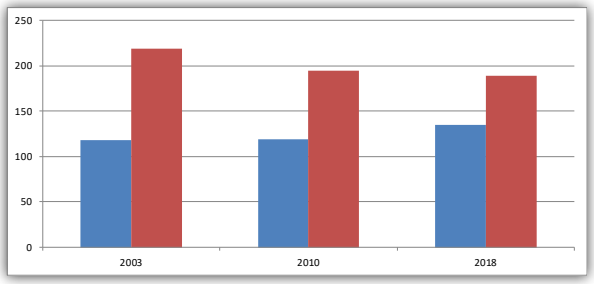
Pennsylvania-1	32	Pennsylvania-6	57	Pennsylvania-11	37	Pennsylvania-16	82
Pennsylvania-2	2	Pennsylvania-7	40	Pennsylvania-12	208	Pennsylvania-17	60
Pennsylvania-3	5	Pennsylvania-8	336	Pennsylvania-13	135	Pennsylvania-18	6
Pennsylvania-4	27	Pennsylvania-9	138	Pennsylvania-14	205		
Pennsylvania-5	13	Pennsylvania-10	29	Pennsylvania-15	134		

State Staffing for Dam Safety

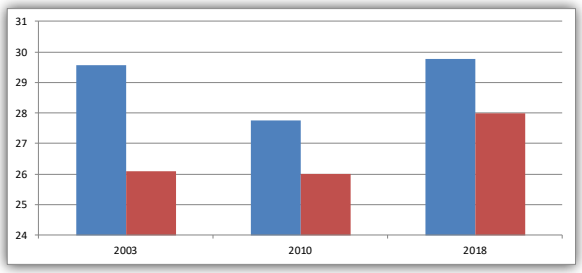
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

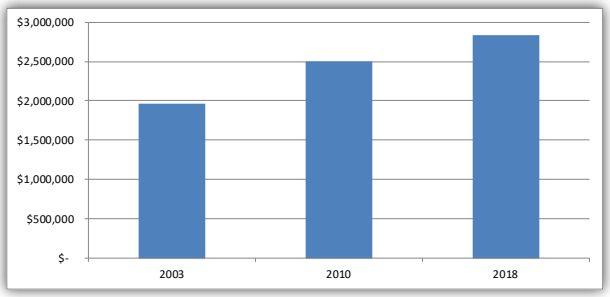


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

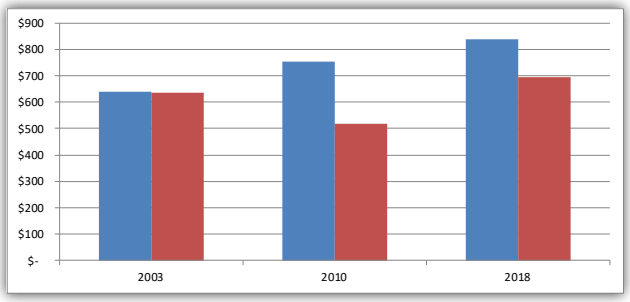


State Budgeting for Dam Safety

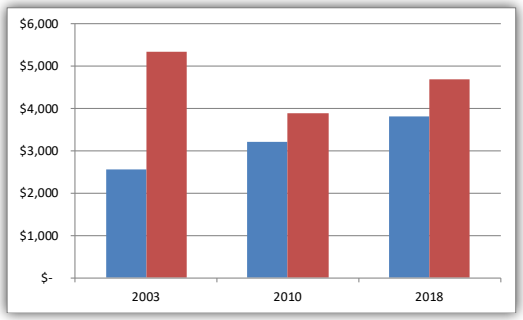
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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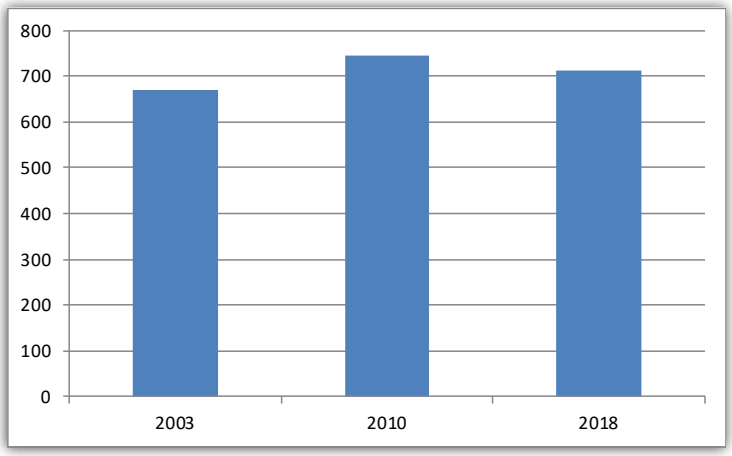
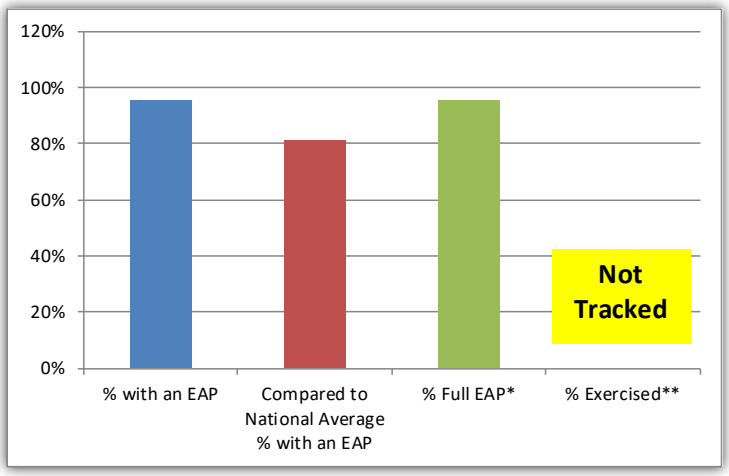
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Pennsylvania reported 10 workshops throughout the state for electronic EAP submittals.

Association of State Dam Safety Officials
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www.damsafety.org

Dam Safety Performance Report
PUERTO RICO

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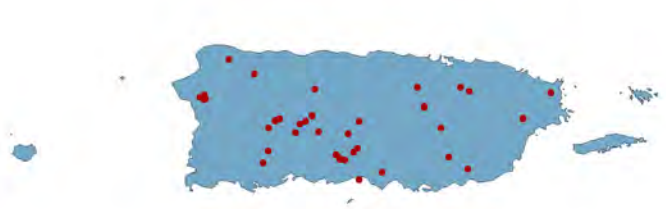

State NID Statistics

36	NID Dams
36	NID High Hazard Potential Dams
37	State-Regulated Dams
36	State-Regulated High Hazard Potential Dams

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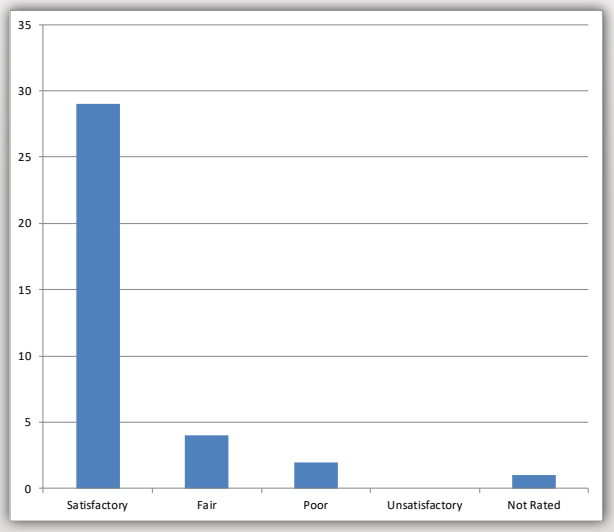
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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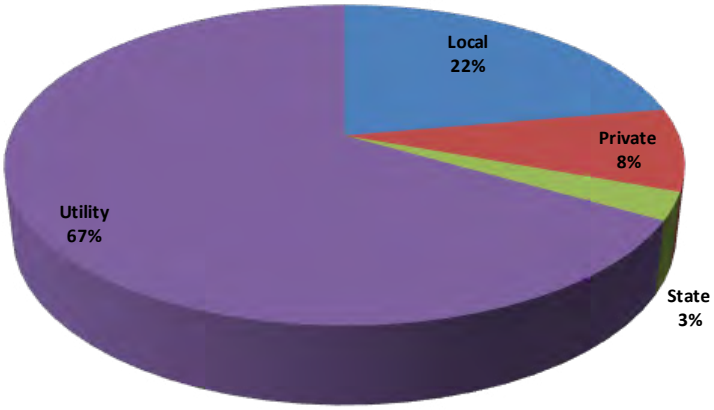
Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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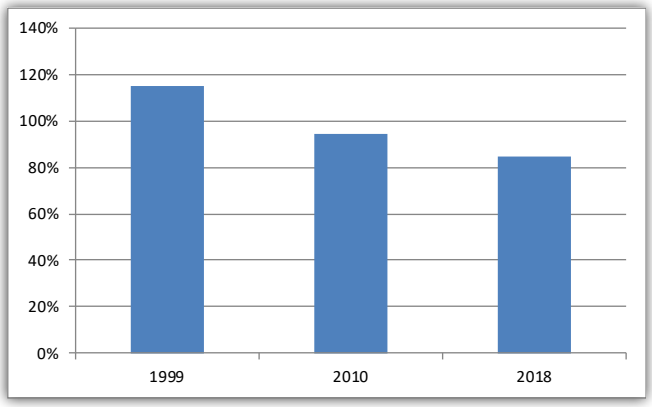
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
data not available	67%	88%	88%	**Puerto RIco**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

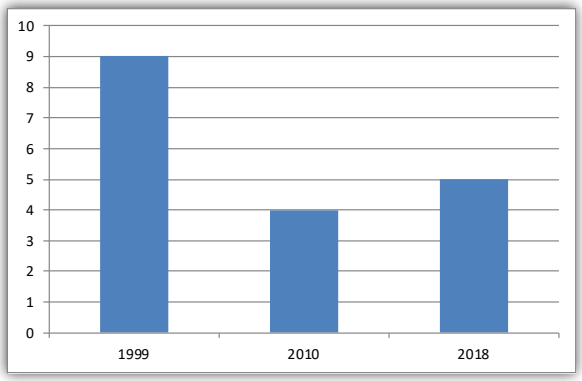
Legislation (5)	**82%**
Inspection (4)	**89%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**88%**
Education & Training (3)	**100%**
Public Relations (1)	**42%**
Weighted Percentage	**88%**

Estimated Breakdown of Dams per Congressional District

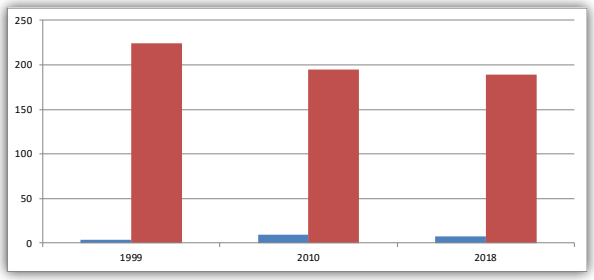
Puerto Rico has one Congressional District accounting for 36 dams.

State Staffing for Dam Safety

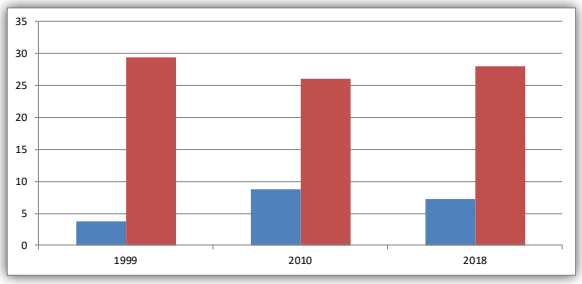
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

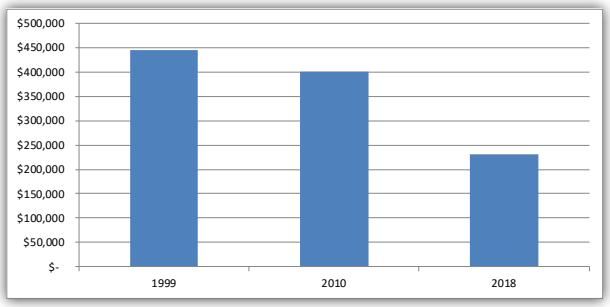


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

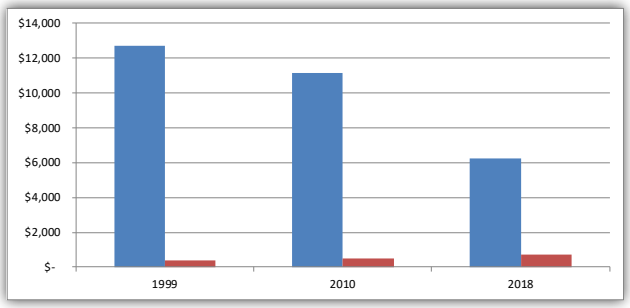


State Budgeting for Dam Safety

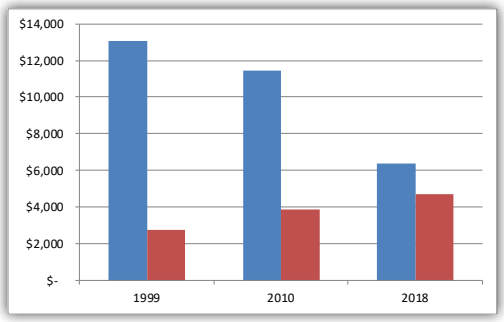
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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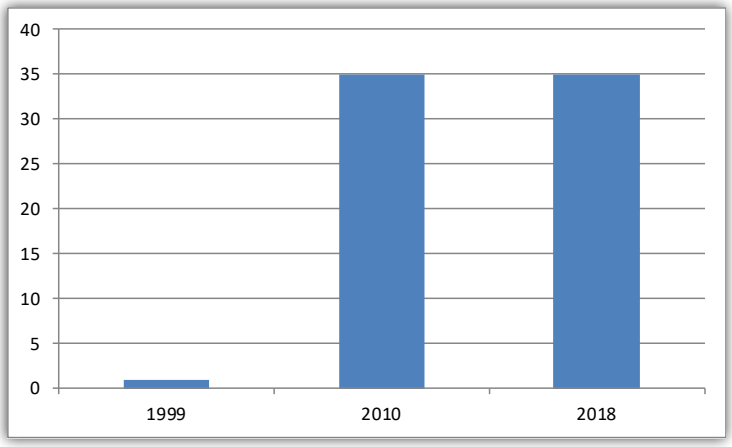
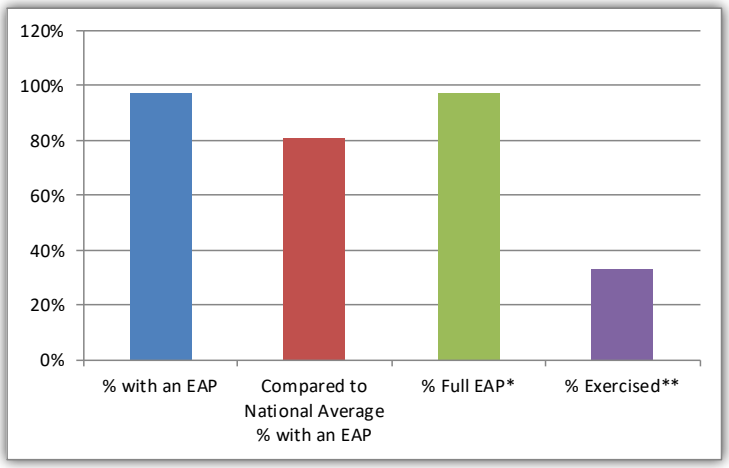
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Outreach to Dam Owners, Local Officials and the Public

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State Outreach Highlights

In 2018, Puerto Rico coordinated with the Puerto Rico Emergency Management Agency for the establishment of a new alarm system for the Guajataca Dam. Provided Technical support to the Puerto Rico Aqueduct and Sewer Authority to establish a rehabilitation plan for the Toa Vaca Dam gate spillway opening system. Provided one of the presentations on the FEMA National Dam Safety Seminar in Maryland. Provided one of the presentations for the United States Bureau of Reclamation DOI office, Dam Safety seminar in Sacramento California. Received, revised and commented on all Emergency Action Plans for all dams in the Program.

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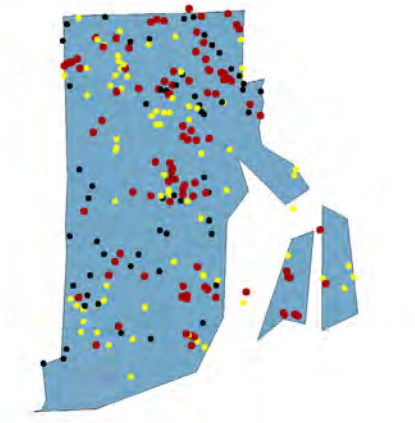
Dam Safety Performance Report
RHODE ISLAND



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

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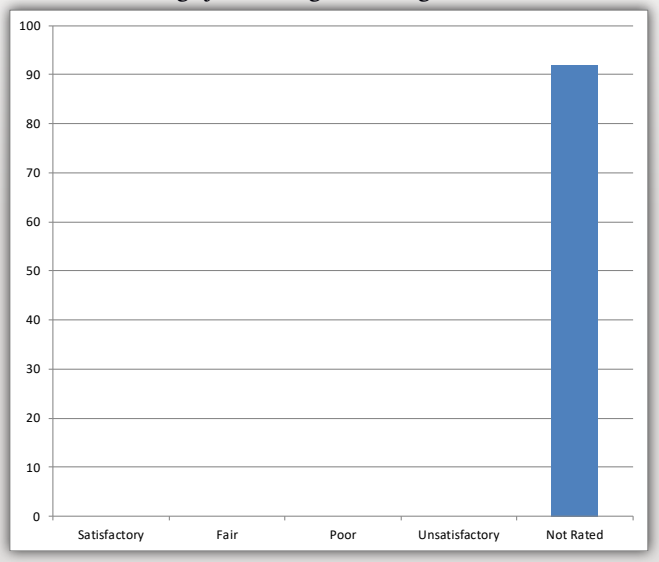
State NID Statistics

234	NID Dams
96	NID High Hazard Potential Dams
669	State-Regulated Dams
96	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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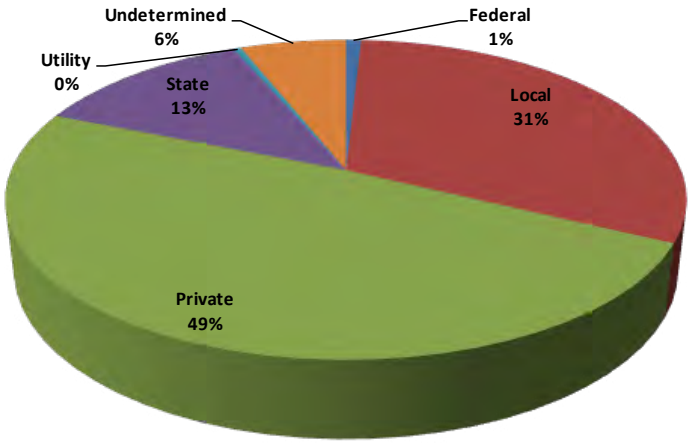
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

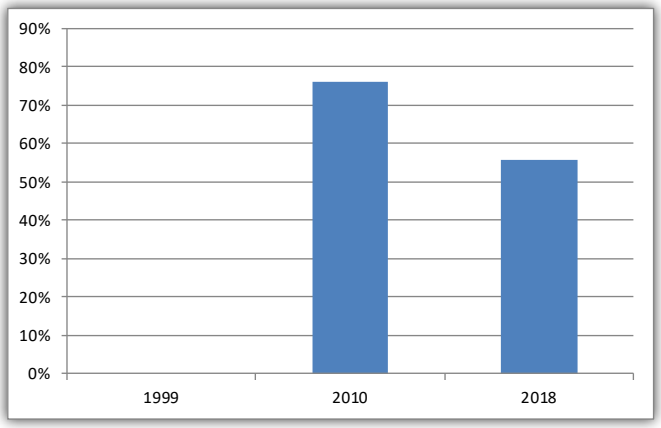
High Hazard Potential Dams Remediated – In calendar year 2018, one state-regulated high hazard potential dam was remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
55%	data not available	76%	77%	**Rhode Island**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

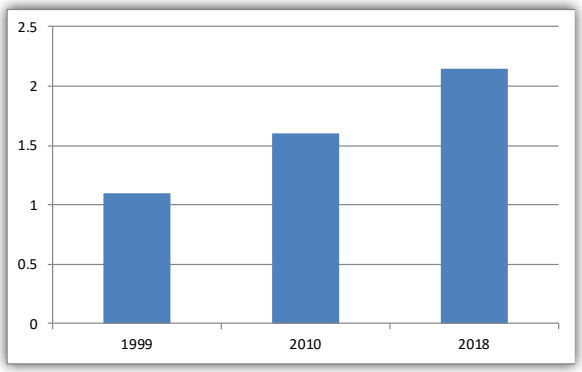
Legislation (5)	**79%**
Inspection (4)	**67%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**87%**
Education & Training (3)	**61%**
Public Relations (1)	**8%**
Weighted Percentage	**77%**

Estimated Breakdown of Dams per Congressional District

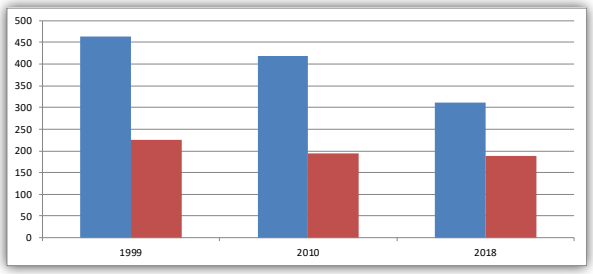
Rhode Island-1	74
Rhode Island-2	158

State Staffing for Dam Safety

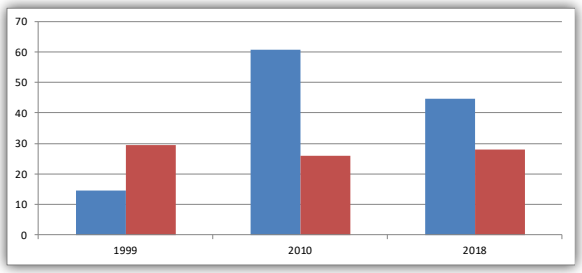
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

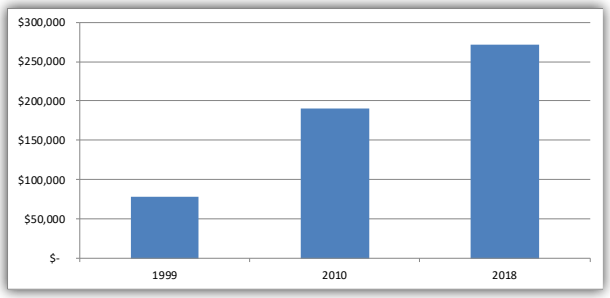


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

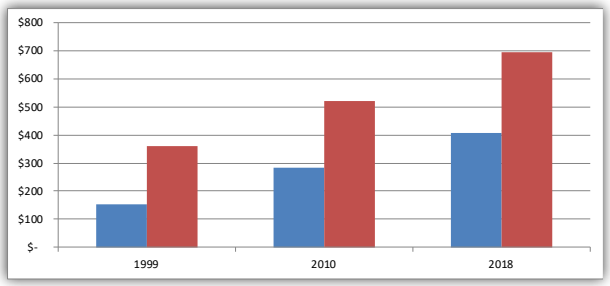


State Budgeting for Dam Safety

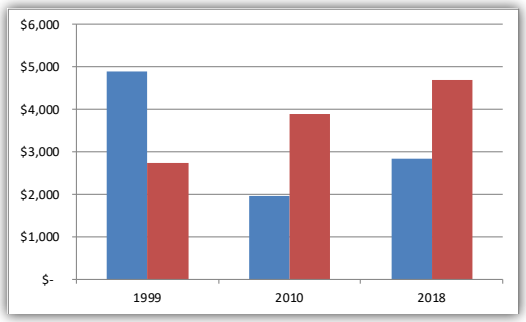
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

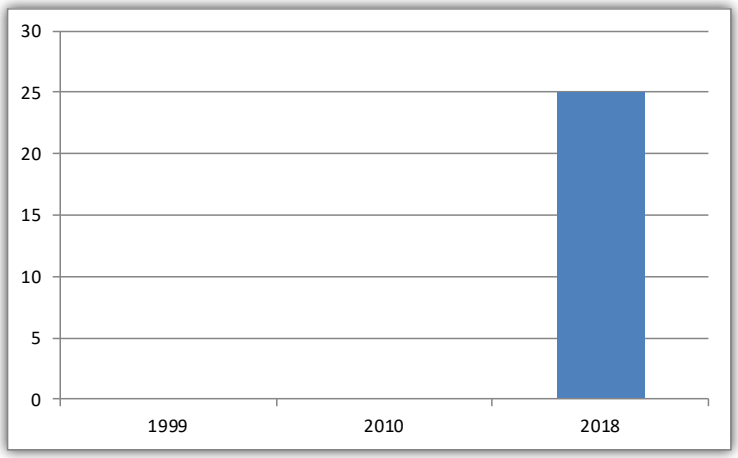


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

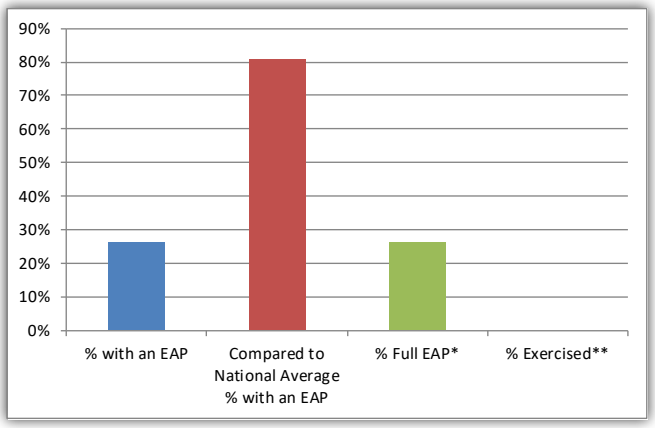
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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Dam Safety Performance Report
SOUTH CAROLINA

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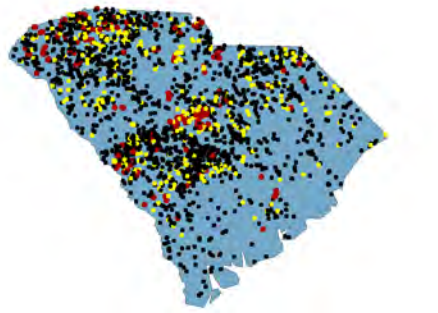

State NID Statistics

2343	NID Dams
359	NID High Hazard Potential Dams
2299	State-Regulated Dams
369	State-Regulated High Hazard Potential Dams

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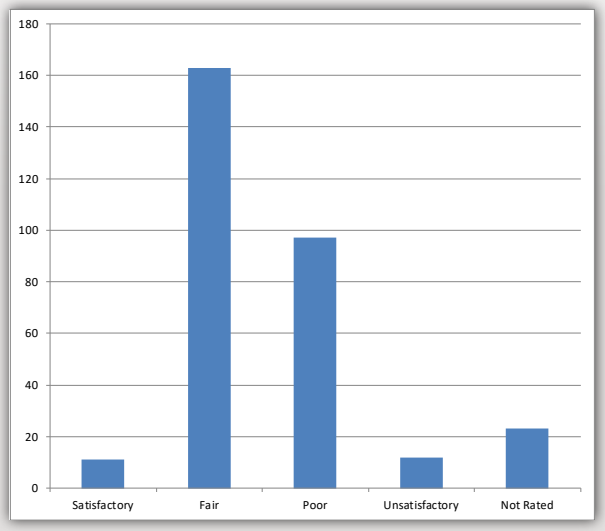
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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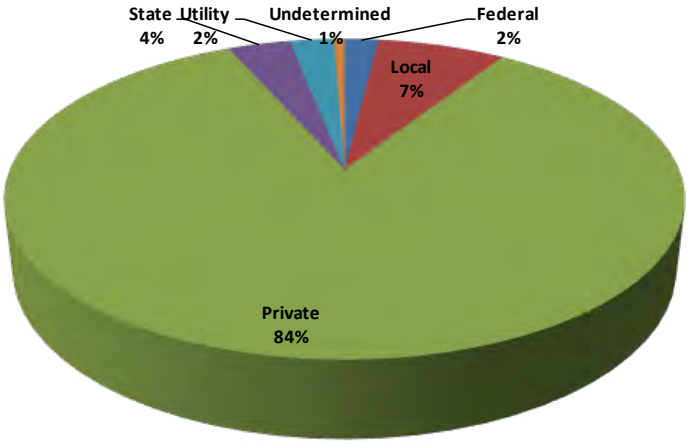
High Hazard Potential Dams Remediated – In calendar year 2018, nine state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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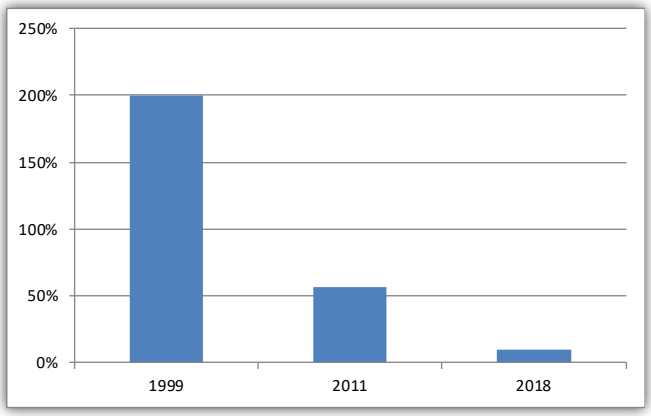
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
60%	68%	55%	55%	**South Carolina**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

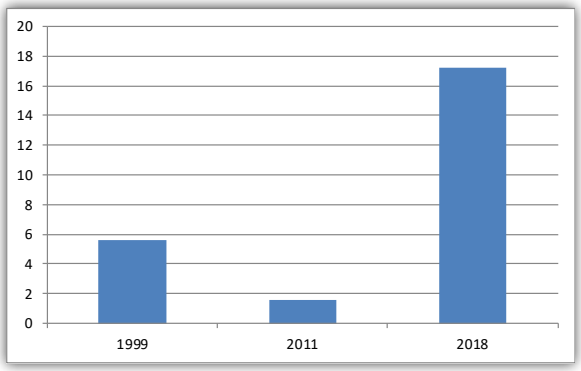
Legislation (5)	**70%**
Inspection (4)	**49%**
Enforcement (4)	**100%**
EAP & Response (4)	**33%**
Permitting (3)	**54%**
Education & Training (3)	**28%**
Public Relations (1)	**0%**
Weighted Percentage	**55%**

Estimated Breakdown of Dams per Congressional District

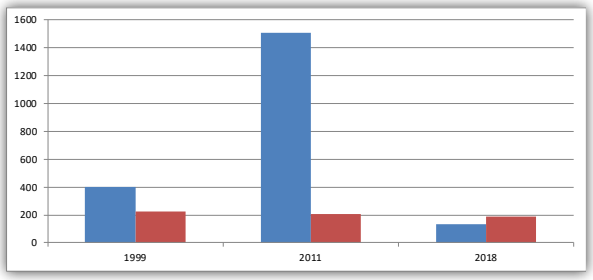
South Carolina-1	28	South Carolina-5	441
South Carolina-2	419	South Carolina-6	389
South Carolina-3	573	South Carolina-7	262
South Carolina-4	232		

State Staffing for Dam Safety

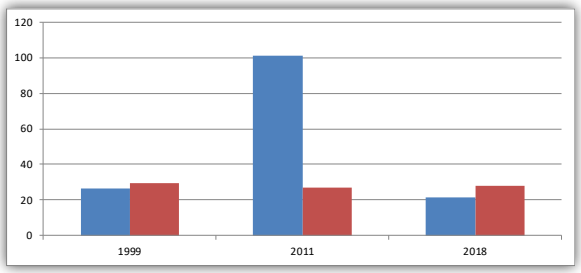
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

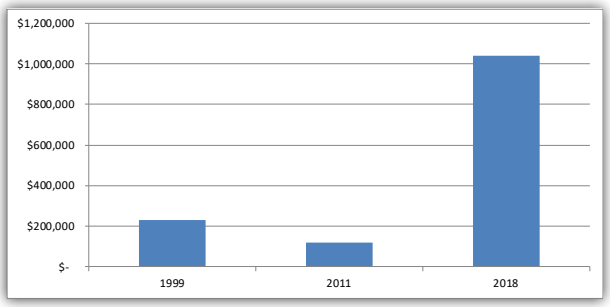


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

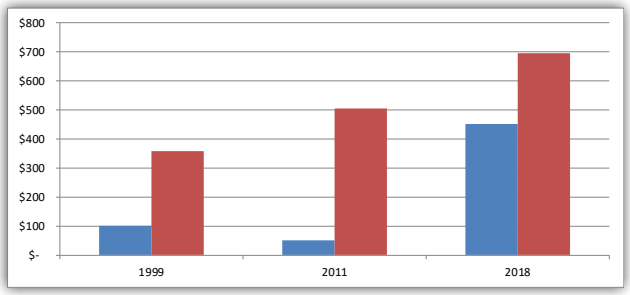


State Budgeting for Dam Safety

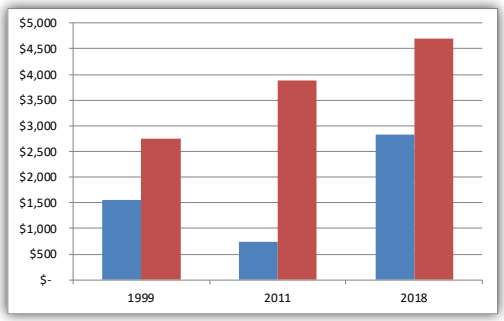
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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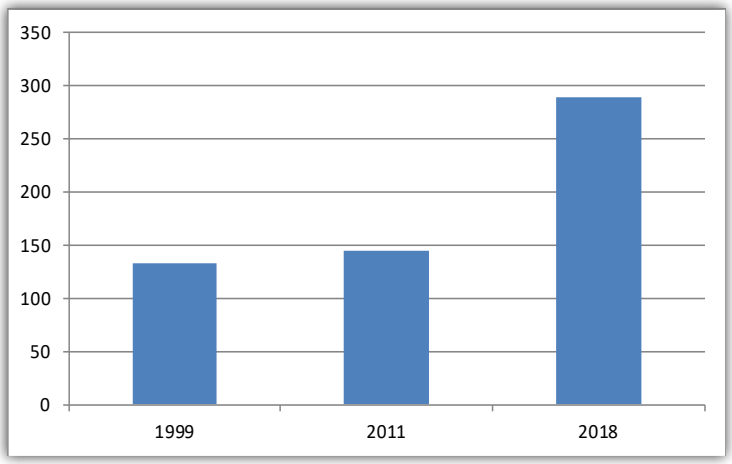
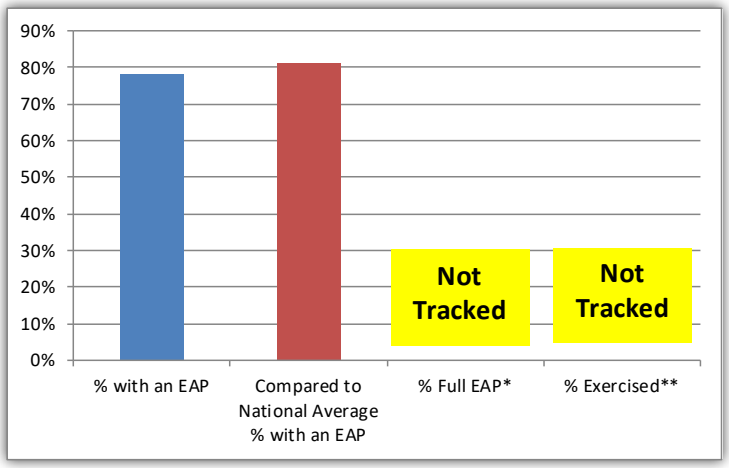
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, South Carolina reported 65 outreach efforts including an ASDSO dam owner workshop, co-presenting at the Clemson University Master Pond Manager class on four occasions and an estimated number of one-on-one meetings with dam owners based on average of 5 per month.

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Dam Safety Performance Report
SOUTH DAKOTA

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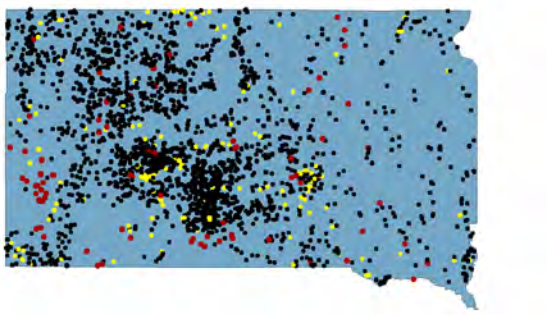

State NID Statistics

2562	NID Dams
90	NID High Hazard Potential Dams
2396	State-Regulated Dams
44	State-Regulated High Hazard Potential Dams

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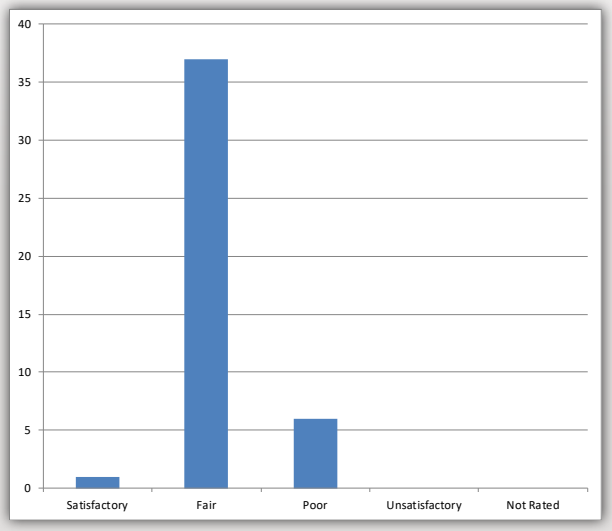
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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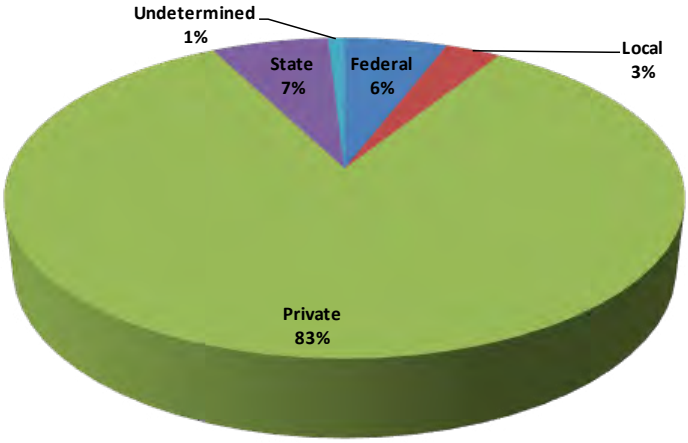
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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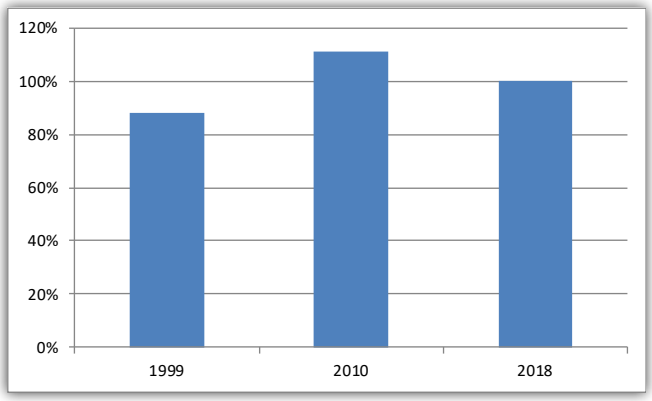
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
72%	58%	66%	66%	**South Dakota**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

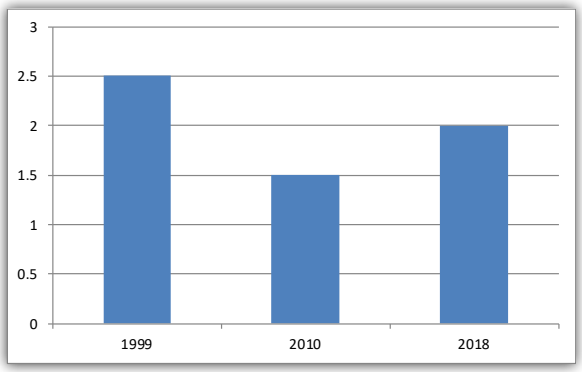
Legislation (5)	**85%**
Inspection (4)	**26%**
Enforcement (4)	**100%**
EAP & Response (4)	**50%**
Permitting (3)	**62%**
Education & Training (3)	**83%**
Public Relations (1)	**25%**
Weighted Percentage	**66%**

Estimated Breakdown of Dams per Congressional District

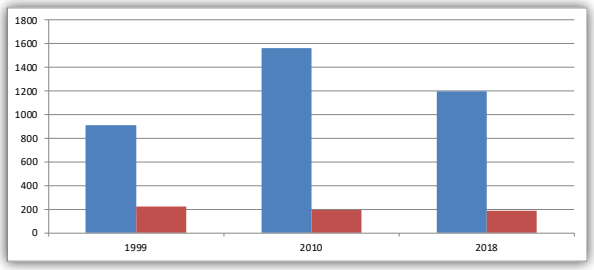
South Dakota has one Congressional District accounting for 2,560 dams.

State Staffing for Dam Safety

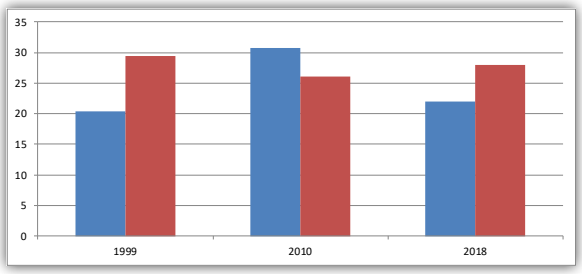
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

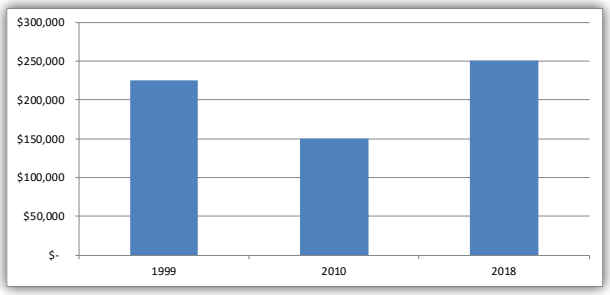


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

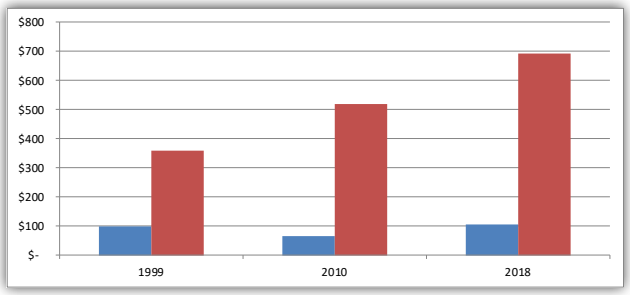


State Budgeting for Dam Safety

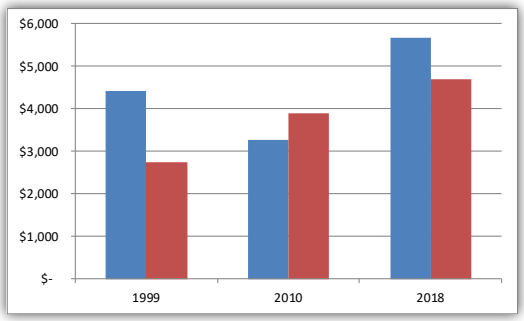
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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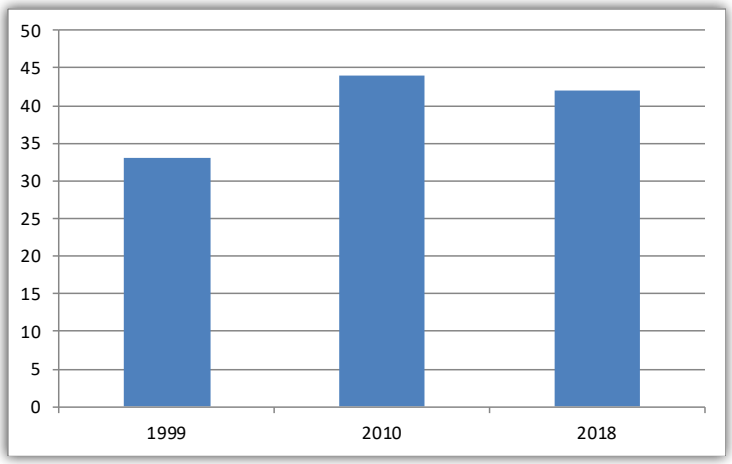
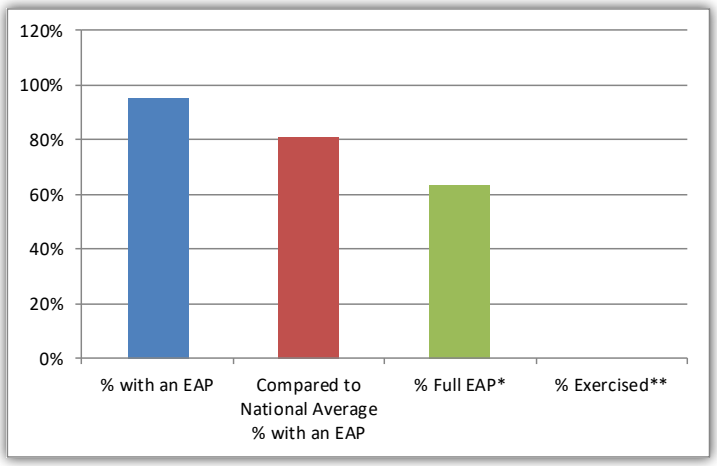
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

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Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
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www.damsafety.org

Dam Safety Performance Report
TENNESSEE

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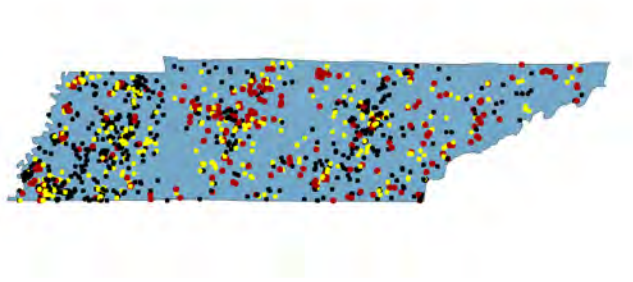


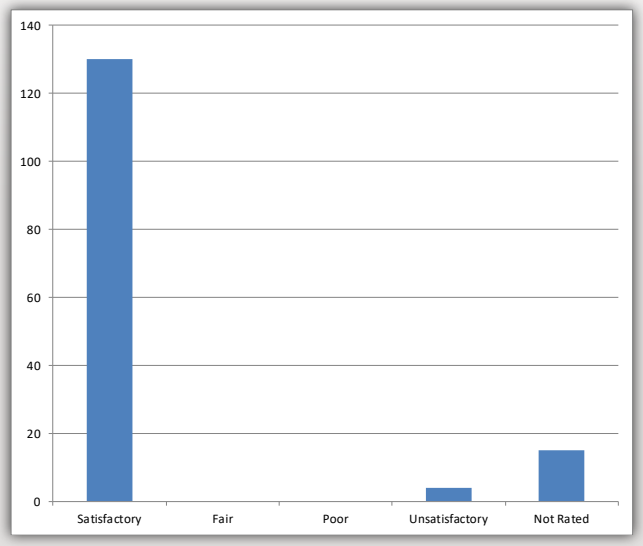
State NID Statistics

1241	NID Dams
276	NID High Hazard Potential Dams
647	State-Regulated Dams
148	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

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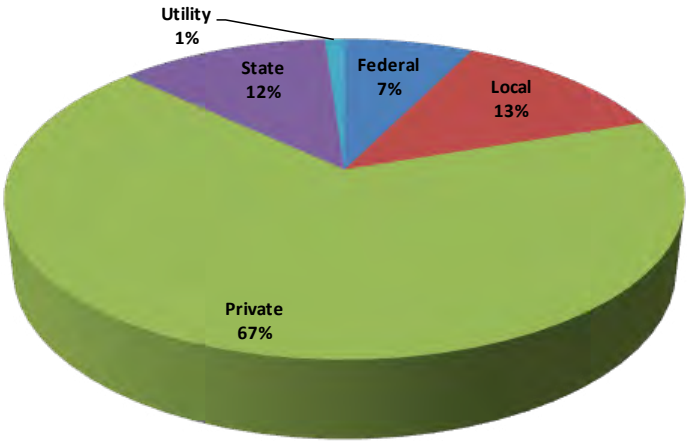
Dam Ownership



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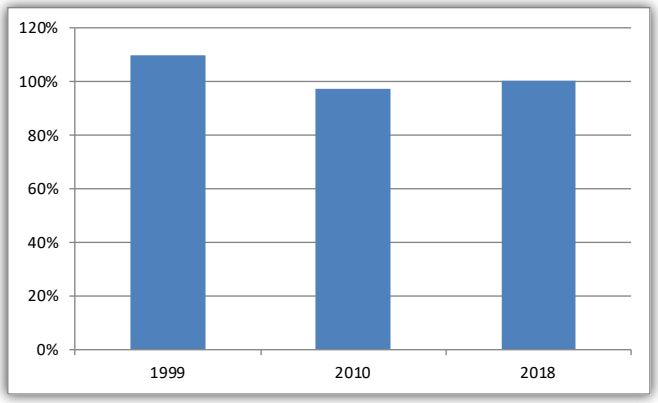
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
69%	77%	73%	73%	**Tennessee**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

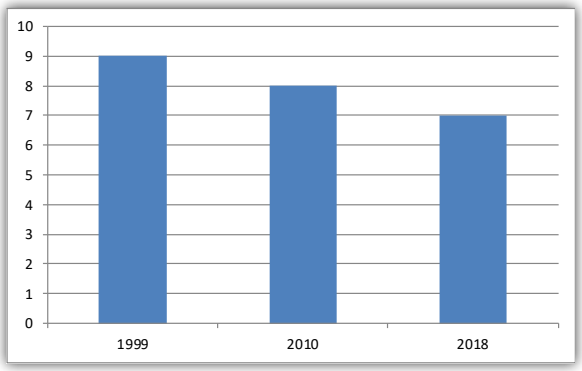
Legislation (5)	**85%**
Inspection (4)	**74%**
Enforcement (4)	**100%**
EAP & Response (4)	**44%**
Permitting (3)	**77%**
Education & Training (3)	**72%**
Public Relations (1)	**17%**
Weighted Percentage	**73%**

Estimated Breakdown of Dams per Congressional District

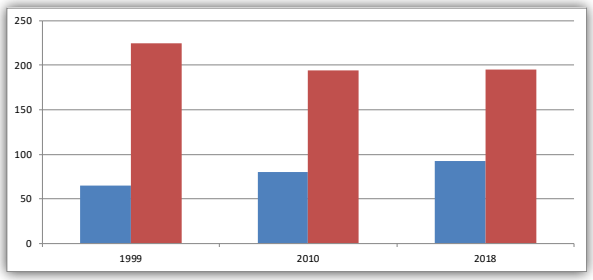
Tennessee-1	54	Tennessee-4	156	Tennessee-7	248
Tennessee-2	36	Tennessee-5	52	Tennessee-8	363
Tennessee-3	92	Tennessee-6	188	Tennessee-9	52

State Staffing for Dam Safety

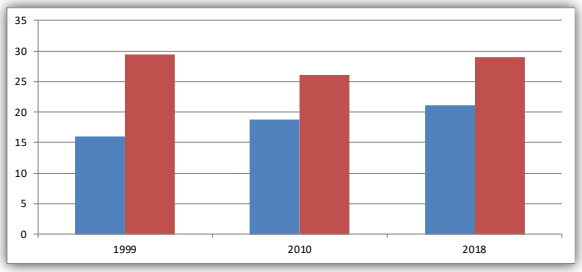
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

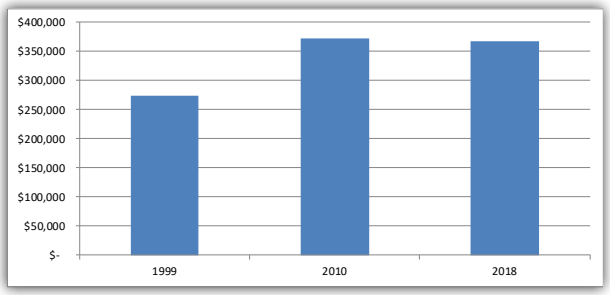


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)



State Budgeting for Dam Safety

Dam Safety State Budget



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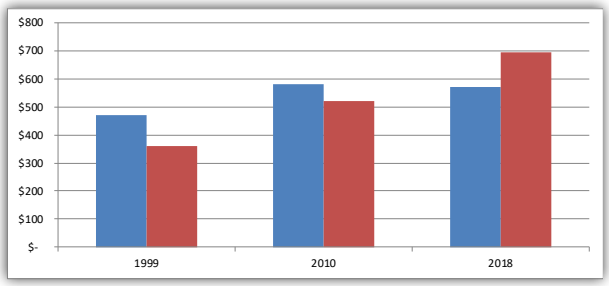

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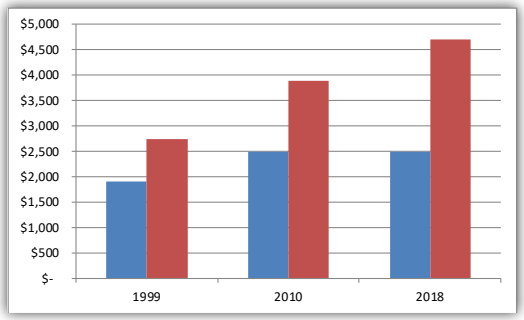

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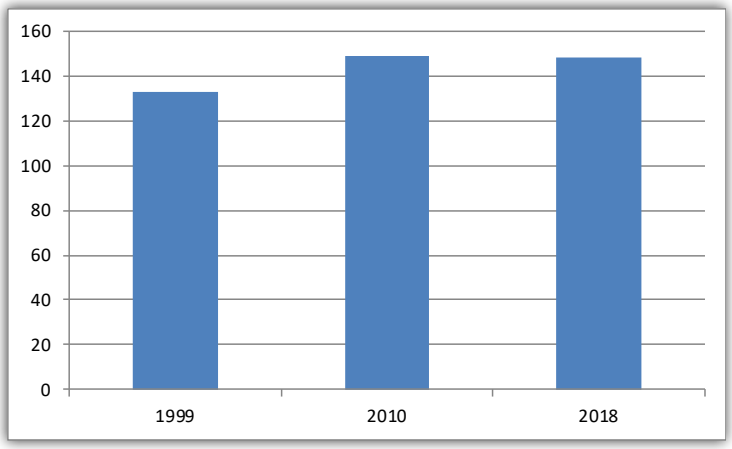
Number of State-Regulated High Hazard Potential Dams with an EAP.



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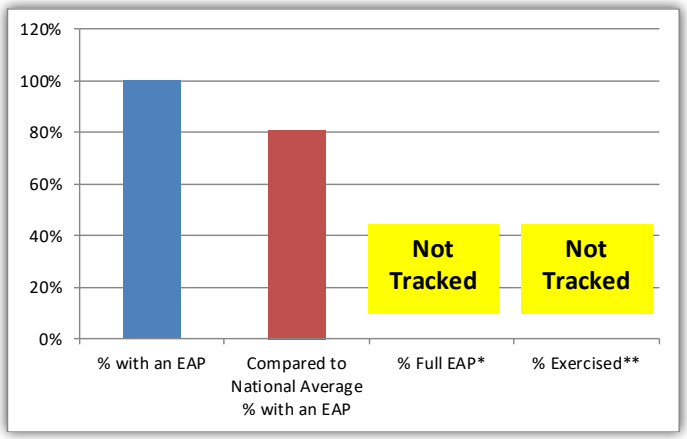

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State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Tennessee law exempts farm ponds that are privately owned and not open to the public, regardless of size or hazard potential category.

Association of State Dam Safety Officials
239 S. Limestone Lexington, KY 40508
859.550.2788

info@damsafety.org
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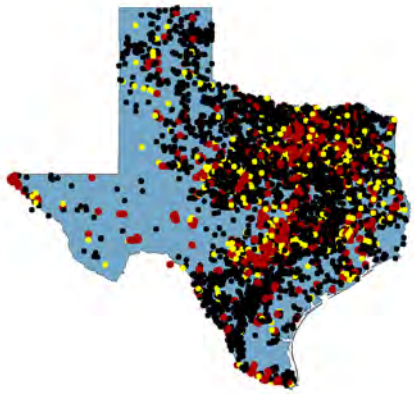
Dam Safety Performance Report
TEXAS



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State NID Statistics

7324	NID Dams
1411	NID High Hazard Potential Dams
4014	State-Regulated Dams
1409	State-Regulated High Hazard Potential Dams

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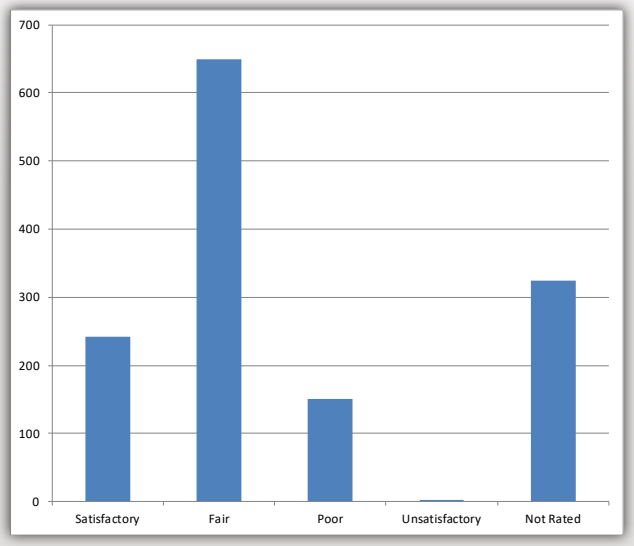
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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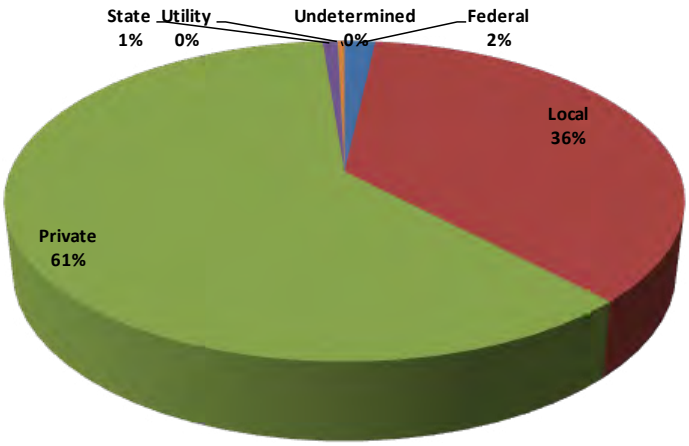
Dam Ownership



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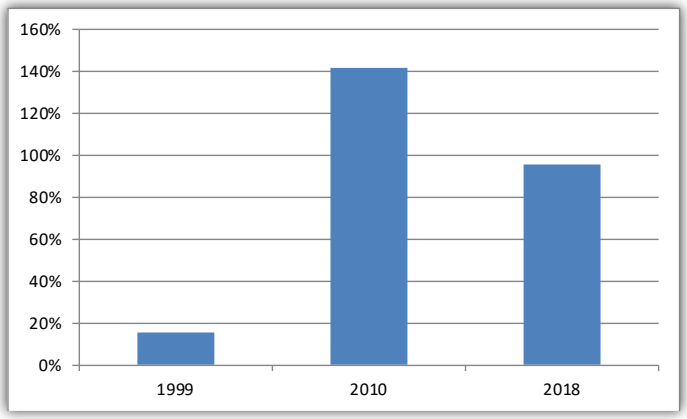
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
34%	75%	79%	80%	**Texas**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

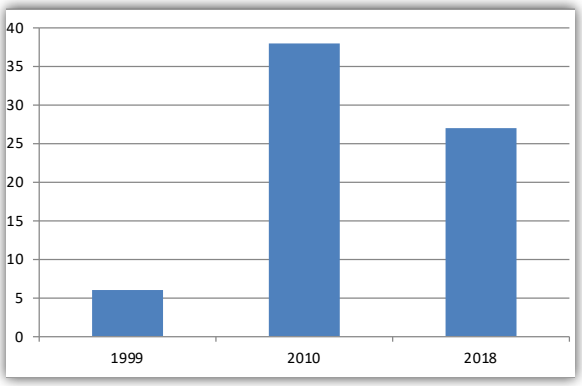
Legislation (5)	**88%**
Inspection (4)	**75%**
Enforcement (4)	**67%**
EAP & Response (4)	**94%**
Permitting (3)	**73%**
Education & Training (3)	**89%**
Public Relations (1)	**50%**
Weighted Percentage	**80%**

Estimated Breakdown of Dams per Congressional District

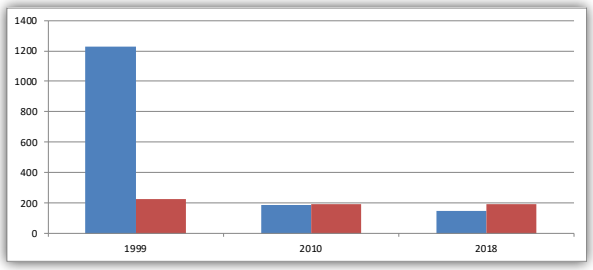
Texas-1	395	Texas-7	1	Texas-13	1095	Texas-19	232	Texas-25	412	Texas-32	10
Texas-2	5	Texas-8	328	Texas-14	55	Texas-20	1	Texas-26	74	Texas-33	12
Texas-3	66	Texas-9	2	Texas-15	122	Texas-21	164	Texas-27	95	Texas-34	102
Texas-4	682	Texas-10	214	Texas-16	36	Texas-22	17	Texas-28	350	Texas-35	60
Texas-5	445	Texas-11	832	Texas-17	417	Texas-23	417	Texas-30	21	Texas-36	140
Texas-6	252	Texas-12	98	Texas-18	1	Texas-24	24	Texas-31	141		

State Staffing for Dam Safety

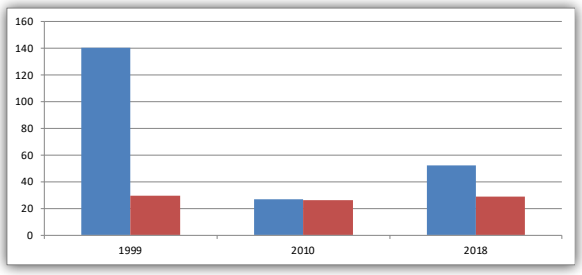
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

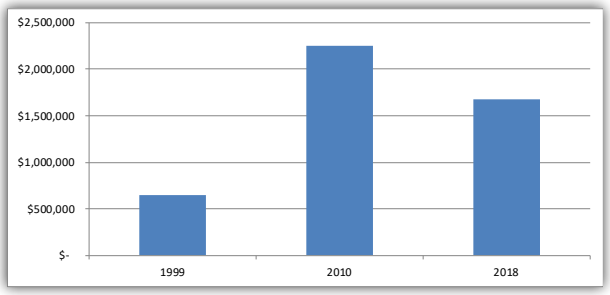


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

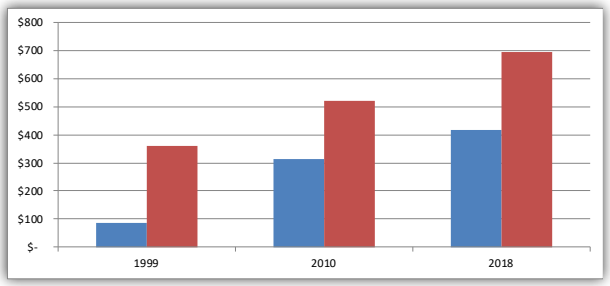


State Budgeting for Dam Safety

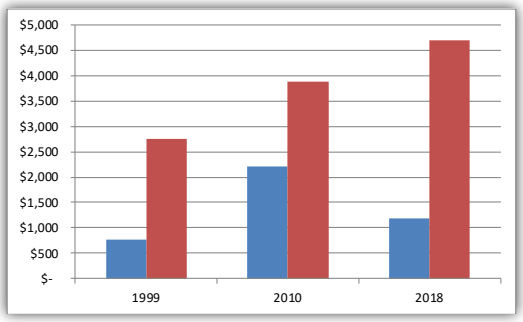
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

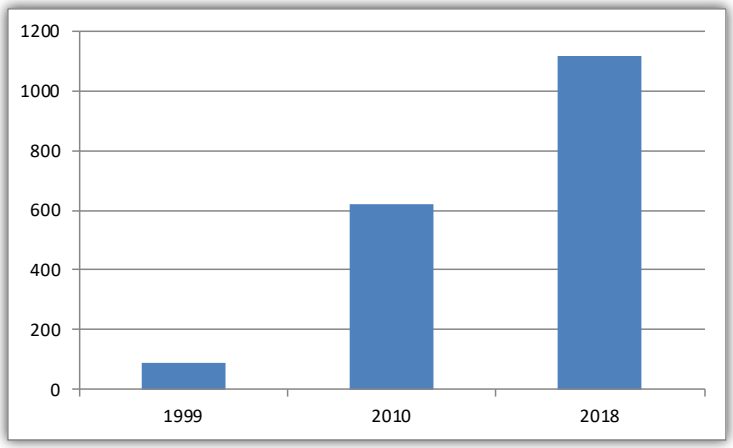


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

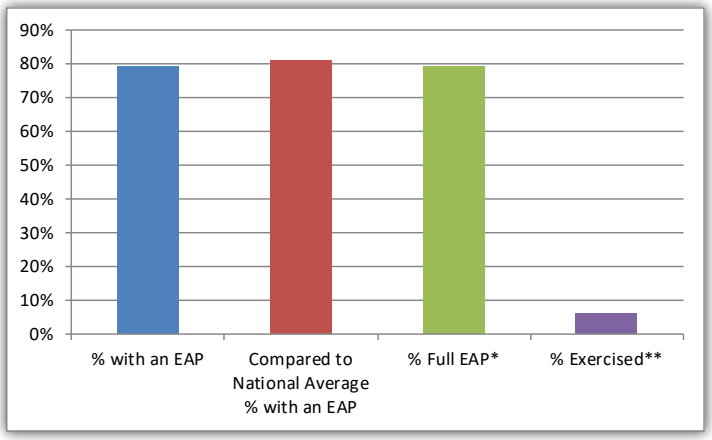
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Texas conducted three workshops and 18 meetings with the dam owners.

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Texas law exempts privately-owned significant and low hazard potential dams storing less than a maximum of 500 acre-feet in counties with population less than 350,000, excluding dams within municipal corporate limits. ASDSO opposes the exemption of significant hazard dams because these dams can present a significant potential hazard to downstream property and the environment and they must be designed, operated and maintained to accepted standards.

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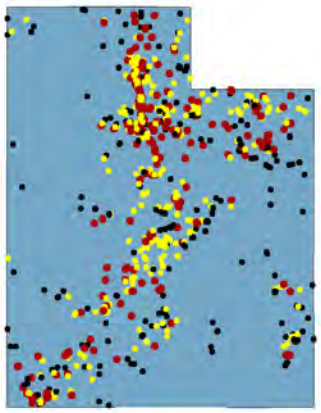
Dam Safety Performance Report
UTAH



"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

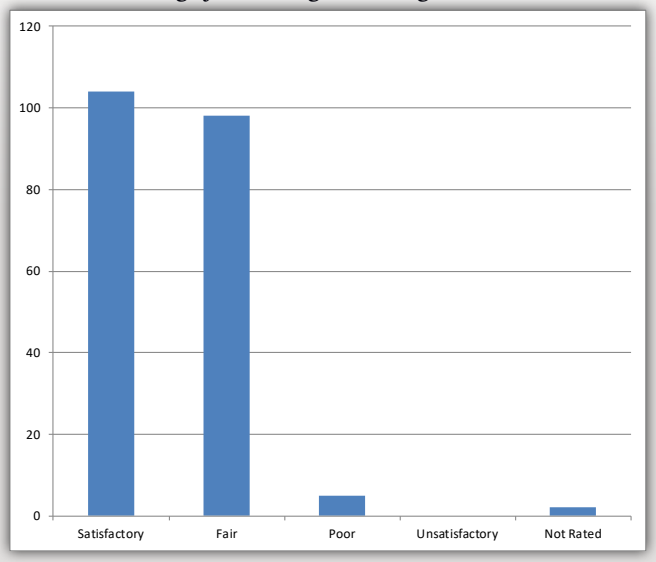
State NID Statistics

860	NID Dams
266	NID High Hazard Potential Dams
697	State-Regulated Dams
212	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

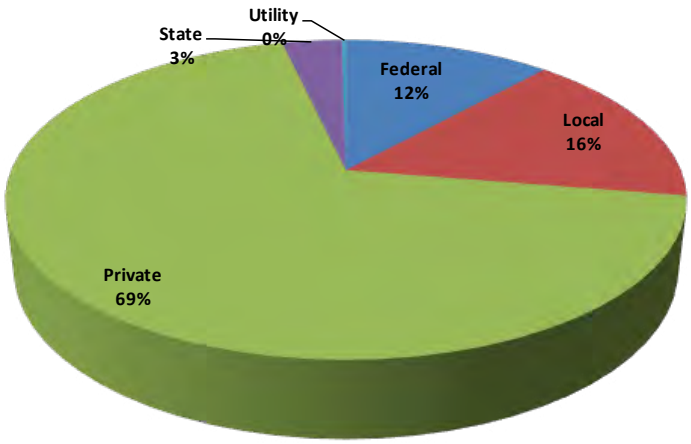
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

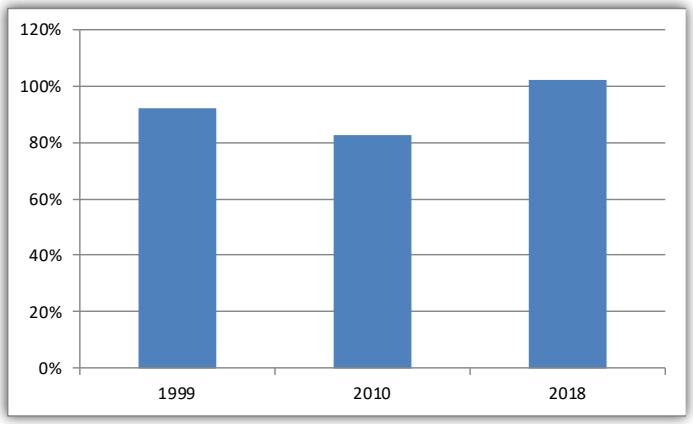
High Hazard Potential Dams Remediated – In calendar year 2018, five state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
59%	94%	84%	85%	**Utah**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

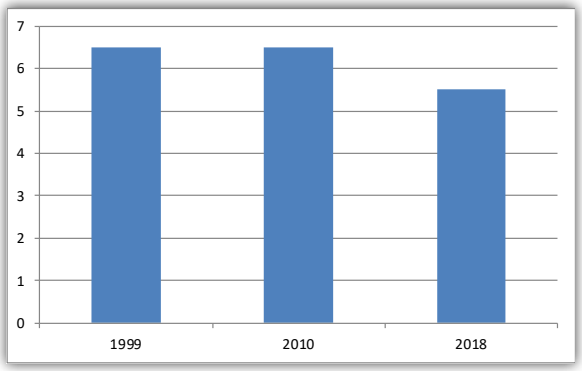
Legislation (5)	**82%**
Inspection (4)	**84%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**87%**
Education & Training (3)	**72%**
Public Relations (1)	**8%**
Weighted Percentage	**85%**

Estimated Breakdown of Dams per Congressional District

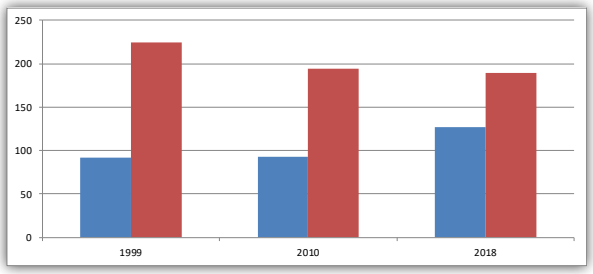
Utah-1	295	Utah-3	196
Utah-2	296	Utah-4	63

State Staffing for Dam Safety

Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)



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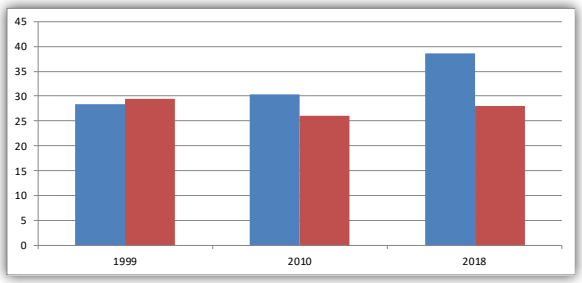
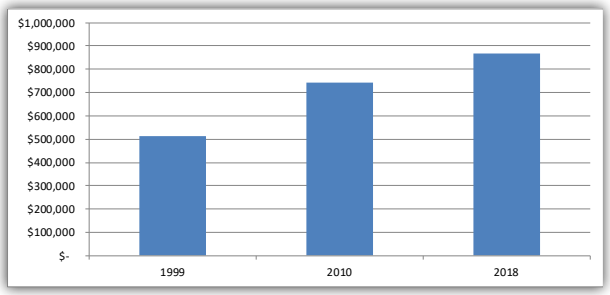
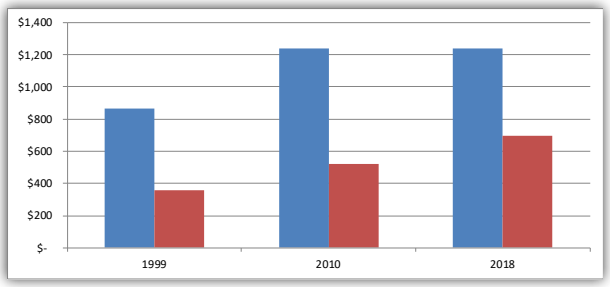


State Budgeting for Dam Safety

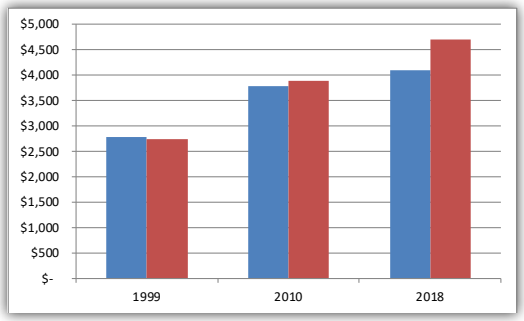
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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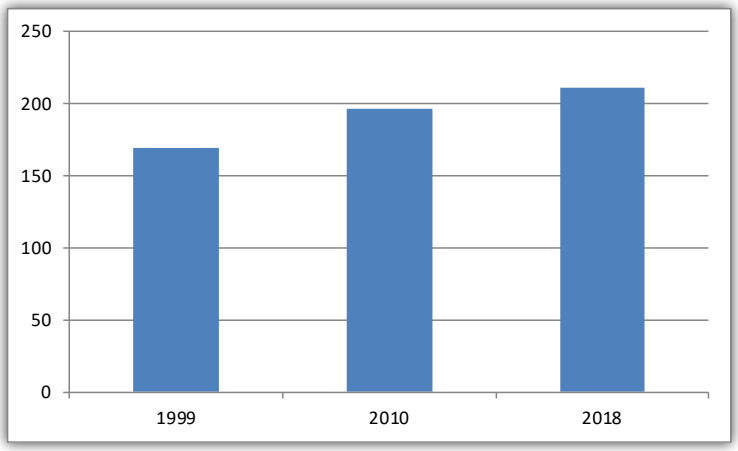
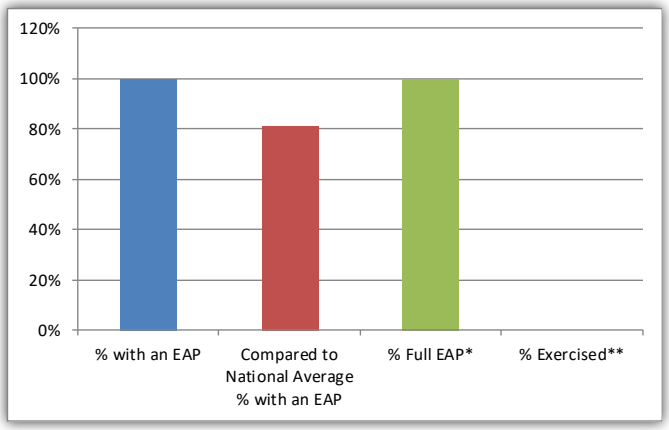
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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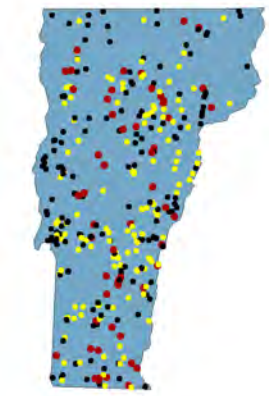
Dam Safety Performance Report
VERMONT



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State NID Statistics

368	NID Dams
61	NID High Hazard Potential Dams
413	State-Regulated Dams
41	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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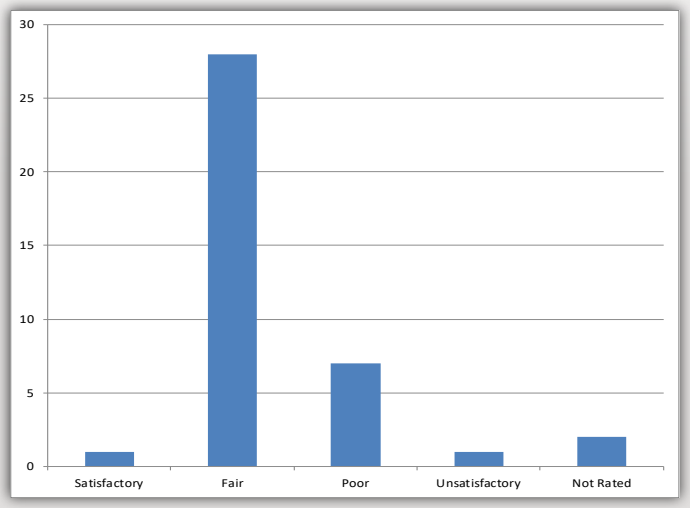
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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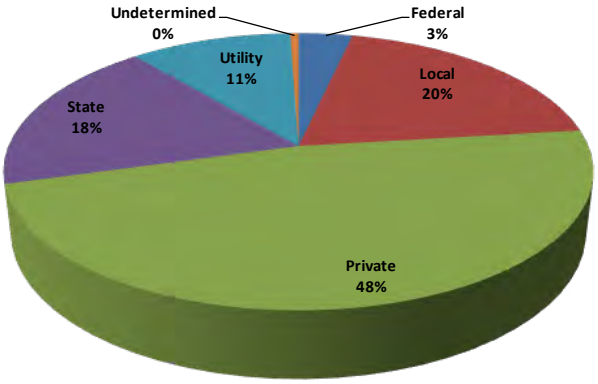
High Hazard Potential Dams Remediated – In calendar year 2018, one state-regulated high hazard potential dam was remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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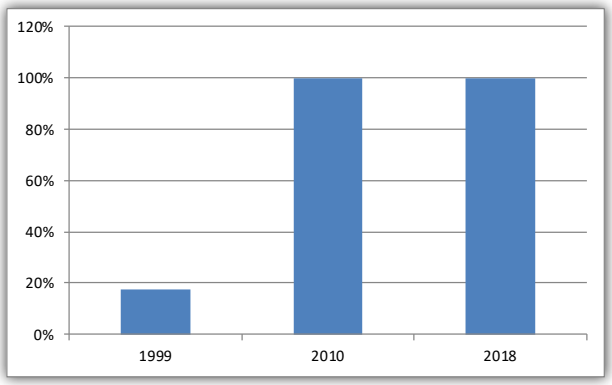
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
29%	47%	69%	89%	**Vermont**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

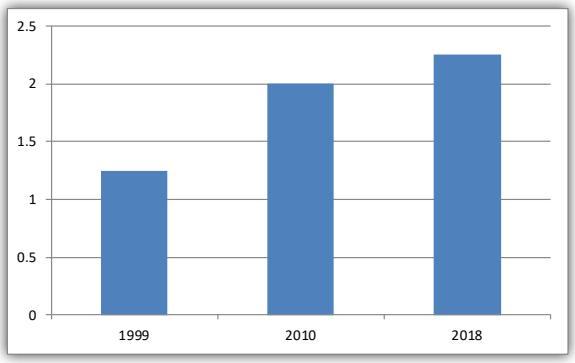
Legislation (5)	**91%**
Inspection (4)	**93%**
Enforcement (4)	**100%**
EAP & Response (4)	**89%**
Permitting (3)	**89%**
Education & Training (3)	**89%**
Public Relations (1)	**25%**
Weighted Percentage	**89%**

Estimated Breakdown of Dams per Congressional District

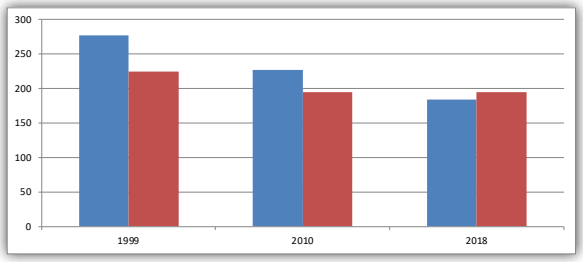
Vermont has one Congressional District accounting for 368 dams.

State Staffing for Dam Safety

Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)



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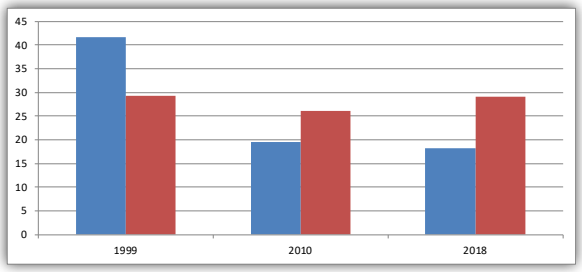
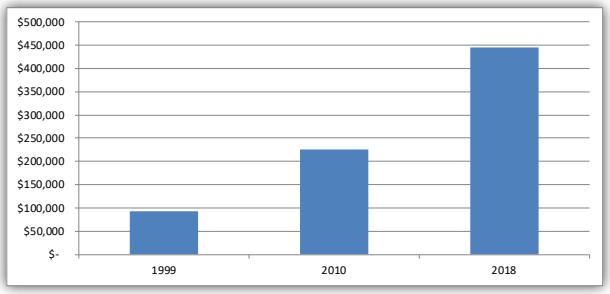
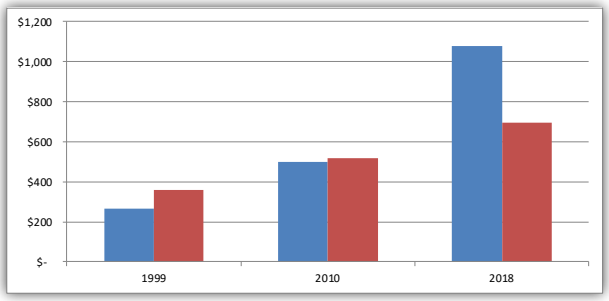


State Budgeting for Dam Safety

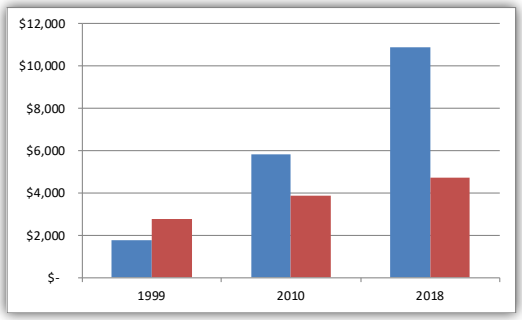
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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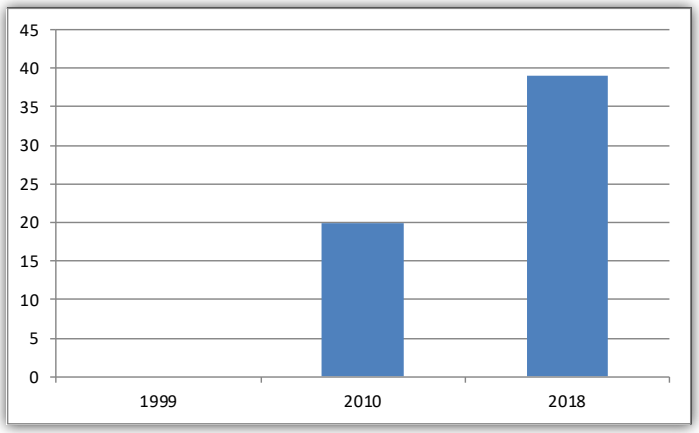
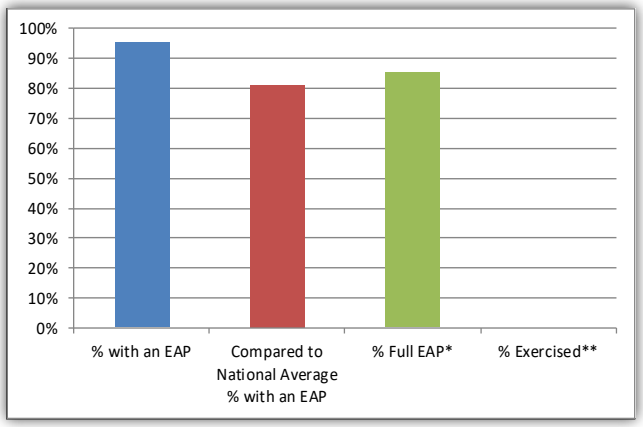
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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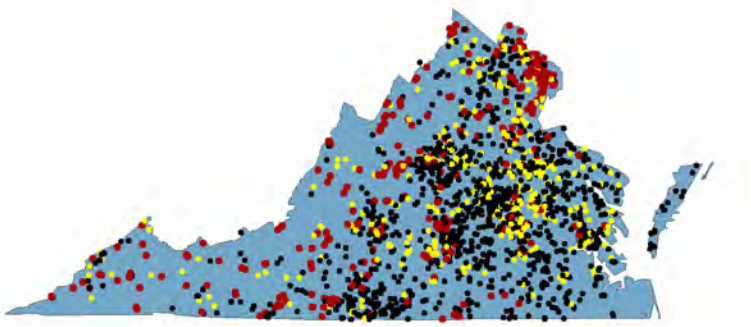
Dam Safety Performance Report
VIRGINIA

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.



The map does not include 1295 state-regulated dams with undetermined hazard classification.

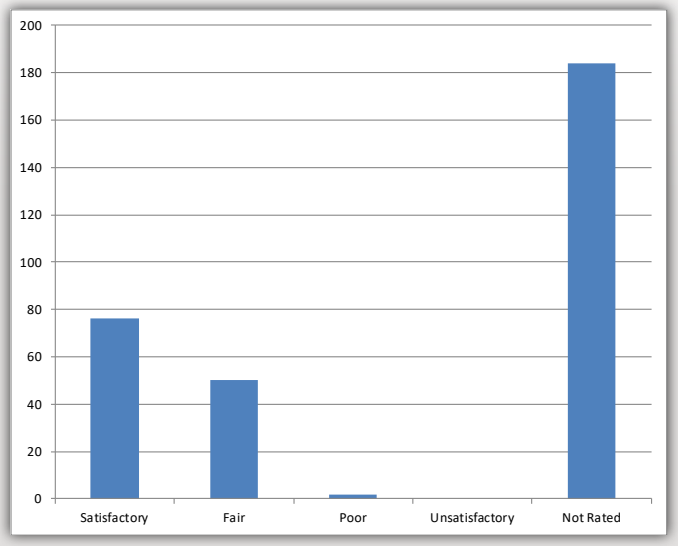
State NID Statistics

3563	NID Dams
322	NID High Hazard Potential Dams
2046	State-Regulated Dams
312	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

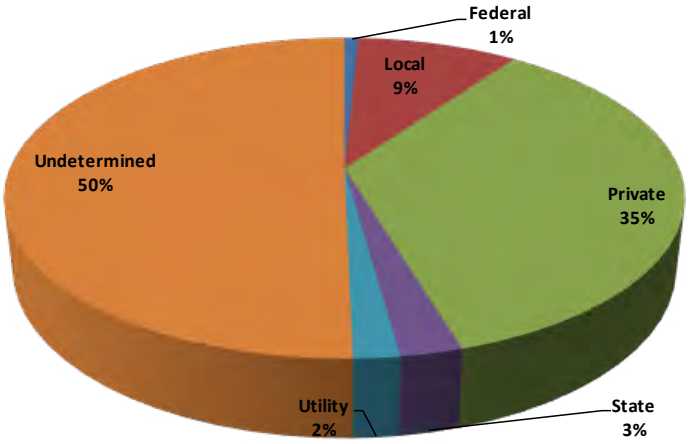
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

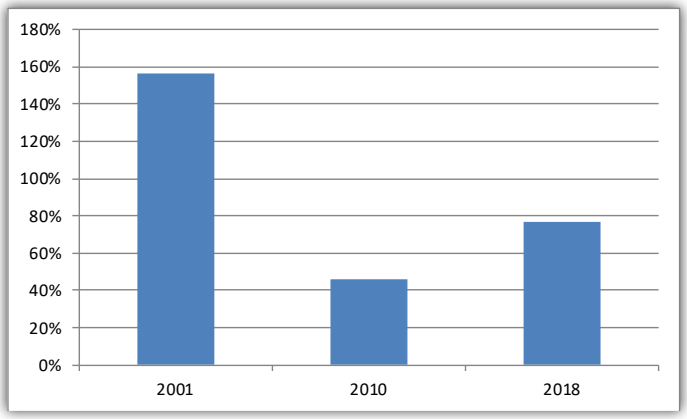
High Hazard Potential Dams Remediated – In calendar year 2018, thirteen state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

The National Dam Safety Program, in cooperation with ASDSO, developed a benchmark called the Model State Dam Safety Program to assist state officials in initiating or improving their state programs. The model outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable state programs to reduce the risks created by unsafe dams. It contains chapters on Legislative Authorities, Permitting, Inspection, Enforcement, Emergency Action Planning and Response, Education and Training, and Public Relations.

The tables here present the state's response to a series of yes/no questions on the authorities for each chapter and an overall weighted percentage for the program. The tables also show how the state's weighted averages compare to the national averages over time. Higher percentages indicate greater alignment of the state program with the model and lower percentages can be indicative of needed improvement in authority. The areas are weighted by importance (listed in order with weightings indicated in parentheses) for the overall percentage. Areas of concern where additional state authorities may be needed are highlighted.

Overall Weighted Percentage

1989	1998	2010	2018	
75%	74%	96%	96%	**Virginia**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

Legislation (5)	**94%**
Inspection (4)	**97%**
Enforcement (4)	**100%**
EAP & Response (4)	**100%**
Permitting (3)	**94%**
Education & Training (3)	**89%**
Public Relations (1)	**92%**
Weighted Percentage	**96%**

Estimated Breakdown of Dams per Congressional District

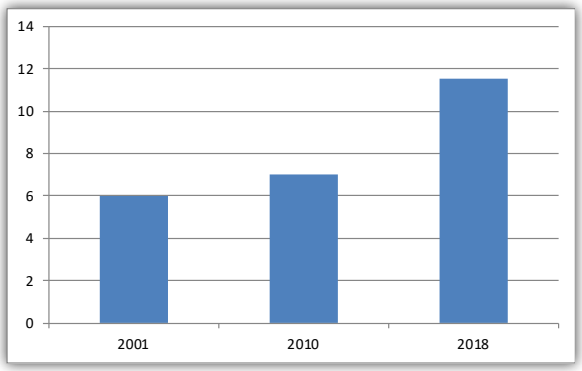
Virginia-1	467
Virginia-2	69
Virginia-3	41
Virginia-4	171

Virginia-5	920
Virginia-6	241
Virginia-7	447
Virginia-8	16

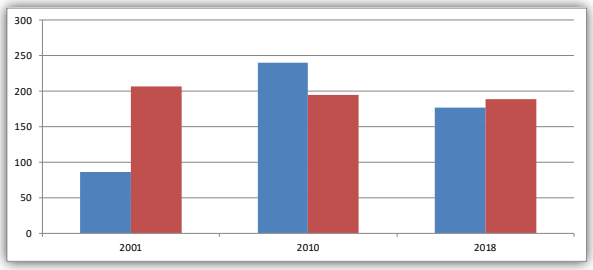
Virginia-9	216
Virginia-10	191
Virginia-11	64

State Staffing for Dam Safety

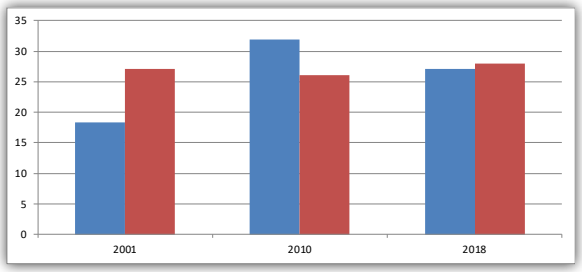
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

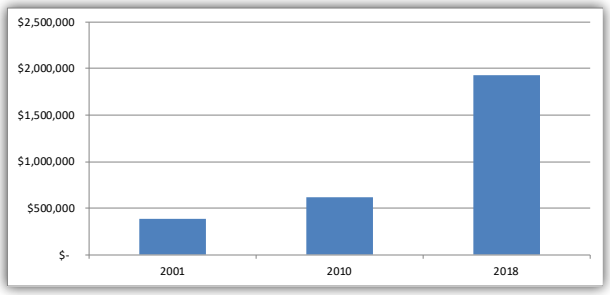


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

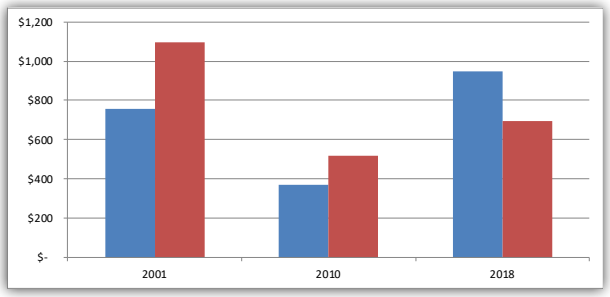


State Budgeting for Dam Safety

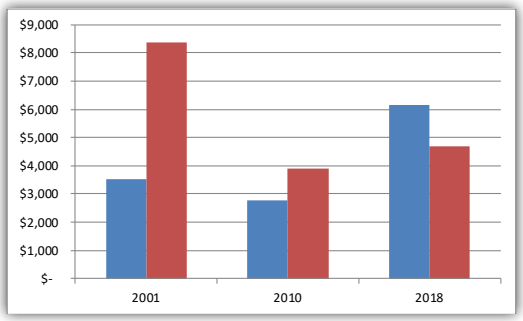
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

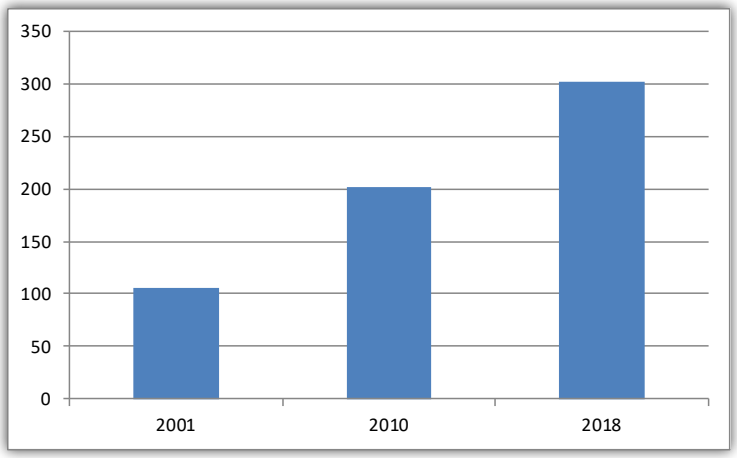


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

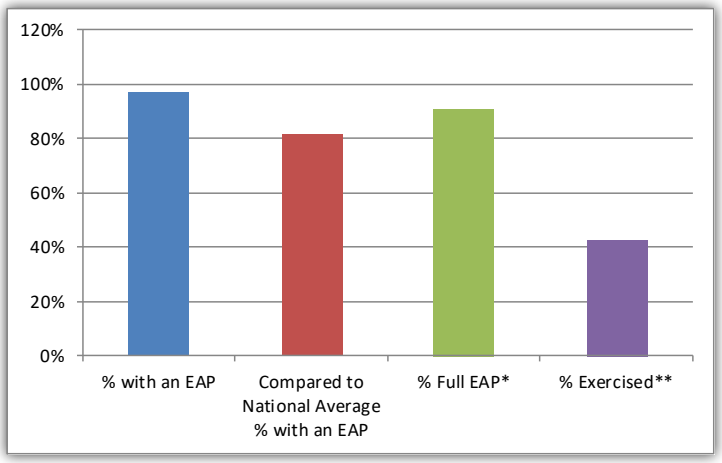
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Virginia conducted 873 dam-related trainings for Dam Owners and Dam Engineers. Topics included dam operation and maintenance, emergency preparedness, safety procedures at dams, education discussions revolving around dam construction, toe drain education, staff gauge education, and various other dam related educational training requested by Dam Owners while on Dam visits.

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Virginia law exempts dams operated primarily for agricultural purposes which are less than 25 feet in height or which create a maximum impoundment capacity smaller than 100 acre-feet.

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Dam Safety Performance Report
WASHINGTON

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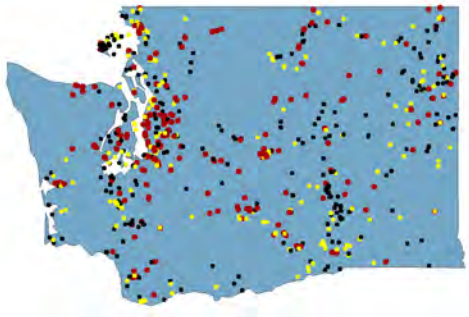

State NID Statistics

802	NID Dams
278	NID High Hazard Potential Dams
1055	State-Regulated Dams
227	State-Regulated High Hazard Potential Dams

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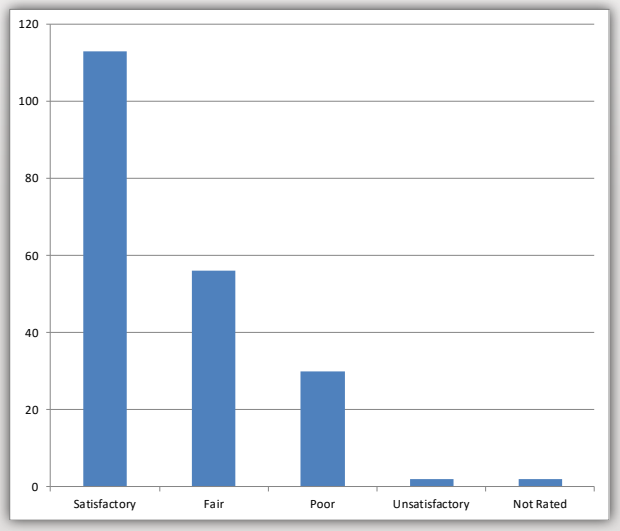
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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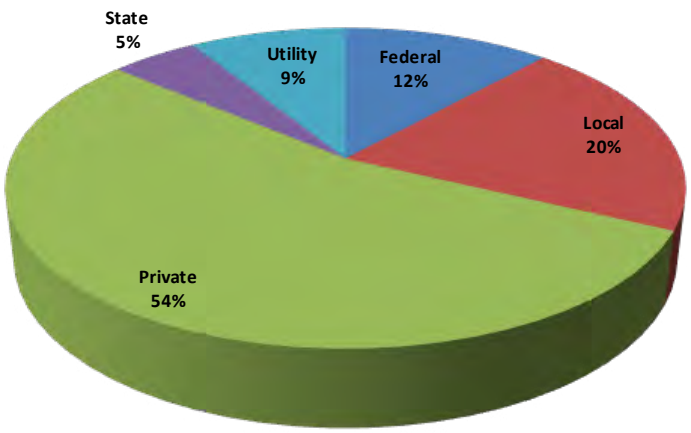
High Hazard Potential Dams Remediated – In calendar year 2018, zero state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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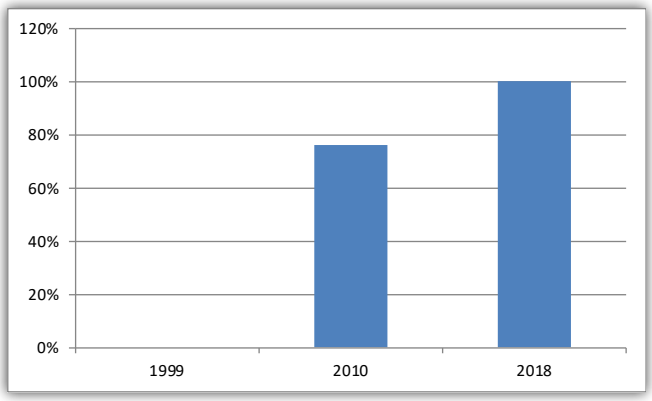
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
66%	88%	86%	87%	**Washington**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

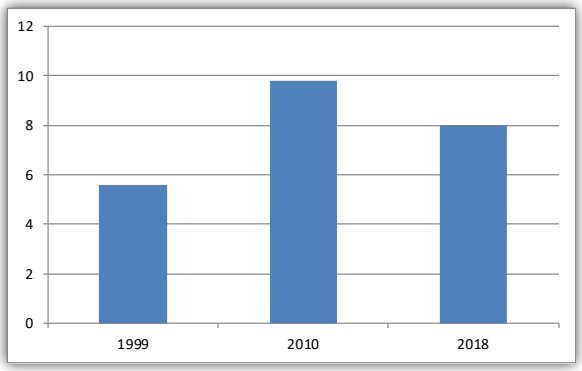
Legislation (5)	**91%**
Inspection (4)	**89%**
Enforcement (4)	**100%**
EAP & Response (4)	**94%**
Permitting (3)	**79%**
Education & Training (3)	**78%**
Public Relations (1)	**25%**
Weighted Percentage	**87%**

Estimated Breakdown of Dams per Congressional District

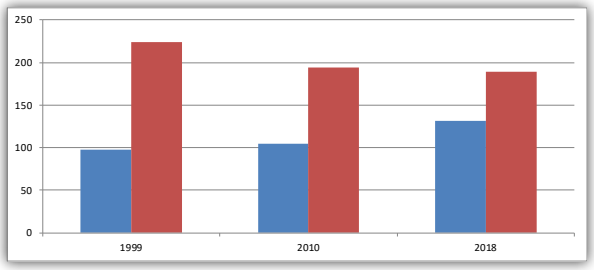
Washington-1	73	Washington-6	59
Washington-2	80	Washington-7	8
Washington-3	101	Washington-8	106
Washington-4	204	Washington-9	25
Washington-5	125	Washington-10	22

State Staffing for Dam Safety

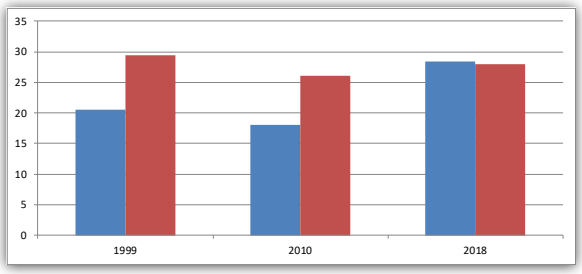
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

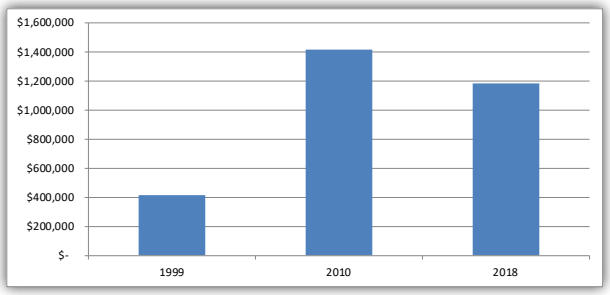


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

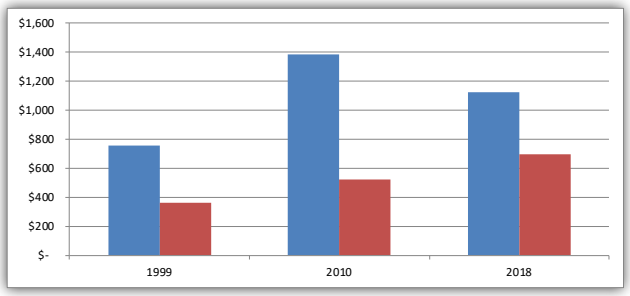


State Budgeting for Dam Safety

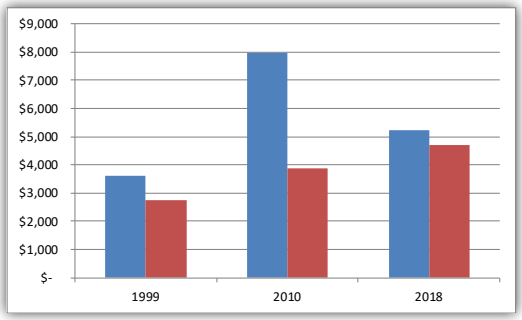
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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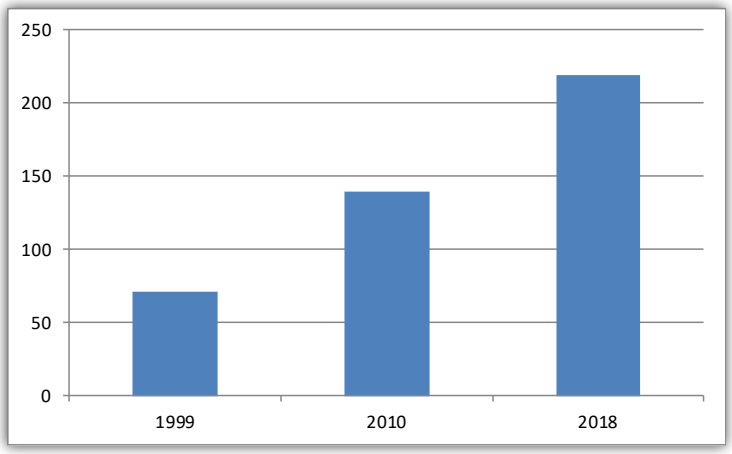
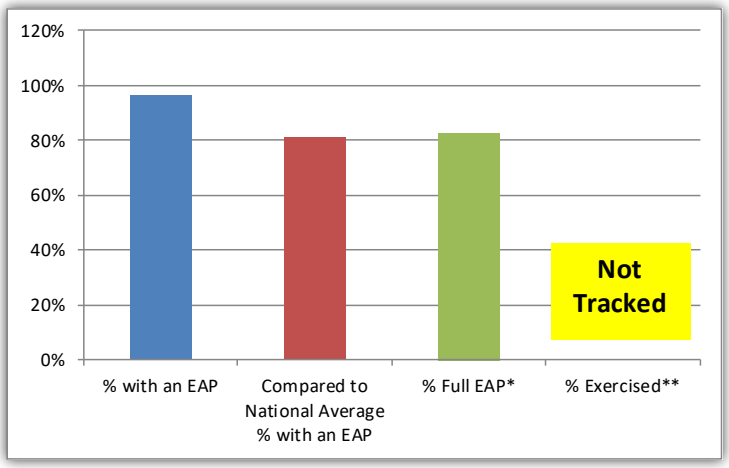
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Washington reported 86 meetings during periodic on-site inspections in which DSO engineers review Emergency procedures and O&M plans with the dam owner or representative and 12 technical assistance visits to dam sites.

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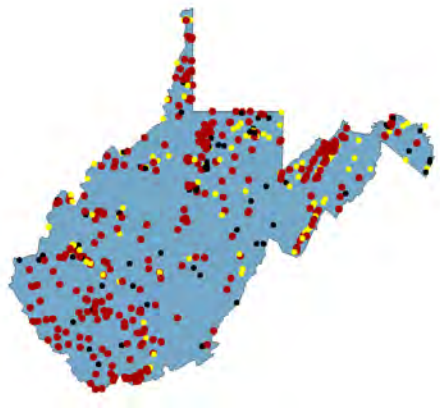
Dam Safety Performance Report
WEST VIRGINIA



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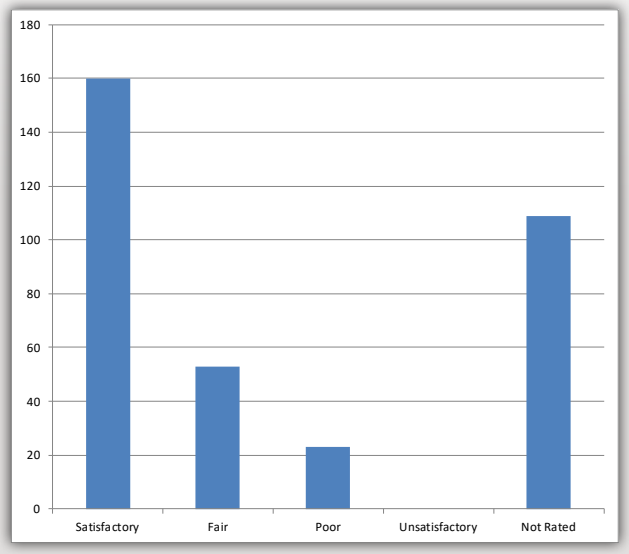
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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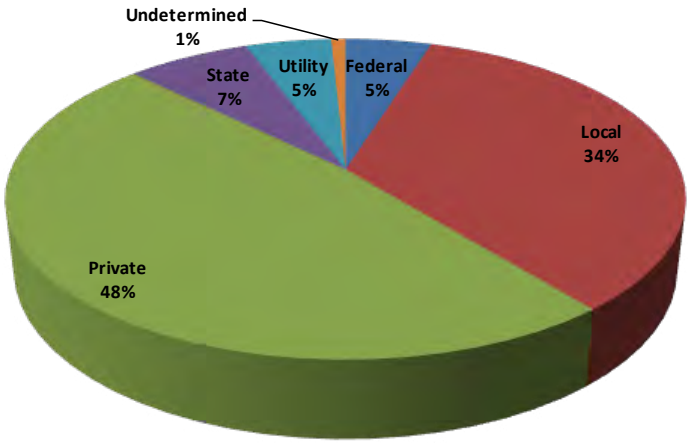
Dam Ownership



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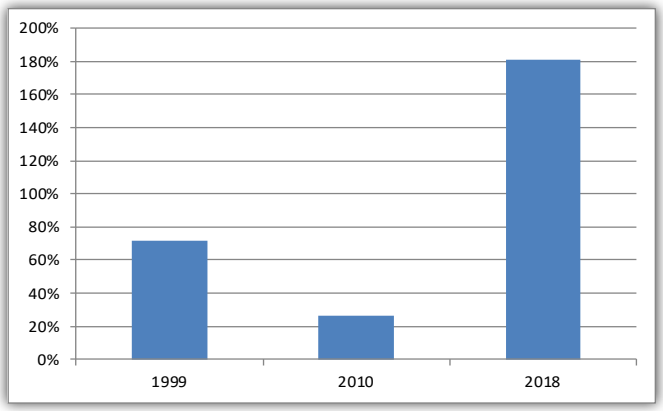
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



* Inspection percentages may vary above and below 100% for any given year based on a state's inspection frequency and scheduling.

Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
62%	78%	89%	90%	**West Virginia**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

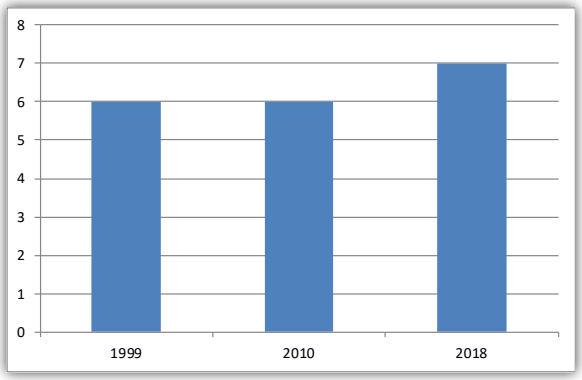
Legislation (5)	**91%**
Inspection (4)	**92%**
Enforcement (4)	**100%**
EAP & Response (4)	**83%**
Permitting (3)	**92%**
Education & Training (3)	**89%**
Public Relations (1)	**50%**
Weighted Percentage	**90%**

Estimated Breakdown of Dams per Congressional District

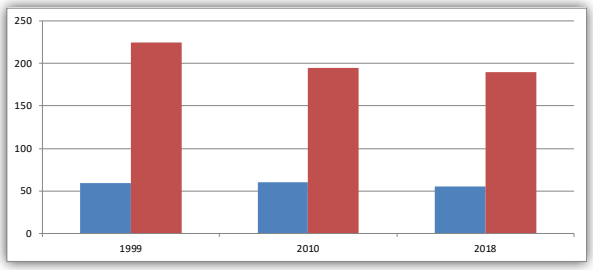
West Virginia-1	94
West Virginia-2	124
West Virginia-3	114

State Staffing for Dam Safety

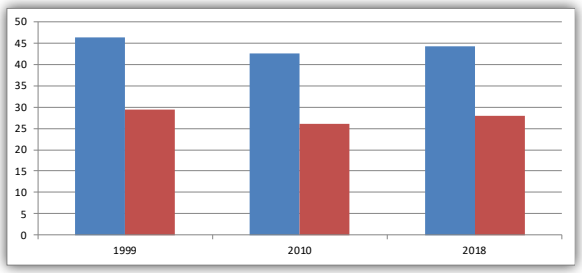
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

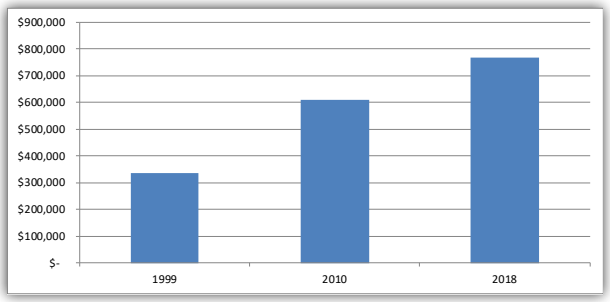


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

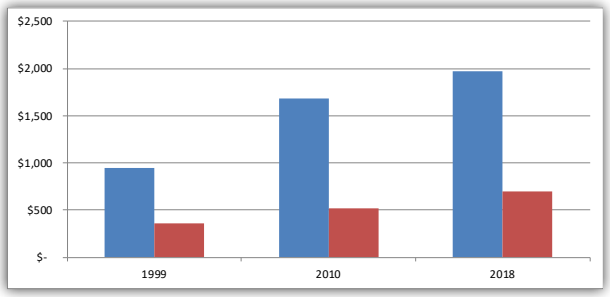


State Budgeting for Dam Safety

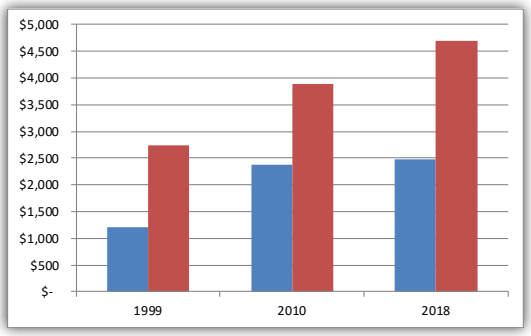
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

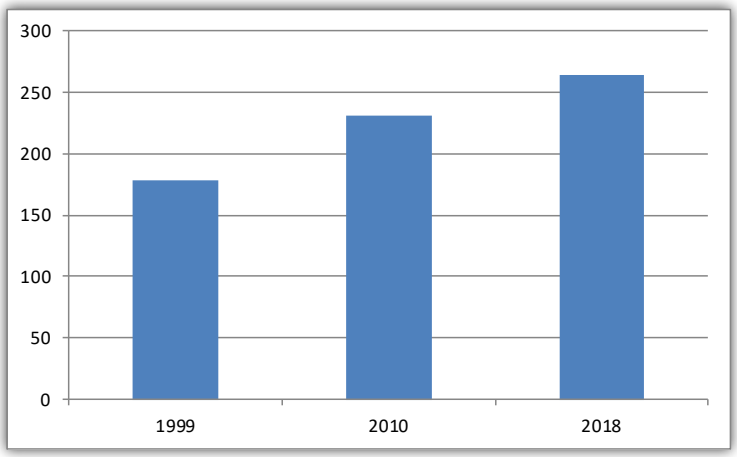


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

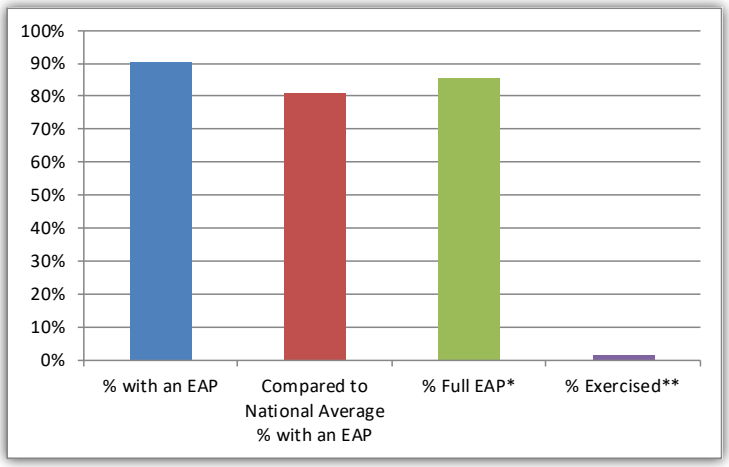
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. West Virginia law exempts farm ponds constructed and used primarily for agricultural purposes.

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Dam Safety Performance Report
WISCONSIN

"High-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause loss of human life and significant property destruction.

"Significant-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause significant property destruction.

"Low-hazard potential dam" is typically defined as a dam whose failure or mis-operation will cause minimal property destruction.

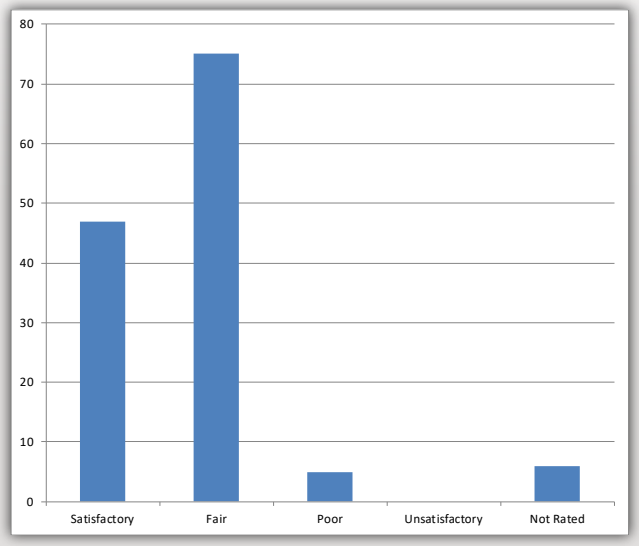
State NID Statistics

1065	NID Dams
198	NID High Hazard Potential Dams
825	State-Regulated Dams
143	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

State dam safety programs regulate 70% of the 91,468 dams listed in the National Inventory of Dams (NID). State dam safety programs inspect existing dams, oversee remediation of deficient dams, and work with local officials and dam owners on emergency preparedness. State Dam Safety Officials, all members of the Association of State Dam Safety Officials (ASDSO), are experts dedicated to ensuring the safety and security of our nation's dams. However, many state programs lack adequate budgets, staff and authority to ensure public safety.

2018 Condition Rating of State-Regulated High Hazard Potential Dams.



National Inventory of Dams Condition Ratings

Since 2009, the NID has collected condition data on state-regulated high hazard potential dams. For the 2018 NID update, 85% of state-regulated high hazard potential dams were rated. Although a voluntary submission, most states participate and the number of not rated dams continues to decrease.

Satisfactory – No existing or potential dam safety deficiencies are recognized.

Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency.

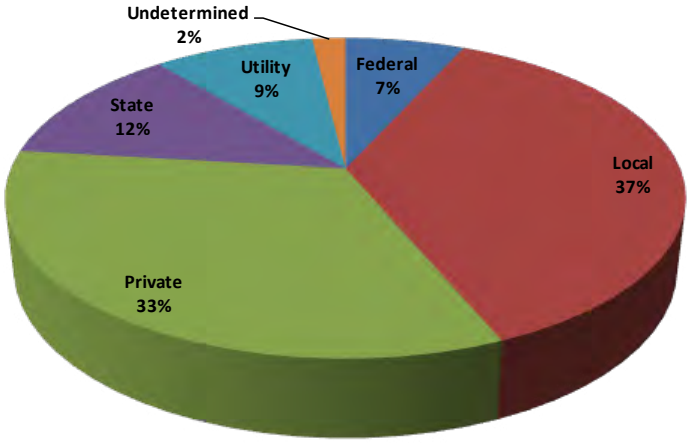
Poor – A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

Unsatisfactory – A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

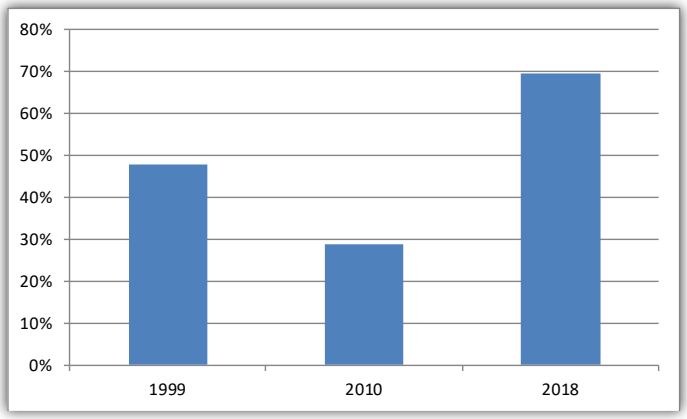
High Hazard Potential Dams Remediated – In calendar year 2018, ten state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



Unlike most components of U.S. infrastructure, the majority of dams listed in the National Inventory of Dams are privately owned. (Dam Ownership percentages are based on the 2018 NID dataset for the state for total NID-sized dams.)

Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Are States Comparing Well to the National Benchmark?

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Overall Weighted Percentage

1989	1998	2010	2018	
6%	86%	93%	93%	**Wisconsin**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

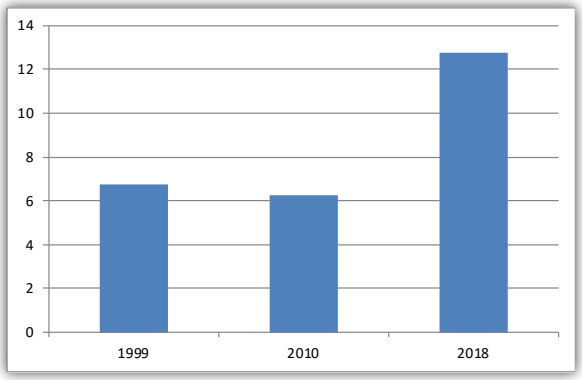
Legislation (5)	**100%**
Inspection (4)	**85%**
Enforcement (4)	**100%**
EAP & Response (4)	**94%**
Permitting (3)	**96%**
Education & Training (3)	**94%**
Public Relations (1)	**42%**
Weighted Percentage	**93%**

Estimated Breakdown of Dams per Congressional District

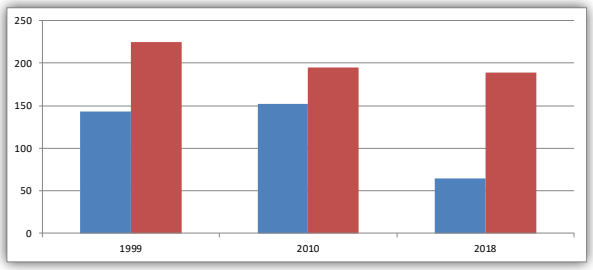
Wisconsin-1	44	Wisconsin-5	38
Wisconsin-2	77	Wisconsin-6	89
Wisconsin-3	254	Wisconsin-7	452
Wisconsin-4	3	Wisconsin-8	94

State Staffing for Dam Safety

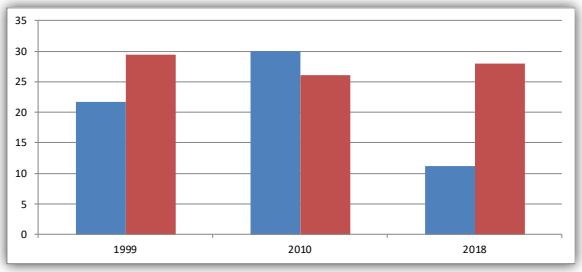
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

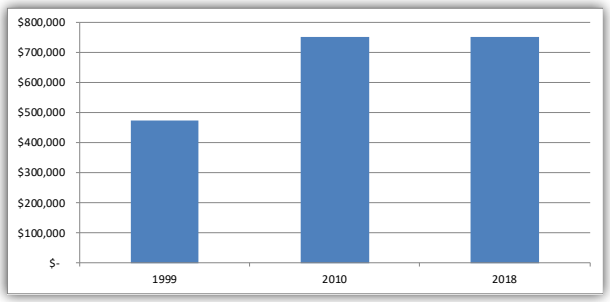


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

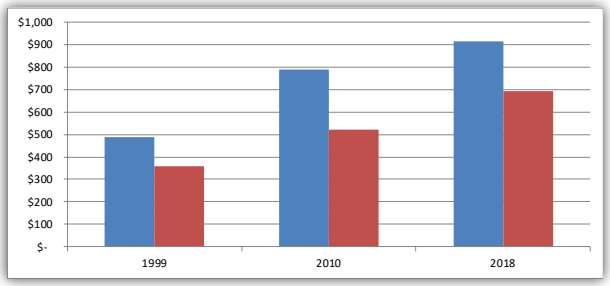


State Budgeting for Dam Safety

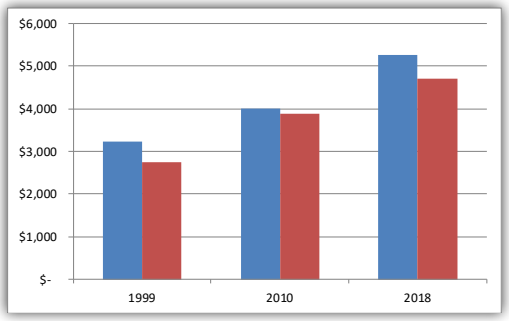
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)



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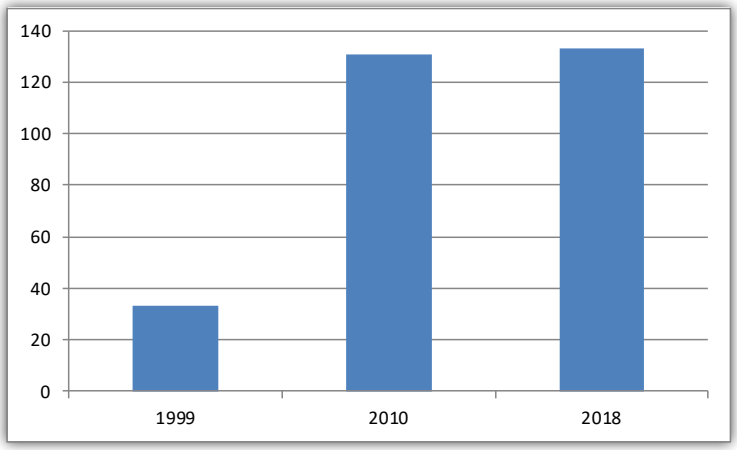
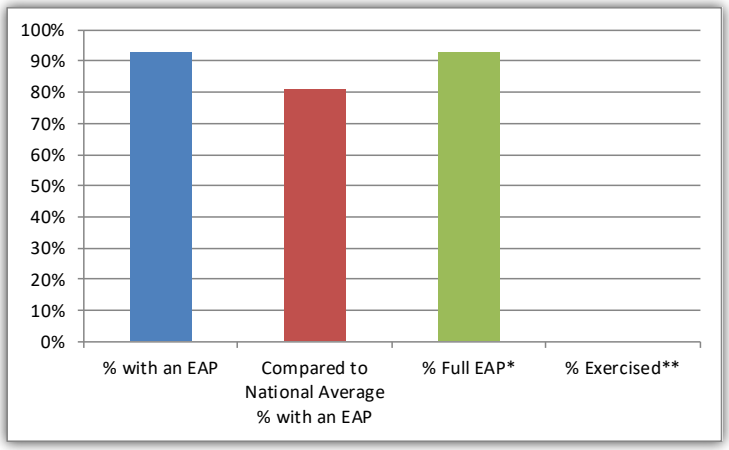
Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



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State Outreach Highlights

In 2018, Wisconsin conducted three Dam Safety workshops for dam owners and consultants.

State Regulatory Exemptions

A small, but unfortunately growing number of states exempt categories of dams from inspection based on the purpose of the impoundment or the owner type. ASDSO opposes these types of exemptions because all dams, regardless of their purpose or owner, present a potential hazard to people and property downstream and they must be designed, operated and maintained to accepted standards. Wisconsin law exempts dams associated with cranberry production and dams not located on a watercourse.

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Dam Safety Performance Report
WYOMING

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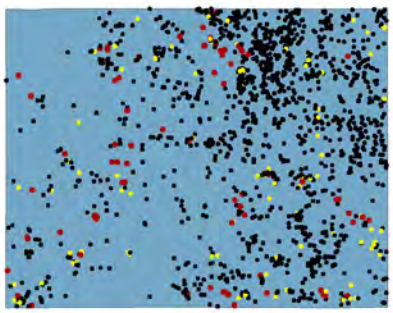

State NID Statistics

1613	NID Dams
99	NID High Hazard Potential Dams
1553	State-Regulated Dams
88	State-Regulated High Hazard Potential Dams

Dams are a critical part of our nation's infrastructure and all Americans enjoy the valuable benefits they provide, including flood protection, water supply, hydropower, irrigation and recreation. Our dams are aging and deteriorating, while downstream populations are increasing. Thousands of U.S. dams have the potential to fail with tragic consequences, and Americans need to understand the risks associated with potential incidents and failures. This demands greater attention to and investment in measures that reduce risks to public safety and economic assets.

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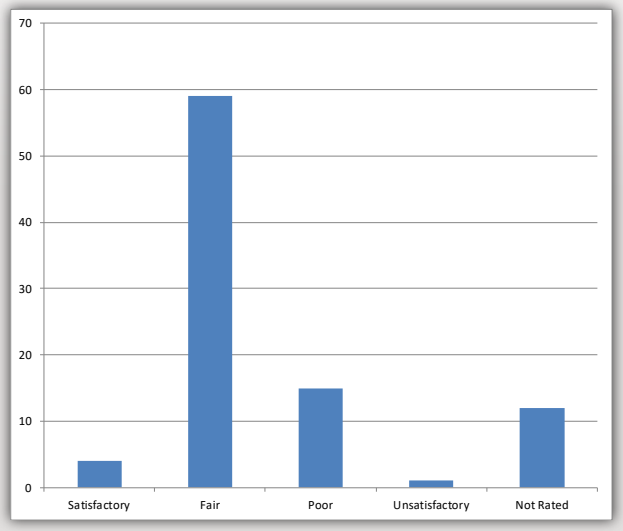
2018 Condition Rating of State-Regulated High Hazard Potential Dams.



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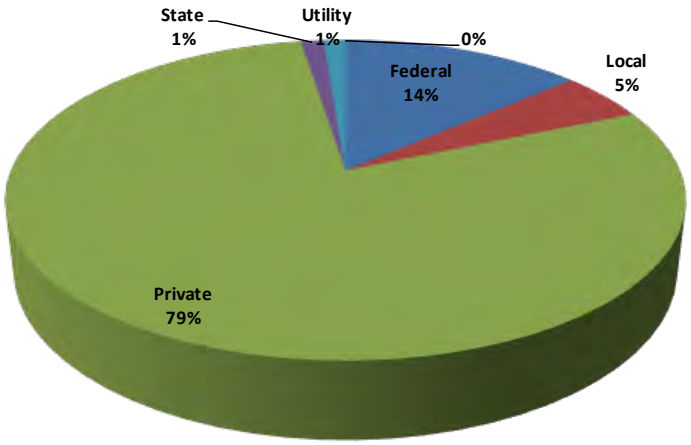
Not Rated – The dam has not been inspected or has been inspected but, for whatever reason, has not been rated.

High Hazard Potential Dams Remediated – In calendar year 2018, two state-regulated high hazard potential dams were remediated (that is construction was completed) in the calendar year because of hydraulic/structural deficiencies.

Dam Ownership



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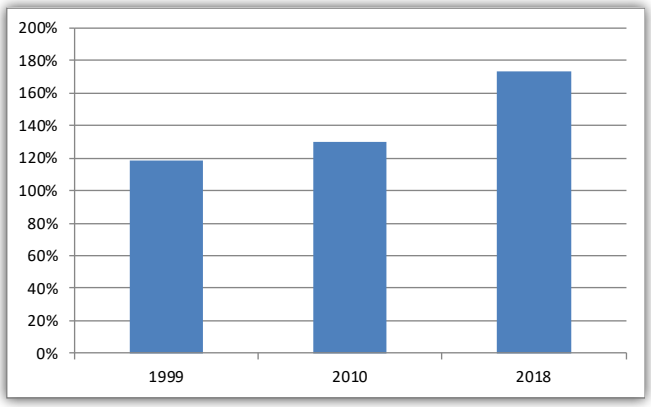
Percentage of State-Regulated High Hazard Potential Dam Inspections Completed



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Overall Weighted Percentage

1989	1998	2010	2018	
43%	67%	60%	56%	**Wyoming**
59%	66%	77%	79%	**National Average**

2018 State Weighted Percentage

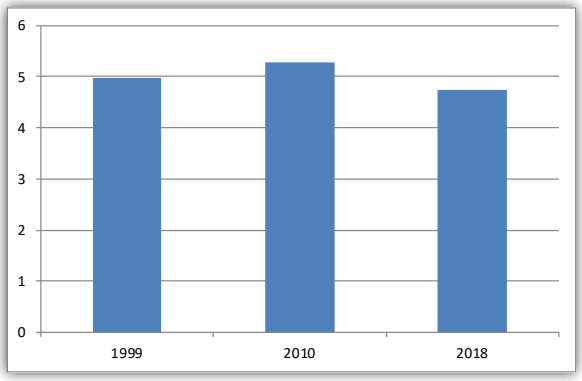
Legislation (5)	**64%**
Inspection (4)	**49%**
Enforcement (4)	**100%**
EAP & Response (4)	**17%**
Permitting (3)	**48%**
Education & Training (3)	**72%**
Public Relations (1)	**8%**
Weighted Percentage	**56%**

Estimated Breakdown of Dams per Congressional District

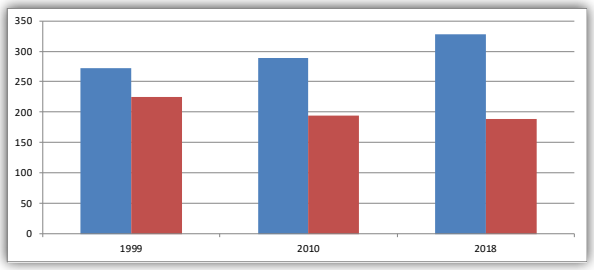
Wyoming has one Congressional District accounting for 1,613 dams.

State Staffing for Dam Safety

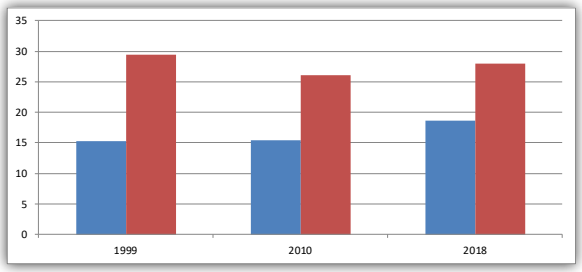
Total Staff (FTE)



State-Regulated Dams per FTE (blue) and National Average (red)

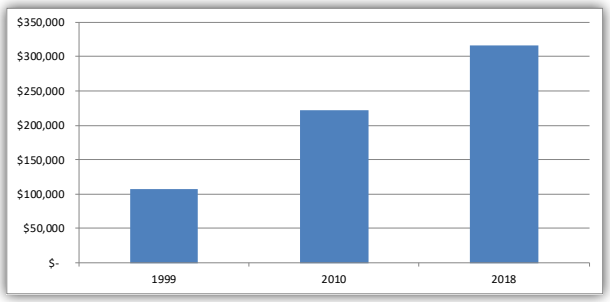


State-Regulated High Hazard Potential Dams per FTE (blue) and National Average (red)

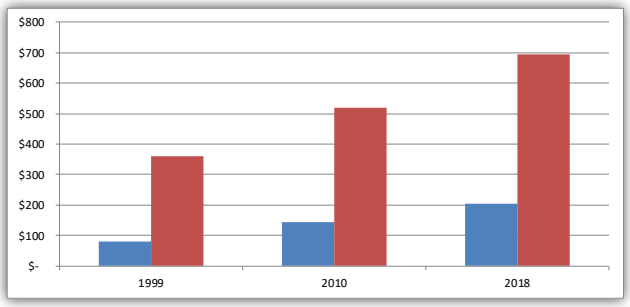


State Budgeting for Dam Safety

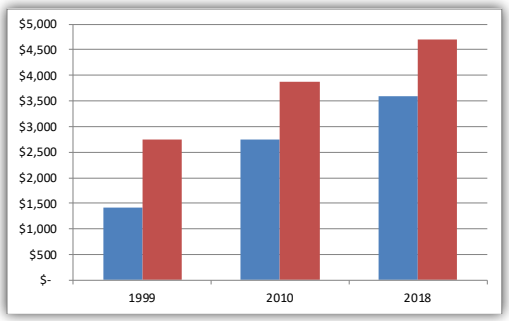
Dam Safety State Budget



Dam Safety State Budget per Regulated Dam (blue) and National Average (red)



Dam Safety State Budget per Regulated High Hazard Potential Dam (blue) and National Average (red)

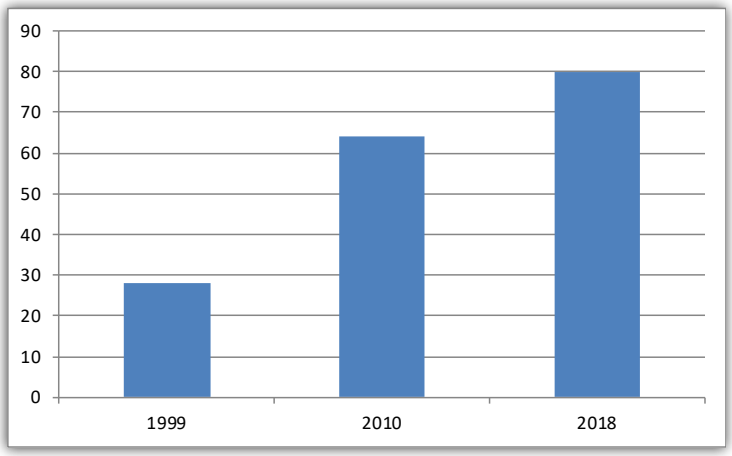


Adequate staffing is important to program performance. State numbers significantly above the Regulated Dams per FTE and Regulated High Hazard Potential Dams per FTE national averages can be indicators of the need for additional staff resources.

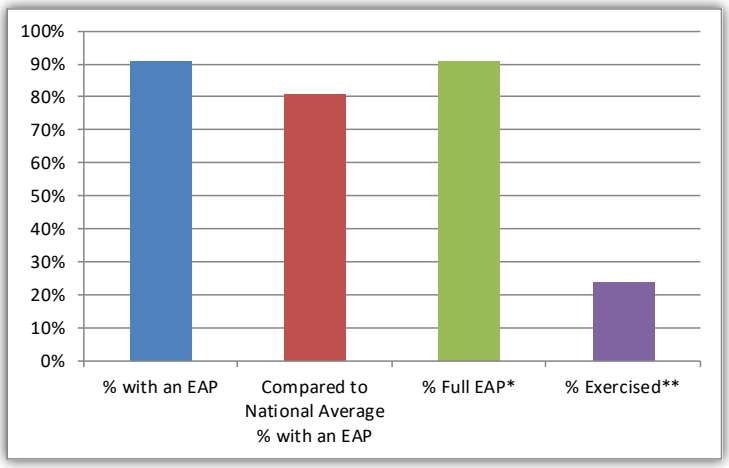
Emergency Action Planning

An Emergency Action Plan (EAP) identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to help prevent loss of life and minimize property damage. Dam owners work with state and local officials to prepare and update EAPs to help mitigate losses resulting from dam failures. The EAP specifies actions the dam owner should take to moderate or alleviate the problems at the dam. It contains procedures and information such as failure inundation maps to assist emergency management officials with early-warning notification and evacuation plans.

Number of State-Regulated High Hazard Potential Dams with an EAP.



2018 Emergency Action Plan Data for State-Regulated High Hazard Potential Dams.



* The % Full EAP bar represents the percentage of high hazard potential dams with an EAP that contain all the elements from FEMA-64, *Federal Guidelines for Dam Safety: Emergency Action Planning*. The elements include a notification flowchart, inundation maps, and sections on emergency detection, responsibilities and preparedness.

** The % Exercised bar indicates the percentage of high hazard potential dams with EAPs that were exercised in the past five years. After an EAP has been developed, it must be exercised so it does not become outdated and ineffective.

Outreach to Dam Owners, Local Officials and the Public

Increasing the awareness of the risks related to dams, and effective methods for living safely with dams is an important goal of state dam safety programs, ASDSO and the National Dam Safety Program. Dam owners and operators need to be aware of their state's dam safety laws and regulations, the associated responsibilities and liabilities, and the proper operation, maintenance and inspection of their dams. In addition, local emergency management officials, first responders, and people who live and work in areas downstream of dams need to understand the risk and plans for response in an emergency situation. State programs respond to these needs through direct meetings and workshops with dam owners, workshops with local officials, and publications and outreach to the public.

State Outreach Highlights

In 2018, Wyoming held five dam owner workshops and 15 meetings with owners/operators.

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