

# ASSOCIATION OF STATE DAM SAFETY OFFICIALS

2009 ANNUAL REPORT



EDUCATION

PARTNERSHIP



MENTORING



NETWORKING





*The US Army Corps of Engineers' Wolf Creek Dam. One of the Corps' top rehab priorities over the past few years and featured in the ASDSO technical journal this past year.*

# A Future where all Dams are Safe.



Robert Martinez,  
2008-09  
President

## *From the President*

I am honored to have served as your president this past year, and I present to you the Fiscal Year 2009 Annual Report. It has been my privilege to work with all of the wonderful, dedicated board of directors, volunteers, committee chairs and, especially, the executive director Lori Spragens and her staff at the

headquarters office in Lexington, KY.

This Annual Report summarizes projects associated with the 2008-09 Work Plan, which is steered by our Strategic Plan. This past year the Board of Directors, volunteers and staff carried out 67 projects.

We continue to foster our partnering agreements with several entities engaged in programs that enhance dam safety—focusing on recognizing different goals within different organizations that can build upon each

other toward broadening the voice for dam safety. In particular, I am proud to point to the progress we made this year to update our memorandum of understanding with the Department of Agriculture, Natural Resources Conservation Service. Many of the ongoing and new projects we have developed together are detailed in this report. I was pleased, during my year as president, to have been invited to participate in the Canadian Dam Association Annual Conference and the United States Society on Dams Annual Conference, the two North American associations most akin to ASDSO in goals and activities.

Our technical training program is growing and expanding. This past year, with the support of the FEMA National Dam Safety Program and the DHS Office of Infrastructure Protection, ASDSO conducted 5 technical seminars, 2 web-based courses, 2 workshops on dam security, and several dam owner workshops. Our great friends at the Federal Energy Regulatory Commission, Division of Dam

- ▶ Goal #1: Improve the efficiency and effectiveness of state dam safety programs.

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- ▶ Goal #2: Raise awareness of dam safety among the general public, media, state and federal governments, and other stakeholders.

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- ▶ Goal #3: Facilitate interorganizational, intergovernmental and interstate cooperation.

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- ▶ Goal #4: Provide the professional dam safety community with forums for the exchange of information

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- ▶ Goal #5: Provide representation of dam safety interests before state legislatures, Congress and executive branches,

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- ▶ Goal #6: Provide quality and effective outreach programs.

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- ▶ Goal #7: Create a unified community of dam safety advocates through membership in ASDSO.

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- ▶ Goal #8: Manage the association effectively through internal policies and procedures.

## A Future where all Dams are Safe.

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Safety offered in-house training to state agencies in many venues across the U.S.

With the great support of ASCE's Government Relations staff, we continued to push for passage of a federal dam rehabilitation program, and bills were introduced on both sides of Congress. The proposed program would create grant programs for the rehabilitation of publicly owned dams, all distributed through the state dam safety programs. Many ASDSO representatives were present this past winter at ASCE's press conference to unveil its new Infrastructure Report Card. I want to thank ASDSO leaders such as Brad Iarossi, the ASDSO Legislative Committee and the ASDSO staff who contributed so much to creating the section on dams.

Similarly on the legislative front, ASDSO has been asked to participate more within the expanding world of levee safety. With the passage of the National Levee Safety Act and the creation of a National Committee on Levee Safety, on which ASDSO representatives participate, and

since the similarities are numerous between dams and levees, it is incumbent upon us to participate in this endeavor. This will be one of ASDSO's biggest challenges in the years to come.

ASDSO continues to work toward our vision of "A future where all dams are safe." The continued growth of the ASDSO membership is a sign that others share our vision. The board and staff have continued a concerted effort to expand involvement within our growing membership, and we want to encourage everyone to keep volunteering.

It is remarkable to me all of the things that we have accomplished together. I expect you will share that pride in our association as you examine this report. Again much of the credit goes to the executive director and her staff, for they are the glue to this organization, along with the many, many volunteers who make everything happen. I value the opportunity to be a small part of this great organization.

# 2008-09 ASDSO Board of Directors



From L to R: John Moyle (NJ), Ken Smith (IN), Bo Bolourchi (LA), Lori Spragens (E.D.), Jim Alexander (MO), Pat Diederich (NE), Jack Byers (CO), James MacLellan (MS), John France (AMAC Rep-URS Corp.), Tom Woosley (GA), Mark Ogden (OH), Dave Gutierrez (CA), Rob Martinez (NV). Not pictured, Jim Gallagher (NH), Max Fowler (NC), and Bob Finucane (VT)

## State Representatives

ALABAMA  
Leslie A. Durham  
Department of Economic & Community  
Affairs

ALASKA  
Charles F. Cobb  
Department of Natural Resources

ARKANSAS  
Alvin Simmons, Jr.  
Natural Resources Commission

ARIZONA  
Michael J. Johnson  
Department of Water Resources

CALIFORNIA  
David A. Gutierrez  
Department of Water Resources

COLORADO  
Mark Haynes  
Division of Water Resources

CONNECTICUT  
Wesley Marsh  
Department of Environmental Protection

DELAWARE  
Frank M. Piorko  
Department of Natural Resources &  
Environmental Control

FLORIDA  
Owete S. Owete  
Dept of Environmental Protection

GEORGIA  
D. Thomas Woosley  
Department of Natural Resources

HAWAII  
Edwin Matsuda  
Dpt. of Land & Natural Resources

IDAHO  
John Falk  
Dept. of Water Resources

ILLINOIS  
Jason Campbell  
Department of Natural Resources

INDIANA  
Kenneth E. Smith  
Department of Natural Resources

IOWA  
Lori McDaniel  
Department of Natural Resources

KANSAS  
Matt Scherer  
Department of Agriculture

KENTUCKY  
Marilyn Thomas  
Division of Water

LOUISIANA  
Zahir 'Bo' Bolourchi  
Department of Transportation &  
Development

MAINE  
Tony Fletcher  
Emergency Management Agency

MARYLAND  
M. Q. Taherian  
Water Management Administration

MASSACHUSETTS  
Michael D. Misslin  
Department of Conservation & Recreation

MICHIGAN  
David Hamilton  
Dept. of Environmental Quality

MINNESOTA  
Jason Boyle  
Department of Natural Resources

MISSISSIPPI  
James MacLellan  
Dept. of Environmental Quality

MISSOURI  
Robert Clay  
Department of Natural Resources

MONTANA  
Laurence Siroky  
Department of Natural Resources &  
Conservation

NEBRASKA  
Patrick Diederich  
Department of Natural Resources

NEVADA  
Robert K. Martinez  
Division of Water Resources

NEW HAMPSHIRE  
James W. Gallagher  
Dept. of Environmental Services,

NEW JERSEY  
John H. Moyle  
Dept. of Env. Protection

NEW MEXICO  
Elaine C. Pacheco  
Office of the State Engineer

NEW YORK  
Alon Dominitz  
Dept. of Env. Conservation

NORTH CAROLINA  
Steve McEvoy  
Dept of Env. & Natural Resources

NORTH DAKOTA  
Jonathan Kelsch  
ND State Water Commission

OHIO  
Mark B. Ogden  
Department of Natural Resources

OKLAHOMA  
Robert Fabian  
OK Water Resources Board

OREGON  
George Robison  
Water Resources Department

PENNSYLVANIA  
Dennis R. Dickey  
Dept. of Environmental Protection

PUERTO RICO  
Miguel A. Perez Garcia  
PR Electric Power Authority

RHODE ISLAND  
Paul Guglielmino  
Dept. of Environmental Management

SOUTH CAROLINA  
Steven M. Bradley  
Dept of Health & Env. Control

SOUTH DAKOTA  
Timothy G. Schaal  
Dept of Env. & Natural Resources

TENNESSEE  
Lyle Bentley  
Dept of Env. & Conservation

TEXAS  
Warren D. Samuelson  
Commission on Environmental Quality

UTAH  
David Marble  
Division of Water Rights

VERMONT  
Stephen Bushman  
Dept. of Environmental Conservation

VIRGINIA  
William G. Browning  
Dept. of Conservation & Recreation

WASHINGTON  
Douglas L. Johnson  
Department of Ecology

WEST VIRGINIA  
Brian R. Long  
Dept. of Environmental Protection

WISCONSIN  
Meg Galloway  
Department of Natural Resources

WYOMING  
Larry L. Stockdale  
State Engineer's Office



*Over \$100,000 given out to state dam safety programs in FY08 through ASDSO from FEMA's Training Assistance Program. Grants go toward continuing education of staff engineers and technicians.*

## Projects

- ▶ Technical training for state dam safety staff. (Funded through the FEMA National Dam Safety Program)
- ▶ Continuing education assistance grants to states (Underwritten by the FEMA National Dam Safety Program)
- ▶ Facilitating networking, Technology Transfer, State legislative advocacy
- ▶ Maintenance of a clearinghouse of guidelines and tools for state dam safety programs.
- ▶ Collecting state data and measuring progress.
- ▶ Accessibility of state-by-state program information, website tools.
- ▶ Assisting states with dam owner education workshops.
- ▶ Peer review analyses for states programs.
- ▶ Involvement programs for new state representatives and members.

# Goal #1: Improve the efficiency & effectiveness of state dam safety programs.

## Continuing Education Programs for State Officials

Over \$100,000 was given out to state dam safety inspectors in FY09 through ASDSO from FEMA's Training Assistance Program. Grants go toward continuing education of staff engineers and technicians.

With the funding support of the FEMA National Dam Safety Program ASDSO conducted training seminars in all four ASDSO Regions. All regions received the Conduits, Gates and Valves course taught by Devine Tarbell Associates (now HDR/DTA). The advanced courses focused on slope stability analysis with a new course on structural behavior monitoring developed during the reporting year.

The new web-based training program continued in FY09. Topics included the following:

1) Applying the Pareto (80/20) Principle to Geotechnical Analyses and Reviews of Embankment Projects, presented by Danny K. McCook, USDA-NRCS (retired). The 90 minute presentation was broadcast live on

November 20, 2008 and remained available in archived form (taped) through December 30, 2008. 136 total participants (live and archived), and

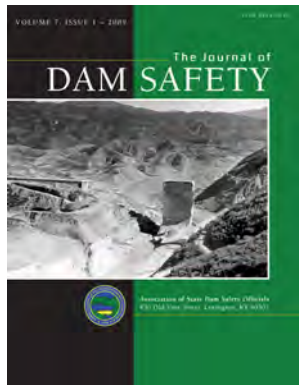
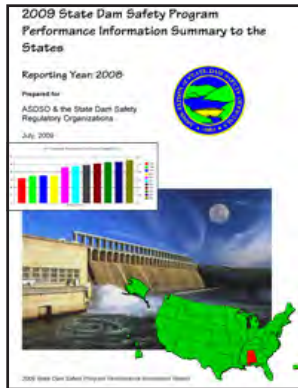
2) Internal Erosion and Piping Considerations for Dam Safety, presented by Douglas Boyer, P.E., P.G. The 90 minute presentation was broadcast live on December 12, 2008 and remains available in archived form (taped) through January 30, 2009. 211 total participants (live and archived).

In total, approximately 550 dam safety engineers, technicians and others were trained under this program.

## The ASDSO Peer Review Program

Since 1990, ASDSO has performed Peer Reviews—rigorous dam safety program performance reviews for state agencies, many of the largest federal dam safety programs and private sector utility companies.

A successful review of Iowa's Dam Safety program was held July 29-31, 2008. Thanks go to the FEMA National



*Each issue of the ASDSO Journal on Dam Safety includes an article coordinated through the four state regions.*

Midwest Region—Vol. 6 Issue 2 – *Planning for Emergencies: Lessons Learned from Silver Lake*  
Author Teresa A. Schwalbach

Southeast Region—Vol. 6 Issue 3 – *A Case History for the Rehabilitation of the Lake Forest Estates Dam*. Authors: Conrad R. Baston, West Virginia Dept. of Environmental Protection & David O. Hibbs, Triad Engineering

Northeast Region—Vol. 6 Issue. 4 – *The Delaware Dam Inventory 2008: A Comprehensive Approach to Finding Regulated Dams in the First State*. Authors: Kevin McMaster, URS Corp. & David R. Twing, Delaware Dept. of Natural Resources

West Region—Vol. 6 Issue 4 - *Evacuation vs. Inundation*. Authors: Michele Lemieux and Arthur Robinson, Montana Dam Safety Program

*Thanks go to all journal authors this year.*

Dam Safety Program for underwriting the cost of this project.

The Peer Review Committee launched an effort at the end of FY09 to re-structure and update the Peer Review Guidelines Manual.

### **Tracking State Dam Safety Program Improvements**

Collecting and analyzing state program performance data is key to meeting Goal 1. Utilizing the benchmarks established in the Model State Dam Safety Program as well as trends over time, ASDSO is able to show states how their program stacks up against the Model and against each other.

ASDSO holds 25 years worth of data on state dam safety program performance. Data on changes to state dam safety agency budgets, staffing, continuing education, public and owner awareness efforts, dam failures, laws and regulations, etc. is housed at ASDSO.

At the end of Calendar Year 2008, states provided state dam safety program performance data, answering for the first time questions to establish a baseline on how well states are setting up dam security programs or are participating in efforts underway through the DHS Office of Infrastructure Protection, Dams Sector.

The data also continues to be used to fulfill requirements of FEMA's Community Rating System, a program which, among other objectives, awards states for having good dam safety programs, reducing flood insurance premiums for communities.

ASDSO continued in FY09 to generate analytical comparisons and reports using this data.

- At the March 2009 ASCE Policy Week, individualized state reports were provided to those visiting legislators and talking about dam safety.
- The FEMA National Dam Safety Review Board was provided data supporting the performance measures that were developed to measure progress of the National Dam Safety Program.
- Data was provided to FEMA to support the distribution of National Dam Safety Program State Assistance Grants.
- Data was used for ASDSO State Peer Reviews.

Performance Categories:

1. Legislation and Regulations Compared to the Model State Dam Safety Program
3. Program Staffing and Budget
4. Permitting Processes

## ***Examples of Technical Tools for States Made Available in FY09***

- ◆ Quarterly Journal of Dam Safety.
- ◆ The updated Model State Dam Safety Program guidebook (FEMA 316CD).
- ◆ Annual State-By-State Dam Safety Program Performance Reports
- ◆ Guidelines and Flyers in conjunction with FEMA's National Dam Safety Program and the DHS Infrastructure Protection Dams Sector. Such as:
  - The Dams Sector Security Awareness Guide (DHS, Office of Infrastructure Protection)
  - The Dams Sector Crisis Management Handbook (DHS, Office of Infrastructure Protection)

5. Dam Inspections
6. Enforcement Capabilities
7. Remediation Needs and Accomplishments
8. Emergency Action Planning and Response
9. Education and Training
10. Public and Owner Relations
11. Miscellaneous (includes collection of technical criteria, dam failure information)

### **Supporting Assistance Grants from FEMA**

FEMA and ASDSO work together to bring much-needed assistance grants to states. For the first time this past year, the FEMA budget included “full funding” for the State Assistance Grant Program doubling the amount of funds made available from previous years.

ASDSO leaders worked hard over the past few years communicating the need for these grants to federal lawmakers and administrative policymakers.

### **ASDSO Assists as EPA Inspects Fly Ash Impoundments After Tennessee Failure**

Many state dam safety programs became involved in an effort by the US Environmental Protection Agency (EPA) to identify all fly or coal ash impoundments and begin to inspect these facilities for safety. This came on the heels

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## ***See Appendix A for State Program Performance Data Analysis.***

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of a major hazardous waste accident at the Kingston Facility in Tennessee. ASDSO headquarters helped coordinate communications between EPA and state dam safety officials and with the dam engineering consulting community.

The impoundment failure sparked a new dialogue about whether or not these facilities should be considered dams and therefore be regulated under state dam safety programs; and, whether or not the EPA should be creating its own dam safety regulatory programs to fill what seems to be a regulatory gap in many states.

With state policies varying on this regulatory issue, the dialogue will continue to figure out where these structures fit.

2009  
REPORT  
CARD  
FOR  
AMERICA'S  
INFRASTRUCTURE



At the Report Card press conference, from left: Pa. Gov. Ed Rendell  
Report chairman Andrew Herrmann  
ASCE President Wayne Klotz  
ASCE Executive Director Pat Natale



ASDSO eNews

The Monthly Newsletter of the Association of State Dam Safety Officials

## Projects

- ▶ Distribute electronic monthly newsletter.
- ▶ Track state and national media interest in dam safety.
- ▶ Distribute state-specific and national press releases on ASDSO initiatives and dam safety issues.
- ▶ Create and make available press information kits on dam safety via the website and on demand.
- ▶ Provide data, written reports and expert spokespeople to state and national news stories on dam safety.
- ▶ Provide public awareness information via the ASDSO website.

# Goal #2: Raise awareness of dam safety among the general public, media, state & federal governments, and other stakeholders.

## Public & Media Awareness

### *Dam Safety in National News Stories*

With the implementation of the American Recovery and Reinvestment Act pushing billions of dollars out of Washington, DC, with eyes on infrastructure rehabilitation, much of the media focus was on how this effort affected dams. It was clear that information available to the media on the ASDSO website—addressing the need for dam rehabilitation—provided many media outlets with facts and figures that helped them tell the dam safety story.

With guidance from and coordination with the ASCE Government Relations office, and armed with new national dam rehab numbers provided by an ASDSO task force, ASDSO utilized the public focus on infrastructure repair in early 2009 by unveiling a national press

statement pushing for strong national and state awareness of the need to rehabilitate dams. Many news outlets picked up the story. (See ASDSO's press release in Appendix B.)

From July 1, 2008 to June 30, 2009, ASDSO staff responded to inquiries from the following media outlets:

1. Associated Press
2. Bear Deluxe magazine (OR)
3. Boone Online (NC)
4. Discovery Channel
5. Platt's
6. Chattanooga Times Free Press
7. Dallas Morning News
8. Denver Post
9. The Early Show/ CBS News
10. Fort Lauderdale Sun Sentinel
11. History Channel





12. Hokkaido News
13. Hydro Review
14. International Water Power & Dam Construction
15. Kent State University newspaper
16. Miami (OK) News-Record
17. Palm Beach Post
18. Pacific Northwest National Laboratory Communications and Outreach
19. San Diego Union-Tribune
20. Selective Insurance (trade publication)
21. Society of Environmental Journalists
22. St. Petersburg Times
23. Summit Daily News (CO)
24. Trenton Times
25. Wisconsin Builder
26. WNET-NYC

Among the top stories on dam and levee safety during this same period were:

- Grand Canyon floods breach dam, August 2008
- Kingston, TN coal ash pond failure, December 2008
- USDA distributing \$45M for dam rehabs, April 2009

ASDSO Press Releases:

- January 2009 - ASDSO Releases New Dam Rehabilitation Cost Figures; Urges Congress to Provide Funding
- October 2009 – ASDSO Announces Award Winners

- August 2008 – Media Invited to Dam Safety 2008
- August 2008 - Nationwide Resource for Dam Engineering and Safety Internships
- July 2008 - ASDSO Announces 2008-2009 Dam Safety Scholarship Winners

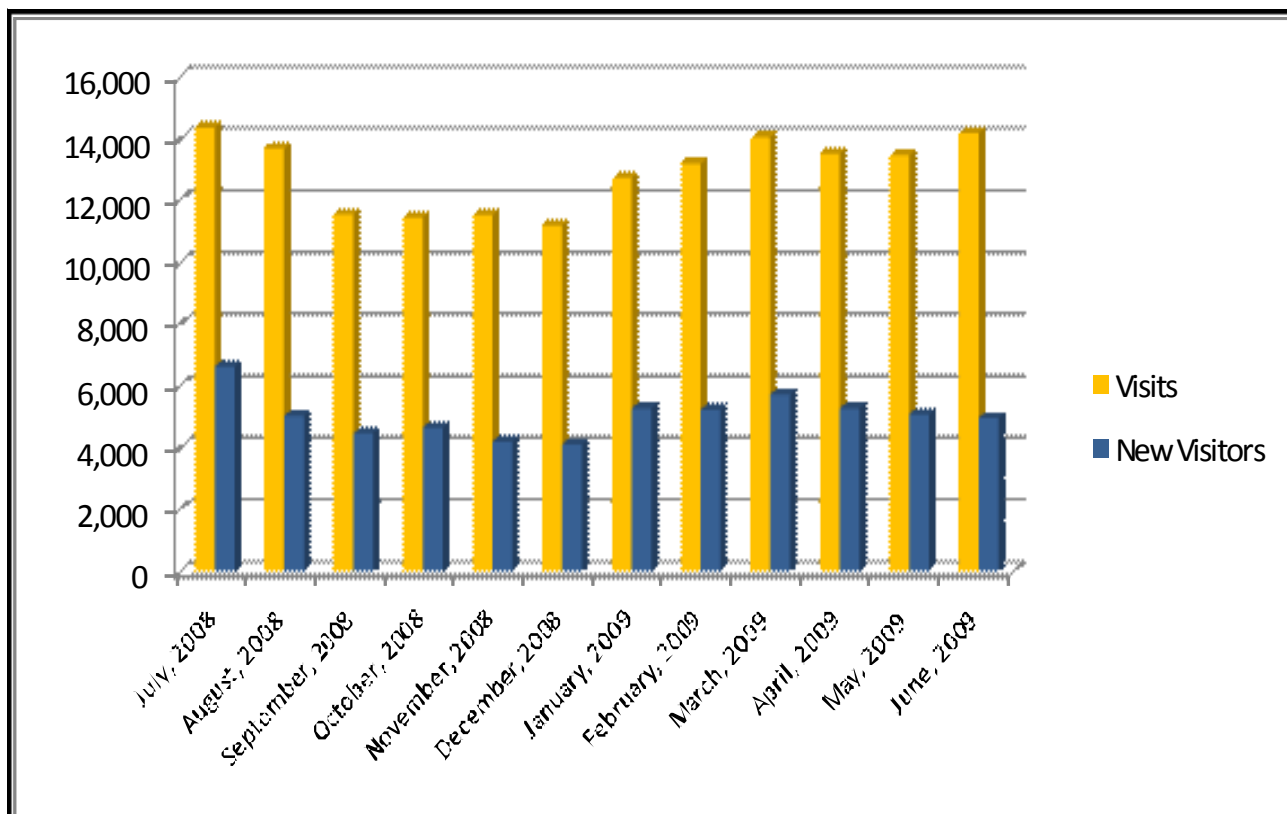
#### ASDSO E-News

ASDSO continued its monthly electronic news delivery system to all members. This is a timely and efficient way to get information out to our members. E-News copies are posted on the website.

#### Web Site

The overhauled website is now in its third year of operation. The website acts as a one-stop-shop storefront for tons of information on ASDSO and on dam safety. Members can access downloadable technical materials, look up other members by name, by company or agency name, or by state, the public can learn basic information about dam and dam safety and everyone can access all the various agencies and partners which deal with dam safety. Pages focusing on levees and dam security were developed during the fiscal year.

## ASDSO Website Visitors in FY09



Hits on the ASDSO website continue to rise. During the reporting cycle there were over 243,500 distinct visits to the site from U.S. and international users. Top areas of interest include:

- The Conference and Training Center
- Latest news stories
- The Resource Center
- The Sustaining Member links
- The Bookstore
- The Career Center

Top downloads included the following:

- ASDSO seminar and conference flyers
- Latest news reports
- Membership information

New press kits for the media on the website were an invaluable way to introduce journalists to the dam safety world prior to more in-depth interviews and data gathering efforts. Go to ASDSO's website Press Room to view the ASDSO media kit.

[www.damsafety.org/media/Documents/PRESS/NationalDamSafetyOverview\\_ASDSO2008.pdf](http://www.damsafety.org/media/Documents/PRESS/NationalDamSafetyOverview_ASDSO2008.pdf)

### Working with National Infrastructure Organizations to Focus on Dam Rehab

Participation with ASCE at Report Card Press Conference

Working closely with ASCE to develop the Dams section of the ASCE Infrastructure Report Card culminated in ASDSO's participation in the January 2009 ASCE Press Conference to release the new Infrastructure Report Card.

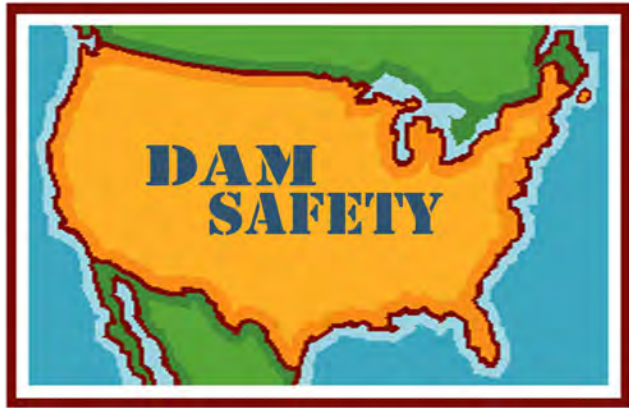
See more about the ASCE Report Card at

[www.infrastructurereportcard.org/](http://www.infrastructurereportcard.org/)

**ASDSO Website**  
**[www.damsafety.org](http://www.damsafety.org)**



ASDSO and USSD meet at USSD Conference (From L to R) USSD Director Larry Stephens, USSD President Ken Steele, ASDSO Director Lori Spragens, and ASDSO President Robert Martinez



- Projects**
- ▶ Bring state dam safety programs together through facilitation of regional activities and networking.
  - ▶ Communicate routinely with partners about ASDSO's initiatives.
  - ▶ Coordinate with the National Dam Safety Review Board under FEMA's National Dam Safety Program.
  - ▶ Develop a role for ASDSO within the growing levee safety strategies.
  - ▶ Partner with the Department of Homeland Security to carry out the Dams Sector Specific Plan
  - ▶ Update and sign the new Memorandum of Understanding with the Natural Resources Conservation Service.

## Goal #3: Facilitate inter-organizational, intergovernmental and interstate cooperation.

### ASDSO Regional Highlights

Bring state dam safety programs together through facilitation of regional activities and networking.

#### **West Region**

West Region Representatives to the Board:

- California: David Gutierrez (president-elect) – serving second term through 2009
- Colorado: Mark Haynes – serving first term through 2010.
- Nebraska: Pat Diederich - serving first term through September 2009
- Idaho: John Falk – serving first term through September 2010

West Region held two caucus meetings in FY09, one at the ASDSO Annual Conference in Indian Wells, CA and one at the West Regional Conference in Coeur D'Alene, Idaho. The West Conference was held from May 5-7 with two full days of technical sessions and an exhibit show. There were 147 participants in attendance. ASDSO and DHS also conducted a Dam Security Workshop.

The West Region maintains a small regional budget, held at ASDSO headquarters, which is used to operate the regional conference and assist regional representatives, if needed, to attend board meetings.

#### **Southeast Region**

Southeast Region Representatives to the Board:

- Louisiana: Zahir "Bo" Bolourchi – serving first term through September 2009.

- Mississippi: James MacLellan – serving first term through September 2009.
- North Carolina: Tom Woosley – serving first term through September 2010

The Southeast did not hold a regional conference during FY09 but began planning for its Biennial Conference in 2010 in Charleston, West Virginia.

Over the year, the region held one caucus meeting during the 2008 ASDSO Annual Conference in California. The Southeast Region maintains a small regional budget, held at ASDSO headquarters, which is used to operate the regional conference and assist regional representatives, if needed, to attend board meetings.

### **Northeast Region**

Northeast Region Representatives to the Board:

- New Jersey: John Moyle – serving second term through September 2009.
- Maryland: Cas Taherian – serving first term through September 2010
- Pennsylvania: Dennis Dickey - serving first term through September 2010

The Region held two caucus meetings in FY09, one at the ASDSO Annual Conference in Indian Wells, CA and one at the CSD/Northeast Regional Conference in State College, Pennsylvania.

Within the Northeast Region is the New Jersey/Pennsylvania Council for Safe Dams (CSD). This chapter coordinates the biennial conference, which took place in June 2009 in State College, PA. The CSD/Northeast Regional Conference was held from June 14-16 with two full days of technical sessions and an exhibit show. There were 225 participants in attendance. ASDSO and DHS also conducted a Dam Security Workshop.

CSD also focuses on improving dam safety policies and laws in New Jersey and Pennsylvania. A regional directory of industry professionals is updated and distributed routinely through this group. The CSD maintains a small budget, held at ASDSO headquarters, which is used to operate the regional conference and assist regional representatives, if needed, to attend board meetings, as well as finance small projects like the industry directory and legislative advocacy efforts.

### **Midwest**

Midwest Region Representatives to the Board:

- Illinois: Jason Campbell – serving first term through September 2010
- Minnesota – serving first term through September 2010

The Midwest Region held one caucus this year at the 2008 Annual Conference.

### **New Jersey/Pennsylvania Council for Safe Dams (CSD)**

ASDSO supports one internal interstate group, a pseudo-chapter that focuses its attention on dam safety in New Jersey and Pennsylvania. The group organizes the biennial conference for ASDSO's Northeast Region and is working on legislative advocacy and public awareness in its focus region. During the reporting cycle, the CSD focused its attention on passage of a dam repair loan program in Pennsylvania.

### **Partner Highlights from FY09**

#### NRCS Partnering Agreement Updated

Since the first partnering agreement was signed between ASDSO and the Department of Agriculture's Natural Resources Conservation Service (NRCS), coordination increased. Now, with a new federal administration in place, leaders of both groups recognized a need to re-invigorate the relationship.

At the end of FY09 elements of a new memorandum of understanding were in place looking toward a formal signing ceremony at Dam Safety '09 in the fall of 2009. Drawing from the MOA, the major mission goals follow:

- a) Dams in the United States must be constructed, rehabilitated, operated and maintained in accordance with sound engineering principles to avoid potential loss of life and destruction of property in the event of dam failure;
- b) Most dams designed and constructed under the technical supervision of the NRCS are regulated by the member states of the ASDSO;
- c) It is the mutual desire of the NRCS and ASDSO to recommend the best current practices in the safety of dams design and operation process;
- d) The NRCS and ASDSO wish to encourage a harmonious relationship and improve communications between the state offices of the NRCS and the member states of the ASDSO;
- e) The coordinated and timely exchange of information related to conceptual planning, design, construction, operation, hazard classification, rehabilitation and maintenance of dams, can be accomplished with recognition by the NRCS of the responsibility of the member states of the ASDSO to exercise regulatory jurisdiction and the review of specific project plans.

## Our Partnerships

*The member agencies of the Interagency Committee on Dam Safety (ICOSD):*

- ◆ *DHS, Federal Emergency Management Agency, National Dam Safety Program*
- ◆ *DHS, Office of Infrastructure Protection, Dams Sector*
- ◆ *USDA Natural Resources Conservation Service*
- ◆ *US Army Corps of Engineers*
- ◆ *Federal Energy Regulatory Commission*
- ◆ *Department of the Interior (Bureau of Reclamation, Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, Office of Surface Mining)*
- ◆ *Department of Labor, Mine Safety and Health Administration*
- ◆ *International Boundary and Water Commission*

- ◆ *Department of Energy*
- ◆ *Tennessee Valley Authority*

### *Organizations*

- ◆ *ASCE Government Relations*
- ◆ *ASCE Environment and Water Resources Institute*
- ◆ *ASCE Geo-Institute*
- ◆ *Association of State Floodplain Managers*
- ◆ *Canadian Dam Association*
- ◆ *Interstate Council on Water Policy*
- ◆ *National Emergency Management Association*
- ◆ *National Watershed Coalition*
- ◆ *Ohio Dam Safety Association*
- ◆ *The Infrastructure Security Partnership*
- ◆ *U.S. Society on Dams*

To jump-start the new agreement, NRCS will be sponsoring training courses in FY10, in coordination with ASDSO, on the NRCS emergency action plan (EAP) guidelines. ASDSO will also be working with the NRCS to create a plan for updating the mission and goals for the Small Watershed Programs at the NRCS.

### DHS and the Office of Infrastructure Protection

The Office of Infrastructure Protection (IP) within DHS serves as the sector specific agency for the Dams Sector. Within Infrastructure Protection, the Sector-Specific Agency Executive Management Office maintains responsibility for the critical infrastructure protection of the Dams Sector through ongoing coordination with the Dams Sector Coordinating Council (DSCC) and the Dams Sector Government Coordinating Council (DGCC).

The DSCC was formally launched in May 2005 and is comprised of representatives from industry, municipal and private ownership. The DSCC serves as a hub for communication, coordination, sector-specific expertise, and advice between the government and private owner/operators during protection, response, and recovery activities. The DGCC, formally launched in January 2005, is comprised of representatives from Federal and State agencies and serves as the counterpart and partner to the DSCC to assist in the planning, implementation, and execution of sector-wide

security programs for the sector's assets. These councils provide a structure through which representatives from the government and the private sector can effectively collaborate and share approaches focused on the improvement of CIKR protection.

Several ASDSO state representatives sit on the Government Coordinating Council (DGCC) and workgroups. Representatives include the following:

John Moyle (New Jersey); John Kale (alternate) Steve McEvoy (North Carolina); Mel Nevils (alternate) Pat Diederich (Nebraska); Tim Gokie (alternate) Keith Banachowski (Ohio); Rodney Tornes (alternate) David Gutierrez (California); Mike Sutluff (alternate) Doug Johnson (Washington); John Blacklaw (alternate) Dennis Dickey (Pennsylvania); Roger Adams (alternate) Mark Haynes (Colorado); Paul Perri (alternate)

ASDSO director Lori Spragens represents ASDSO on the Sector Coordinating Council (DSCC). Her alternate is Jack Byers, hired this past year by ASDSO to administer the contractual projects sponsored by DHS.

The Dams Sector is a successful example of how a public-private partnership can work toward a unified goal. Carrying out the Sector Specific Plan in FY09 resulted in

several initiatives as stated in the Sector's annual report and paraphrased here:

Creating and implementing protective measures. Protective measures undertaken across the sector include installation of boat and vehicle barriers; enhanced access control measures; expanded CCTV coverage; increased use of alarm systems; enhanced SCADA security measures (both physical and cyber); integration of security into existing emergency plans; expanded personnel screening programs; increased liaison with all levels of law enforcement; and an expanded ability to deploy additional security staffing.

Improving outreach and information sharing across the Dams Sector. In collaboration with sector security partners, the Dams SSA has developed a comprehensive series of reference documents that provide sector partners with important information and enhance security awareness. The Dams Sector Security Awareness Handbook and Dams Sector Security Awareness Guide provide sector-specific technical information that assists in identifying security concerns, coordinating proper response, and establishing effective partnerships with local law enforcement and first responder communities. The Dams Sector Protective Measures Handbook assists owner/operators in selecting protective measures addressing physical, cyber, and human elements, and includes recommendations for development of site security plans. Additionally, the Dams Sector Crisis Management Handbook provides owner/operators with sector-specific technical information related to emergency response and preparedness issues, and includes recommendations for development of emergency action plans and site recovery plans.

ASDSO signed an agreement with DHS IP in FY09 to further assist the Dams Sector in carrying out its mission. In the first year of this 5-year agreement, ASDSO focused on the following projects:

1. Formalization of the sub-group of state representatives serving on the DGCC—the group is the State Dam Security Panel. The panel met quarterly in conjunction with the sector meetings. The mission of the panel is to create and oversee plans and projects to assist the Dams Sector and DHS IP in delivering guidelines and tools to improve protection of the critical dams within the sector.
2. Creation and implementation of an annual national dam security forum.
3. Development of regional workshops for state officials to transfer information about Dams Sector guidelines and tools for states and new information sharing mechanisms.
4. Creation, collection and analysis of state program metrics to begin to understand the varying degrees of dam security program implementation within state government.

To view the Dams Sector Specific Plan and NIPP go to: [www.dhs.gov/xprevprot/programs/gc\\_1189103468978.shtm](http://www.dhs.gov/xprevprot/programs/gc_1189103468978.shtm)

#### Partnering with the Corps' Topographic Engineering Center

All annual data collection from the States is a coordinated effort between ASDSO and the US Army Corps of Engineers' Topographic Engineering Center (TEC). From dam inventory data—which goes into the National Inventory of Dams—to state program performance data—such as changes in state budgets, number of inspections, personnel—each state provides data to be used for performance measuring on a national scale.

This year, refinements were made to the reporting system called the Dam Safety Program Management Tools (DSPMT). Calendar 2008 data was collected.

#### FEMA and the National Dam Safety Review Board

Since the early 1980s and, in particular, after the establishment and funding of the National Dam Safety Program in 1996, ASDSO and FEMA have devoted themselves to a strong partnership. IN FY09, FEMA sponsored the following projects carried out by ASDSO:

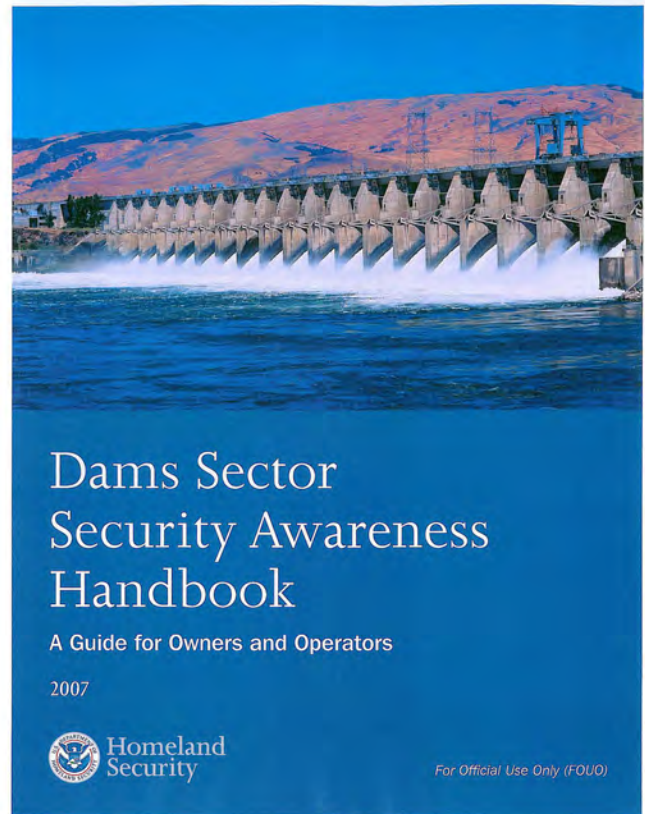
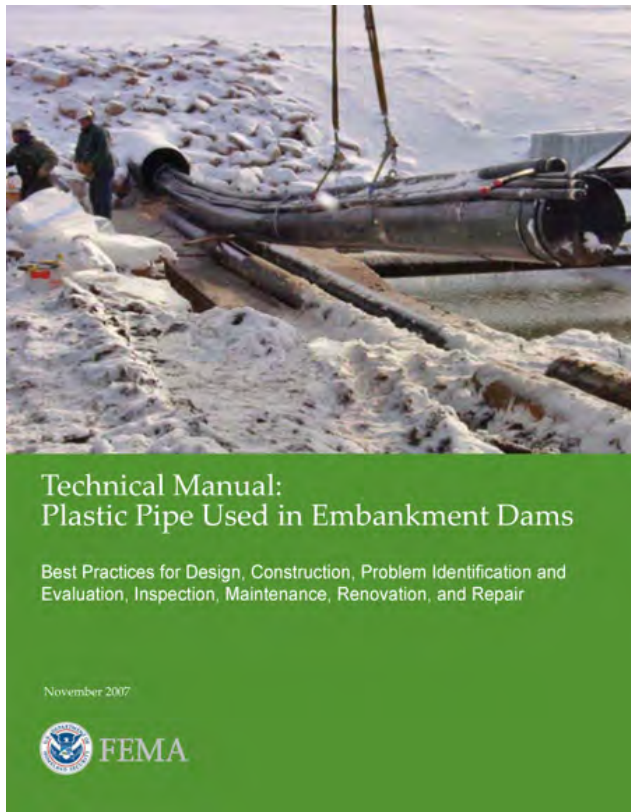
1. Regional Technical Seminars and Web-Based Training
2. State Training Assistance Grants
3. State Peer Reviews
4. The Information Clearinghouse (Bibliographic Database Maintenance)

Five ASDSO representatives served on FEMA's National Dam Safety Review Board.

Jim Gallagher (New Hampshire)  
John Moyle (New Jersey)  
Brian Long (West Virginia)  
Ken Smith (Indiana)  
Laurence Siroky (Montana)

Many ASDSO volunteers also serve on the following Work Groups (See Appendix C for a roster):

- Research Work Group
- Training Work Group
- National Inventory of Dams Work Group
- Emergency Action Planning Task Group
- Risk Assessment Task Group
- Performance Measures Task Group
- Risk Categorization Steering Committee
- Geotextiles Steering Committee
- Filter Guidance Steering Committee
- Seepage Surveillance Steering Committee
- Dam Breach Equations Steering Committee



See the National Dam Safety Program's website at: [www.fema.gov/plan/prevent/damfailure/index.shtml](http://www.fema.gov/plan/prevent/damfailure/index.shtml)

#### The NFIP Community Rating System

ASDSO continues to assist the FEMA, National Flood Insurance Program (NFIP) by offering expertise to its Community Rating System. Through a series of data requests/application processes, the CRS determines whether a state has an adequate dam safety program, which provides an additional incentive for municipalities or flood insurance policyholders to gain premium reductions in their flood insurance premiums. For the first time, the state dam safety data application will be generated solely from the data collected annually by ASDSO in partnership with the Corps TEC data call. States use the Dam Safety Program Management Tools (DSPMT) and all CRS questions have been integrated into the tool.

#### American Society of Civil Engineers (ASCE)

Coordination between ASDSO and ASCE remains a key goal for both organizations—from working on legislative affairs in Washington, DC to exchanging information and talents with the ASCE Institutes.

ASCE members touted the importance of the National Dam Safety Program and the Dam Rehabilitation and Repair legislation at ASCE's March Policy Week in DC. ASCE Government Relations Director Brian Pallasch organized Capitol Hill visits by over 200 ASCE and ASDSO members to talk about dam safety and infrastructure improvement needs. ASDSO Board members visited Congressmen and Senators to push for stronger dam safety programs at the federal level.

Invitations to Dam Safety 2008 and Dam Safety 2009 were sent to ASCE student chapters in California and Florida.

The ASCE Student Chapter section will provide a mailing list to ASDSO in this reporting period in order for ASDSO to send scholarship application announcements and information about ASDSO's new student on-line employment center, Speakers Bureau and other student outreach efforts.

#### National Watershed Coalition

The partnership between ASDSO and the NWC goes back to the establishment of this group out of the National Association of Conservation Districts. NWC keeps ASDSO informed on its push to get full funding for the Small Watershed Program. ASDSO, in turn, provides letters of support and additional testimony when required. Matt Scherer, ASDSO state representative from Kansas,

agreed to be ASDSO's liaison with the NWC this past year and attended the NWC annual conference on behalf of ASDSO.

#### Association of State Floodplain Managers (ASFPM)

ASDSO and ASFPM continued to work closely this past year on the levee safety issue. ASDSO contributed advisors and documentation to the ASFPM this year as it develops an internal issue brief on dam safety.

#### Interstate Council on Water Policy (ICWP)

ASDSO has been supporting the ICWP's effort to push for continued funding of Streamgauge Programs within the US Geological Survey.

#### Other Federal Agency Partners

Federal agency representatives make up about 16% of the ASDSO membership. About 14% of dams in the USA are owned or regulated by federal agencies.

Federal agencies involved with dam safety, either as owners and/or regulators, include the following:

- U.S. Department of Agriculture
  - Natural Resources Conservation Service
  - Agriculture Research Service
- Department of Defense
  - Army Corps of Engineers
  - Engineer Research and Development Center
  - Hydrologic Engineering Center (HEC)
- Department of the Interior
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish & Wildlife Service
  - National Park Service
  - Office of Surface Mining
- Federal Energy Regulatory Commission
- Mine Safety and Health Administration
- International Boundary and Water Commission (U.S. Section)
- Nuclear Regulatory Commission
- Tennessee Valley Authority

The Department of Homeland Security, Federal Emergency Management Agency does not own or regulate dams but administers the National Dam Safety Program.

The Department of Homeland Security, Office of Infrastructure Protection does not own or regulate dams but is the sector coordinating agency for the dams sector.

Together these agencies make up the Interagency Committee on Dam Safety (ICODS), overseen by FEMA as head of the National Dam Safety Program.

Other federal agencies that stay involved with ASDSO and the dam safety community:

- NOAA, National Weather Service
- U.S. Geological Survey

#### The US Army Corps of Engineers

ASDSO and the Corps of Engineers continue to honor the joint memorandum of understanding, signed in 2003. This MOU began a joint mission to improve dam safety nationwide. During 2008-09, coordination continued. The Corps and ASDSO exchange continuing education information and mutually post dam safety announcements. This past year, several representatives from the ASDSO membership served on the National Committee on Levee Safety, coordinated by the Corps.

#### The Federal Energy Regulatory Commission

Coordination continued in FY09 that allowed FERC trainers to conduct training free-of-charge for state dam safety agencies. Several states took advantage to train new engineers and technicians. Beginning in FY10, the FERC will combine its dam security conference with the DHS/ASDSO Annual Dam Security Forum—to be combined for the first time at Dam Safety '09.

To learn more about ICODS, the National Dam Safety Program and the federal agencies with a role in dam safety see 1) the ASDSO website for links to all federal agencies.

#### CEATI

New coordination occurred this past year with CEATI International—a research organization serving the electric utilities industry. CEATI maintains a Dam Safety Interest Group focused on the development and evaluation of new diagnostic monitoring tools and techniques for the assessment of the stability and safety of existing dams.

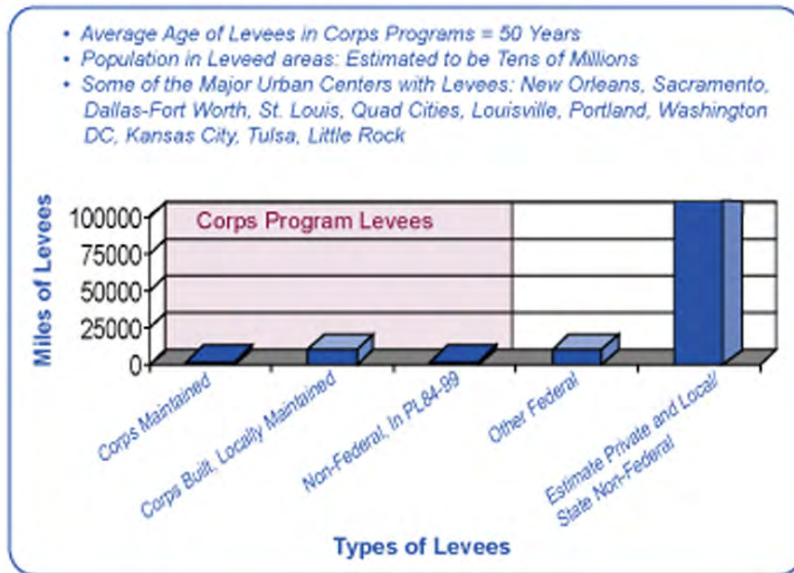
For more information on CEATI International go to: [www.ceati.com/DSIG.php](http://www.ceati.com/DSIG.php)

#### The Levee Safety Issue

ASDSO moved forward on several different fronts to become more involved with national efforts to create formal levee safety initiatives. After the National Levee Safety Program was signed into law as part of the Water Resources Development Act of 2007 (Title IX) in November 2007, the National Committee on Levee Safety was formed and included several state and private sector experts from the dam safety community. Over the course of late 2008, early 2009, the committee met and created the report and recommendations on creating a national levee safety program.

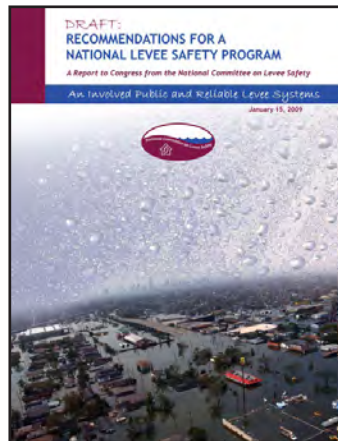


**Figure 6: United States Levees at a Glance**



This graph from the “Report to Congress on Recommendations for a National Levee Safety Program” demonstrates that the majority of levees in the U.S. should be under state regulatory jurisdiction. Most states do not regulate levees within dam safety agencies currently.

After considerable review and discussion in March 2009, the ASDSO Board formally agreed to support the recommendations in the report and further agreed to support the combining of the existing National Dam Safety Program with the new levee safety strategy spelled out in the report; and the creation of a new commission to administer both.

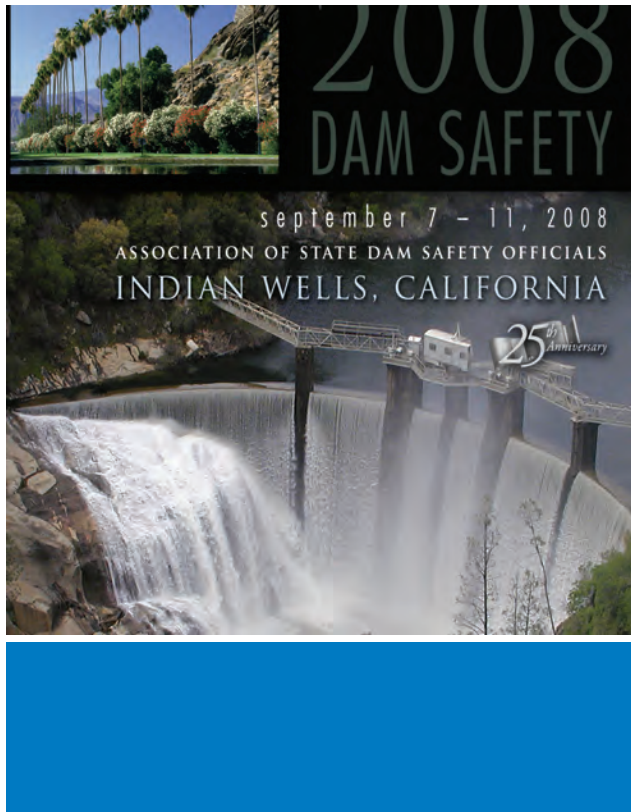


*Recognizing that levee safety and dam safety are critical to public safety and the environment, and that levees and dams share many aspects of design, construction, maintenance, hazard potential, emergency action planning and security, ASDSO respectfully suggests that dam safety and levee safety must be managed by one coordinated combined nation-wide program to be fully successful.*

*-Excerpt from May 2009 ASDSO Testimony to Congress*

In May of this year, ASDSO submitted testimony to the House Transportation and Infrastructure Subcommittee on Water Resources and Environment supporting the draft report and urging the implementation of the National Levee Safety Program under a new dam and levee safety commission.

The ASDSO leadership will be studying and discussing, over the next year or more, the implications of these initiatives within the ASDSO mission. To coordinate this, a new standing committee was created on levee safety.



## Goal #4: Provide the professional dam safety community with forums for the exchange of information.

### Dam Safety '08 – Indian Wells, California

ASDSO's 25th Annual National Conference was held on September 7-11, 2008 at the Renaissance Esmeralda Resort in Indian Well, California. Over 850 registrants and guests from across the U.S. and several foreign countries participated. Agenda highlights included an opening session presentation on the St. Francis Dam Failure, a technical track on Emergency Action Planning, a special workshop on SITES/WINDAM, and a field trip to the Diamond Valley Lake Eastside Reservoir Dams.

### Regional Conferences

Coeur d'Alene, Idaho was the site for the 2009 West Regional Conference in May. Nearly 150 people attended the meeting which featured a full complement of technical sessions, a sold-out exhibit show, a dam security workshop, and a field trip to Grand Coulee Dam. Thanks go to John Falk of the ID Department of Water Resources for his generous support and hard work as program chair and conference host. Also participating on

the agenda selection committee were Mark Haynes (CO), Elaine Pacheco (NM) and David Marble (UT)

The Northeast Region and the NJ-PA Council of Safe Dams jointly sponsored a successful conference on June 14-16 in State College, Pennsylvania. The agenda featured two days of technical sessions, a record-breaking exhibit show, and a dam security workshop. Over 200 were in attendance, including a large number of Pennsylvania dam owners who participated in the pilot owner's workshop on "Operation and Maintenance". Dennis Dickey (PA), John Ritchey (NJ), and Eric Ditchey of the CSD served as program coordinators.

### Interactive Training Calendar

A directory of engineering and dam safety-related training opportunities is available on ASDSO's website. The user-friendly directory is searchable by date, sponsoring organization, and topic. Currently the listings include conferences, seminars and workshops in the U.S. and abroad. Improvements in FY09 included the addition of

**National Dam Safety Program**

ASDSO Advanced Technical Seminar on Structural Behavior Monitoring  
 July 21-23, 2009 • Albuquerque, NM  
 October 20-22, 2009 • Lexington, KY

**FEMA**

Association of State Dam Safety Officials

## Projects

- ▶ Hold annual national conference.
- ▶ Present technical training seminars and webcasts.
- ▶ Maintain interactive training calendar.
- ▶ Update the ASDSO Program of Study and add a cadre of web-based training courses.
- ▶ Coordinate ASDSO's training program with the FEMA National Dam Safety Program training efforts.
- ▶ Provide an information resources center.
- ▶ Create a new dam failure database.
- ▶ Coordinate state dam inventory and annual program performance data collection and analysis.
- ▶ Support a committee that focuses on outlet works research and data collection.

semester courses at universities, as well as distance-learning options such as webinars.

### Technical Education Programs

Through the National Dam Safety Program at FEMA, ASDSO received funding from FFY08 federal appropriations to hold four regional technical seminars and two advanced seminars, and provided travel and registration assistance to states for attending other technical training of their choice.

Advanced Courses:

Slope Stability for Embankment Dams, taught by Missouri S & T Civil Engineering Department and Shannon & Wilson. July 22-25, 2008—Philadelphia, Pennsylvania

Structural Behavior Monitoring for Dams, taught by Missouri S & T Civil Engineering Department. July 21-23, 2009—Albuquerque, NM.

Basic Courses: Conduits, Gates and Valves, taught by Devine Tarbell and Associates.

- Northeast Region - November 5-7, 2008 in White Plains, NY
- Southeast Region – December 2-4, 2008 in Atlanta, GA

- West Region –February 3-5, 2009, Phoenix, AZ
- Midwest Region- August 4-6, 2009, Minneapolis, MN

### Web-Based Seminar Pilot Project

Two webinars were held during the reporting cycle as ASDSO gets closer to creating a comprehensive Web-Based Training Program.

Applying the Pareto (80/20) Principle to Geotechnical Analyses and Reviews of Embankment Dams – November 20, 2008 presented by Danny McCook of the USDA Natural Resources Conservation Service (retired)

Internal Erosion and Piping Considerations for Dam Safety – December 12 presented by Doug Boyer of the Federal Energy Regulatory Commission.

The Distance Training Subcommittee of the Technical Training Committee was formed. Paul Schweiger (Gannett Fleming) is the chair.

### The ASDSO Program of Study

During the reporting cycle, the new Program of Study Subcommittee of the Training Committee was launched. The goal is to not only add new topics of interest that could be presented as technical seminars, but to

supplement the guide with new web-based seminars, to be developed by the aforementioned subcommittee; and, integrate other initiatives such as research projects and tools/guidelines. The idea is to develop a one-stop-shopping document, organized by technical topic, to which a user could refer to find training, research or guidelines of interest. Art Miller (AECOM) is the subcommittee chair.

## **The Information Resource Center**

### **Resources/Library**

*Online Bibliography* - ASDSO's online bibliography now includes:

- all ASDSO publications, including articles from the ASDSO newsletter and Journal of Dam Safety
- the "Model State Dam Safety Library"
- Miscellaneous journal and magazine articles
- News articles and broadcasts
- Research projects
- Conference proceedings
- Federal publications and resources
- Audiovisual materials
- Websites
- Resources for students and teachers
- Miscellany (other books, reports, etc. published by organizations other than ASDSO and federal agencies)

ASDSO website visitors can search these databases individually or collectively.

ASDSO has electronic versions of most articles in the News database and electronic access to many articles in the Journals database.

*Information Services* – ASDSO responded to a large number of information requests from ASDSO members and non-members, including states, reporters, researchers, dam owners, university students and staff, federal agencies, people living near dams, legislative staff and others.

*Library Acquisitions/Loans* – ASDSO maintains a comprehensive library of dam safety references in various formats. Members may borrow various items

from the collection, which includes books, magazine and newspaper clippings, videocassettes, CD-ROMs, and DVDs.

Many additional items have been added to ASDSO's on-line bookstore, available through the Publications and Resources section of the ASDSO website.

ASDSO's *Bibliography of Dam Safety* contains approximately 18,800 citations, and is continually updated with records of new ASDSO papers and publications, technical articles from journals and conference proceedings, state and federal dam safety guidelines, audiovisual materials, news articles and more. Research assistance utilizing these databases is available to ASDSO members on request.

The in-house library at ASDSO headquarters added these new items (excluding individual articles and miscellaneous papers) during the reporting year:

1. *2009 Community Rating System Activity 630, State Dam Safety (SDS) Credit Report - Reporting Year: 2008 - Prepared for NDSRB, ASDSO, & CRS - 22 July, 2009 (Draft)*
2. *The Crumbling of America*. The History Channel (2009)
3. Flynn, Stephen. *The Edge of Disaster*. Random House (2007)
4. *Managing Our Water Retention Systems: Proceedings of the 29th Annual Meeting and Conference of the U.S. Society on Dams, held in Nashville, Tennessee, on April 20-24, 2009*
5. *New Roles for Hydro in a Changing World: Proceedings of Waterpower XVI, Held in Spokane, Washington on July 27-30, 2009*
6. *National Flood Risk Management - Levee Safety Summit, Held Feb.26-27, 2008 in St. Louis, Missouri*. Association of State Floodplain Managers and National Association of Flood & Stormwater Management Agencies.
7. (2008). *A Guide to Critical Infrastructure and Key Resources Protection at the State, Regional, Local, Tribal, and Territorial Level, Department of Homeland Security*.
8. (2008). *Levee Regulations, Procedures & Activities: A Stakeholder Experience, held May 19, 2008 in Reno-Sparks, Nevada in conjunction with the ASFFPM 32nd Annual Conference, Federal Emergency Management Agency*.
9. (2008). *Office of Infrastructure Protection - Sector Specific Agency Executive Management Office, Department of Homeland Security. General info brochure*.
10. (2008). *Office of Infrastructure Protection Sector Specific Agency Executive Management Office. Brochure of general info on various sectors*.

11. (2008). *Protective Security Advisors - Securing the nation's critical infrastructure one community at a time*, Department of Homeland Security. Brochure of general info on various sectors.
12. (2008). *Site assistance visit - assisting industry in identifying site vulnerabilities and understanding mitigation strategies*, Department of Homeland Security. General info brochure.
13. (2009). *Fact Sheet: Coal Combustion Residues (CCR) - Surface Impoundments with High Hazard Potential Ratings [EPA530-F-09-006]*.
14. (2009). *FERC Security Program for Hydropower Projects, Revision 2*, Federal Energy Regulatory Commission. Division of Dam Safety and Inspections. Revision 2 of the FERC Security Program for Hydropower Projects.
15. (2009). *The National Infrastructure Protection Plan - Dams Sector [various items]*, Department of Homeland Security. various flyers, brochures, CD-ROMs
16. (2009). *The National Infrastructure Protection Plan - Partnering to enhance protection and resiliency*, Department of Homeland Security. CD-ROM
17. (2009). *The National Infrastructure Protection Plan (NIPP)*.
18. (2009). *NPDES Permitting Guidance for Facilities with Coal Ash Impoundments*.
19. (2009). "Western Regional Forum on Dam Safety, Held January 15-16, 2009
20. Brekke, L. D., J. E. Kiang, et al. (2009). *Climate Change and Water Resources Management: A Federal Perspective*, U.S. Geological Survey.
21. Lane, N. (2008). *CRS Report for Congress: Aging Infrastructure: Dam Safety*, Congressional Research Service.
22. Link, L. E., J. L. Foster, et al. (2009). *A General Description of Vulnerability to Flooding and Risk for New Orleans and Vicinity: Past, Present, and Future Supplemental Report of the Interagency Performance Evaluation Task Force*, U.S. Army Corps of Engineers. U.S. Interagency Performance Evaluation Taskforce (IPET): 61.
23. *National Committee on Levee Safety (2009). Report to Congress on Recommendations for a National Levee Safety Program (Draft)*
24. *National Research Council (U.S.). Committee to Assess the Bureau of Reclamation's Security Program (2008). Assessment of the Bureau of Reclamation's Security Program (Prepublication Copy)*, National Academies Press: 107.
25. *National Research Council. Committee on New Orleans Regional Hurricane Protection Projects (2009). Assessing Pre-Katrina Vulnerability and Improving Mitigation and Preparedness*, National Academies Press.
26. *Tennessee Valley Authority. Office of the Inspector General (2009). KINGSTON FOSSIL PLANT ASH SLIDE INTERIM REPORT - Inspection Report 2008-12283-01*, Tennessee Valley Authority: 32.
27. *Tennessee Valley Authority. Office of the Inspector General (2009). Root Cause Analysis of TVA Kingston Dredge Pond Failure on December 22, 2008 [Kingston Fossil Plant, Harriman, Tennessee - Project No. 60095742]*, Tennessee Valley Authority.
28. *U.S. Army Corps of Engineers. New Orleans District. Mississippi Valley Division (2009). Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report*, U.S. Army Corps of Engineers.
29. *U.S. Interagency Performance Evaluation Taskforce (IPET) (2009). Post-Katrina/(IPET) Interagency Performance Evaluation Taskforce/Reports/IPET - Final Report*, U.S. Army Corps of Engineers. U.S. Interagency Performance Evaluation Taskforce (IPET): 288.
30. T. Turpin. *Dam* (2008) Reaktion Books Ltd, UK
31. Amekudzi and S. McNeil. *Infrastructure reporting and asset management: best practices and opportunities* (2008) American Society of Civil Engineers
32. *Development Downstream From Flood Control Dams - A Growing Concern for Watershed Project Sponsors* (2008) National Watershed Coalition
33. *A Path to 2050: Reducing Flood Losses and Protecting Floodplain Resources for the United States of the Future - Second Assembly of the Gilbert F. White National Flood Policy Forum "Floodplain Management 2050"* (2009) Association of State Floodplain Managers
34. *Increased Flooding Risk: GlobalWarming's Wake-Up Call for Riverfront Communities* (2009) National Wildlife Federation
35. *Washed Out to Sea: How Congress Prioritizes Beach Pork Over National Needs* (2009) Office of U.S. Senator Tom Coburn (OK)
36. S. Elnashai, L. J. Cleveland, T. Jefferson and J. Harrauld. *Impact of Earthquakes on the Central USA: New Madrid Seismic Zone Catastrophic Earthquake Response Planning Project [Mid-America Earthquake Center Report 08-02]* (2008) University of Illinois at Urbana-Champaign, Federal Emergency Management Agency, U.S. Army Corps of Engineers ERDC-CERL
37. P. Gordon and R. Little. *Building Walls Against Bad Infrastructure Policy In New Orleans* (2009) Mercatus Center at George Mason University
38. R. W. I. Ide, J. O. Blanco and Mckenna Long & Aldridge LLP. *A Report To The Board of Directors of The Tennessee Valley Authority Regarding Kingston Factual Findings* (2009) Mckenna Long & Aldridge LLP
39. E. Schaeffer and L. Evans. *Coming Clean: What the EPA Knows About the Dangers of Coal Ash - A Summary of the United States Environmental Protection Agency's*

## Dam Safety '08 - Indian Wells, CA



Indian Wells resident "Bob Hope" (aka Lynn Roberts) welcomes Mark Ogden and Dave Gutierrez (shaking hands) to California.



2008 Field Trip to Eastside Reservoir



The 25th Anniversary was celebrated in Indian Wells. Attendees reminisced with (from L to R) Ken Hansen, Bruce Tschantz and Tom Kelly

2007 Human and Ecological Risk Assessment of Coal Combustion Wastes, A Report by The Environmental Integrity Project and Earthjustice (2009) Environmental Integrity Project and Earthjustice

40. Stantec Consulting Services Inc. *Report of Phase 1 Facility Assessment: Coal Combustion Product Impoundments and Disposal Facilities in Various Locations, Tennessee - Prepared for the Tennessee Valley Authority, Chattanooga, Tennessee, June 24, 2009* (2009)

41. U.S. Society on Dams. Committee on Monitoring of Dams and Their Foundations. *White Paper: Why Include Instrumentation in Dam Monitoring Programs?* (2008)

### New ASDSO Publications, July 1, 2008 - June 30, 2009

1. *Dam Safety 2008, the 25th annual conference of the Association of State Dam Safety Officials, held Sept. 7-11, 2008 in Indian Wells, California*
2. *Dam Safety in the West 2009: Proceedings of the ASDSO West Regional Conference held May 4-7, 2009 in Coeur d'Alene, Idaho*
3. *ASDSO Advanced Technical Seminar on Slope Stability for Embankment Dams, July, 22-25, 2008 in Philadelphia, PA and October 21-24, 2008 in Salt Lake City, UT.*

4. *Journal of Dam Safety, V. 6 (3, 4); V. 7 (1,2)*

ASDSO subscribes to several industry publications and has access to Lexis-Nexis, and technical databases, including EiCompendex, GeoRef, and Cambridge Scientific Abstracts. Relevant papers and articles from these print and electronic resources are catalogued in the ASDSO Bibliography.

### The Dam Failure Database

Task group members Kurt Rinehart, Greg Paxson, Jason Campbell, Tom Woosley, and Hal Van Aller, and Sarah McCubbin-Cain developed a list of fields in order to refine ASDSO's existing database, which is being converted from a simple table into a relational database for in-house use. Selected output files will be posted on the website and supplied on request. ASDSO staff continually updates the database with information gleaned from the news, annual data supplied by states, and other sources.

### The State Dam Safety Program Performance Data Collection and Analysis Program

State program performance data, collected through the DSPMT, is compiled and analyzed so that states can see how they compare to other states and to the Model State Dam Safety Program. ASDSO uses data to provide reports to state and federal lawmakers and others. On March 12, 2009 ASDSO requested dam safety program



Please mark your calendars for these upcoming ASDSO conferences:

- Dam Safety '09, September 27-October 1 in Hollywood (Ft. Lauderdale) FL
- Dam Safety '10, September 19-23 in Seattle, WA
- Dam Safety '11, September 25-30, in Washington, DC



performance information for the 2008 data reporting year. Thirty-five states submitted data by the requested deadline of April 15; all 50 states and Puerto Rico submitted data by May 21, 2009.

#### **Outlet Works Technology Committee Update**

The committee consists of 25 members who have expressed varying degrees of participation and involvement. Currently, there are seven subcommittees:

**Topic #1** Grout pressures when sliplining conduits - Facilitator: John Falk (Idaho Dam Safety), [john.falk@idwr.idaho.gov](mailto:john.falk@idwr.idaho.gov), Phone: (208) 2874927 (7 members)

**Topic #2** Use or nonuse of flowable fill around conduits through dams - Facilitator: Del Shannon, [shannonda@bv.com](mailto:shannonda@bv.com), Phone: (720) 834-4243 (10 members)

**Topic #3** Conduit repair methods - Facilitator: Currently open (5 members)

**Topic #4** Seismic design - Facilitator: Greg Zamensky (Black & Vetch Corporation) [zamenskyg@bv.com](mailto:zamenskyg@bv.com), Phone: (301) 9218244 (4 members)

**Topic #5** Use of cradles - Facilitator: Joseph Monroe (Schnabel Engineering) [jmonroe@schabeleng.com](mailto:jmonroe@schabeleng.com), Phone: (770) 7818008 (4 members)

**Topic #6** Assessing the life of corrugated metal conduits - Facilitator: Greg Zamensky (Black & Vetch Corporation), [zamenskyg@bv.com](mailto:zamenskyg@bv.com), Phone: (301) 9218244 (2 members)

**Topic #7** - Seepage along outlet works conduits - Facilitator: Qingwei Fu (URS Corporation), [qingwei\\_fu@urscorp.com](mailto:qingwei_fu@urscorp.com) 301-670-3397 (3 members)

Each subcommittee has been tasked with preparing a white paper to determine the current state-of-practice. The draft white papers will be distributed to the full OW Technology Committee for additional review/comment. As each white paper evolves, the subcommittee facilitator or representative would plan to make a presentation at an ASDSO Annual Conference in 2010 or 2011. Currently, two white papers are just about ready for full committee review/comment.

The other item the OW Technology Committee had involvement with this year was making a review of the soon-to-be-completed FEMA technical manual on "Outlet Works Energy Dissipators."

The plan for the coming year is to continue with the white paper development on the seven topics.



111th CONGRESS  
1st Session

H. R. 1770

To amend the National Dam Safety Program Act to establish a program to provide grant assistance to States for the rehabilitation and repair of deficient dams.

IN THE HOUSE OF REPRESENTATIVES

March 26, 2009

To provide grant assistance to States for the rehabilitation and repair of deficient dams.

## Projects

- ▶ Work toward full appropriations of the National Dam Safety Program.
- ▶ Advocate for passage of the National Dam Rehabilitation and Repair Act.
- ▶ Implement a stronger states legislative advocacy program.
- ▶ Update the Study on Financing the Costs of Rehabilitating Dams
- ▶ Maintain information on state dam safety laws and regulations.
- ▶ Support second tier objectives of interest to the dam safety community: FEMA's map modernization program; the USGS Streamgange Program; funding for the Small Watershed Dam Rehabilitation Program.

# Goal #5: Provide representation of dam safety interests before state legislatures, Congress and executive branches.

## Federal Legislative Issues in 2008-09

The dam safety community is getting closer to having a national dam rehabilitation program. In 2007, the House of Representatives endorsed the concept by passing HR 3224, the Dam Rehabilitation and Repair Act. A companion bill was introduced in the Senate that year but never made it out of committee before the 110<sup>th</sup> Congress ended in 2007.

In 2008-09, with the encouragement of ASDSO and the ASCE Government Relations office, the *Dam Rehabilitation and Repair Act of 2009* was introduced with bipartisan support in both the House and the Senate on Thursday, March 26, 2009. The House version of the bill, H.R. 1770, was introduced by Rep. John Salazar (D-CO) and cosponsored by Rep. Betsy Markey (D-CO) and Rep. Shelley Moore Capito (R-WV). At press, the bill was still under review by the House Transportation and Infrastructure Committee.

Similar legislation was introduced in the Senate, S. 732, by Senator Daniel Akaka (D-HI) and referred to the Senate Environment and Public Works Committee. The Senate version of the bill has six co-sponsors including Sen. Arlen Specter (R-PA), Sen. Benjamin Cardin (D-MD), Sen. Charles Schumer (D-NY), Sen. George Voinovich (R-OH), Sen. Sherrod Brown (D-OH), and Sen. Robert Casey (D-PA).

To jump-start the introduction of these bills, ASDSO's Task Force charged with updating national dam repair estimates released their 2009 numbers. (More on this under Goal Number 2 and Appendix B.)

Concurrently this past year, ASDSO leaders were instrumental in pushing to get full funding for the National Dam Safety Act in FY09, which, for the first time since the National Dam Safety Program was promulgated, occurred. A total of nearly \$12 million was budgeted by FEMA for the National Dam Safety Program.





## **ASDSO Leaders Participate in the 2009 ASCE Policy Week**

*Counter-clockwise from top: ASDSO President Rob Martinez meets with Senator Harry Reid. Past President Mark Ogden (far left) meets with Congressman LaTourette and other ASCE reps. President-Elect Dave Gutierrez (center) speaks at a levee forum during Policy Week.*



Thanks go to ASDSO's partner, the ASCE Government Relations Office in Washington, DC. Led by Brian Pallasch, the DC team leads ASDSO's "on-the-ground" efforts to advocate for federal dam safety programs.

The ASDSO Legislative Advocacy Center at [www.damsafety.org](http://www.damsafety.org) offers status of important bills and policies, both federal and state, and tools and tips for those interested in helping ASDSO work toward stronger state and federal programs.

### **ASCE's Policy Week**

For the past four years, ASDSO Board members and other members participated in the March Policy Week organized by the American Society of Civil Engineers Government Relations Office. Armed with talking points and compelling handouts, members met with staffers, Congressman and Senators from nearly every state touting the need for the National Dam Rehabilitation and Repair Act and other issues.

### **Stream Gage Funding**

Led by the Interstate Council on Water Policy (ICWP), many organizations are pushing to increase federal spending sufficient to restore the U.S. Geological Survey's Cooperative Water Program (CWP) and National Streamflow Information Program (NSIP) to at least FY-2003 levels in the FY-2009 budget cycle. ASDSO

signed onto an ICWP endorsement letter urging full funding of the programs next year.

### **The Small Watershed Dam Rehabilitation Program**

Part of the Natural Resources Conservation Service (NRCS) Watershed Programs, the Small Watershed Dam Rehabilitation Program provides funding to the NRCS to rehabilitate high priority dams that were built by the NRCS. Now these dams belong to local sponsors across the country. ASDSO continued to push for full appropriations for this program in FY09. ASDSO partners with the National Watershed Coalition to coordinate communications and alerts. For more information on the Watershed Rehabilitation Program go to: <http://www.nrcs.usda.gov/programs/WSRehab/>

### **ASDSO Support for States' Programs**

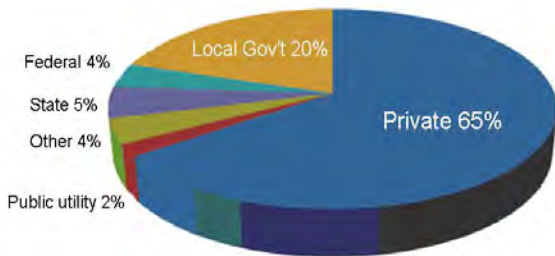
There was little action to affect any legislative changes at state levels. Although a new advocacy group was identified in Alabama to push for a state dam safety law, there were no bills introduced this past year. In Missouri, the coalition started in 2007 continued to push for a new law change in 2009 (the bill died in 2008). ASDSO sent letters in support of the legislation.

In Pennsylvania, a bill is circulating to establish a loan and grant program for dam rehab. ASDSO and CSD wrote letters to lawmakers to push for the program.

**States in red that have held dam owner workshops**



**Dam Ownership in the U.S.**



**Projects**

- ▶ Hold Dam Owner Workshops in conjunction with State Dam Safety Agencies
- ▶ Distribute dam owner education flyers and maintain a center for dam owners at the ASDSO website.
- ▶ Recruit dam owners as members.
- ▶ Recruit students to the dam safety profession.

# Goal #6: Provide quality and effective outreach programs

**Dam Owner Education Program**

Over 300 owners were trained as part of ASDSO's Owner Outreach Program in FY09.

**Workshops Held:**

- New Mexico: August 14-15, 2008 (Course II– Engineering for Non-Engineers)
- California: September 8, 2008 (Special Course in conjunction with State Division of Safety of Dams)
- North Dakota: December 2, 2008 (Course I – Introduction to Dam Safety)
- Michigan: April 17 & 28, 2009 (Course I – Introduction to Dam Safety)

The ASDSO Owner Outreach Committee now has three one-day workshops available. The first is an overview course. The second focuses on dam engineering for non-engineers. The third dam owner course on operation and maintenance was pilot tested to about 90 dam owners in Pennsylvania on June 15, 2009.

Thanks go to our trainers for these courses:

- Phil Moreschi
- Paul Schweiger
- Eric Ditchey
- Carl Montana

**Tools for Dam Owners**

Flyers

- Dam Ownership: Know Your Liability
- How to Procure the Services of an Engineer
- Internal Erosion of Earth Dams

These flyers were given out at all owner workshops, through state offices and upon request this year.

ASDSO Website

The Dam Owners section of the web site features downloadable tools and basic information on dam ownership. An new owners section will be developed in FY10 to make the site more interactive for owners.



Brian Carlton



Garrett Graybill



Joe Tom, Jr.



Rachel Ernst

## **Promotion of Dam Engineering as a Profession**

### **Undergraduate Scholarship**

The Scholarship Committee was pleased to announce four winners of the 2008-09 ASDSO Undergraduate Scholarship.

Each was given \$2,500 scholarships for the 2008-09 school year.

**Garrett Graybill** majors in Civil Engineering at Oklahoma State University in Stillwater, where he tutors fellow students in Strength of Materials and Statics. Garrett interned with the Oklahoma Dam Safety Program from 2004-2007, assisting in determining the hazard classification of dams, installation of stream gauging systems, performing conduit inspections and surveying. Of the experience, Garrett noted that while his coursework provided the academic training necessary for dam engineering, "There is no substitute for the mentorship of a seasoned dam safety engineer. My experience with the Oklahoma Dam Safety Program allowed me to view the relevance of my coursework in real-world practice."

**Brian Carlton** has a double major in Civil Engineering and History at Washington State University, Pullman. Brian's interest in dams stemmed from a freshman-year report on the Three Gorges Dam project, which convinced him that, "Safety...should be the number one concern of dam builders and operators." Brian's work experience includes an internship with KCM/Tetra Tech, where he assisted a senior engineer in identifying and cataloging culverts in the field, surveyed a streambed and helped review projects. His other activities include playing trumpet, Scout work, active participation in the ASCE student chapter, Catholic Newman Center and WSU Student Advisory Council.

**Joe Tom, Jr.** is a Civil Engineering major at Mississippi State University, Starkville, where he is involved in developing computer software for assessing the spread of sediment from catastrophic hydraulic influx from a dam or levee breach and for evaluating the potential success of dam and levee breach closure measures undertaken while fluid and sediment are

actively flowing through the breach. Joe also performs lab and field tests, data collection and documentation at the USACE Engineering Research and Development Center Geotechnical and Structures Laboratory, where he has assisted with research involving the use of polymers to prevent soil erosion and moisture penetration. Joe participates in the American Cancer Society Relay for Life, the MSU Men's Club Soccer Team, the MSU Quiz Bowl, the ASCE Student Chapter and a Conversation Partner program for foreign students.

**Rachel Ernst** is a Civil Engineering major at Southern Illinois University, Edwardsville, where she has participated in the ASCE Student Chapter, the SIUE Steel Bridge Team, intramural sports and a mentoring program for freshmen. As a co-op student for the USACE-St. Louis District Geotechnical Branch, Instrumentation and Dam Section, Rachel collects, computes and graphs geotechnical data for performance analysis of dams, investigates historical data and assists in preparation of formal reports. Of this hands-on experience, she says, "I enjoy this work deeply and take much pride in it. I am thankful for the opportunity to be involved in such an important aspect of engineering that is often overlooked." Rachel plans to obtain a Master's degree in Civil Engineering, concentrating on foundation, geotechnical and structural courses.

ASDSO is proud to recognize these three fine scholars, who personify the profession's commitment to keeping forefront the health, safety, and welfare of the public.

As the fiscal year drew to a close, the Scholarship Committee and the Board of Directors awarded one winner for the 2009-10 scholarship: James Woidt of the University of New Hampshire.

The NJ/PA CSD, for the first time, also awarded a scholarship to Vinoth K. Muthia of Penn State University.



ASDSO Booth (Traci Powell at left) at University of Kentucky's Engineering Day.



Kirk Kreider makes ASDSO presentation at Temple University.



The New Jersey Dam Safety Program Model Dam.

### **Committee on Educational Outreach (CEO)**

The CEO, co-chaired by Bruce Tschantz, P.E., University of Tennessee Professor Emeritus in Civil Engineering, and Beth Cooper, Education and Information Coordinator with the Kansas Dam Safety Program, embarked on a variety of projects over the past year. The Committee met twice since its regular annual meeting in September 2008 at the Annual ASDSO Conference in Indian Wells, CA.

Mailing to Universities: In late October/early November 2008, ASDSO prepared a mailing for the following university contacts:

- US Dept Heads of Engineering - list of 1564 contacts from the American Society for Engineering Education (ASEE)
- US Deans of Engineering - list of 358 contacts from ASEE
- Civil Engineering Professors - list of 710 contacts from ASEE
- ASCE Chapter Advisors - list of 226 contacts from ASCE
- Geological Society of America - list of 77 contacts from GSA
- American Institute of Professional Geologists – 10 Student Chapters

The mailing consisted of:

- (a) Information about ASDSO's Student Employment database;
- (b) ASDSO 2009-2010 scholarship application;
- (c) Announcement of Dam Safety 2009 student poster/paper competition
- (d) ASDSO membership information; and
- (e) Poster entitled "Working Toward a Future Where All Dams Are Safe: Be Part of It."

ASDSO Website Update and Email Campaign: The CEO made the preceding information available via email and the website to ASDSO members and partners, trade journals, and webmasters or other representatives of the following organizations:

- American Institute of Professional Geologists
- Tau Beta Pi
- SME
- Engineers Without Borders
- Association of Environmental & Engineering Geologists
- American Society of Agricultural & Biological Engineers
- State Water Resource Research Institutes
- America Water Resources Association
- Society of Women Engineers

### Speakers Bureau Volunteers:

ALABAMA Fares Y. Abdo, P.E. Portland Cement Association	KANSAS Beth Cooper KS Department of Agriculture	NORTH CAROLINA Caldwell, James EcoEngineering (Div. of John R. McAdams Co)	TENNESSEE Lyle Bentley TN Department of Environment & Conservation
CALIFORNIA John Livingston CH2M Hill	MAINE Patricia McIlvaine Wright-Pierce	Dan Marks, Phd, P.E. Marks Enterprises of NC, PLLC	Bruce A. Tschantz, P.E. Professor Emeritus University of Tennessee
COLORADO Daniel L. Johnson, P.E. GEI Consultants, Inc.	MISSISSIPPI William M. Myers USACE-WES (retired)	OKLAHOMA Cecil Bearden P.E. Oklahoma Dam Safety (retired)	Harold Wilhite TN Safe Dams Program
HAWAII Peter G. Nicholson University of Hawaii	NEW HAMPSHIRE James W. Gallagher, P.E. NH DES Dam Bureau	PENNSYLVANIA Norman Folmar Bucknell University	UTAH Matt Lindon, P.E. Utah Assistant State Engineer
INDIANA Ken Bosar, P.E. Christopher B. Burke Engineering, Ltd.	Nancy McGrath NH DES Dam Bureau	Arthur C. Miller, P.E. Watershed Concepts	WISCONSIN Meg Galloway WI Dept of Natural Resources
Kenneth E. Smith, P.E. IN Department of Natural Resources	NEW JERSEY New Jersey Dam Safety Staff	William B. Bingham Gannett Fleming, Inc.	WYOMING Michael Hand WY State Engineer's Office

- Association of General Contractors
- American Concrete Institute

Speakers Bureau : The CEO continues to encourage all ASDSO members to promote careers in dam safety by volunteering for the ASDSO Speakers Bureau, and has developed two Powerpoint presentations and various handouts, available at the ASDSO Headquarters office (Sarah), for use by Speakers Bureau members. Example presentations made in 2009:

- April 8 - Pat McIlvaine of Wright-Pierce in Topsham, ME spoke to about 25 ASCE Student Chapter members and three professors at the University of Maine.
- April 10 - Kirk Kreider of the Pennsylvania Division of Dam Safety spoke to more than 50 Civil and Environmental engineering students at Temple University. According to Kirk, "Quite a bit of the literature was picked up by students.
- April 21 - Marty McCann, director of the National Performance of Dams Program at Stanford University, spoke to the ASCE Student Chapter at San Jose State on April 21.

#### Engineering Day & "Take Your Kids to Work Day"

Activities for Students: On behalf of the CEO, Traci Powell of the Indiana DNR and Sarah McCubbin-Cain represented ASDSO at the University of Kentucky's annual Engineering Day, held Saturday, February 21. Dozens of students stopped by ASDSO's book to take part in a simple dam building activity.

The New Jersey Bureau of Dam Safety and Flood Control developed an educational outreach program for elementary school children for use at the NJDEP's annual 'Take Your Kids to Work Day' and other outreach events. The program consists of a presentation, dam model demonstration, and a 'build a dam' exercise. The presentation provides children with an overview of the various types of dams and spillways and explains why dams are important, and utilizes a fully functional dam model designed and constructed by the Bureau.

Lesson plans for both activities are posted in the Student section of ASDSO's website.

Waterpower '09 Conference: On July 29, ASDSO staff member Sarah McCubbin-Cain presented *Romancing the Profession - Attracting Students to Careers in Dam Safety* on behalf of the CEO Committee (co-authored by Bruce Tschantz) at the Waterpower conference in Spokane, WA. The 15-minute presentation gives an overview of ASDSO's student outreach projects, trends in

## What are Scholarship Winners Doing Now? Excerpts from the Survey

### 1. What are you doing now?

- Currently, I am a graduate student at Drexel University studying geotechnical engineering with a focus on geosynthetics.
- I am currently working as a Civil Engineer in the Levee Safety Program at the St. Louis District, Army Corps of Engineers(Yes, I've strayed from Dams, but have still stuck to Safety.)

### How did the ASDSO scholarship impact your education and/or career plans?

- Attending the ASDSO conference in 2006 was an excellent networking opportunity and introduced me to a lot of interesting companies and professionals in the field of Dam Safety. Having the scholarship listed on my resume has proven to be a great talking point in interviews and has increased my confidence in my ability to achieve my goals.
- The program also motivated me to join ASDSO as a student, which gave me the opportunity to learn more about a career in water resources through newsletters, conferences, and networking.

engineering enrollment, job opportunities and motivating factors for young professionals.

**Student Job Opportunities** - The CEO continued to encourage members to post student job openings on ASDSO's website, free of charge.

**Students at Dam Safety 2008** – The CEO invited ASDSO members to place items of interest to students and young professionals - such as job announcements, company brochures, t-shirts, caps, trinkets, etc. - in the Dam Safety 2008 Student Lounge.

Dam Safety 2008 student presenters:

- Karina R. Dahl, PhD Candidate, UC-Davis: *Evaluation of Cyclic Strength of Low Plasticity Fine-grained Soils* (with Ross Boulanger, Professor; and Jason DeJong, Associate Professor, Dept. of Civil and Environmental Engineering)
- Ronnie Kamai, Graduate Student, UC-Davis: *Effects of Void Redistribution on Post-earthquake Residual Strengths for Liquefiable Soils* (with Ross Boulanger, Professor, Dept. of Civil and Environmental Engineering)
- Ryan W. Woolbright, Graduate Research Assistant, Oklahoma State University: *RCC Stepped Spillway Model Study with Sloped Converging Training Walls* (with Greg Hanson and Sherry Hunt, USDA ARS Hydraulic Engineering Research Unit, Stillwater)
- Vinoth K. Muthia, PA DEP Division of Dam Safety Intern, Penn State University: *Poster presentation on Dam Risk Assessment in a Regulatory Environment: the Need for Modern Methods* (Penn State research grant covered travel expenses)
- Jacquelin Reed, Senior Undergraduate, University of Southern California – *Poster presentation on the National Center for Risk and Economic Analysis of Terrorism Events (CREATE) California Buffer Zone Protection Program*

Scholarship recipients in attendance (all but Garrett Graybill, OK State):

- Joe Tom, Jr., Mississippi State

- Rachel Ernst, Southern Illinois University
- Brian Carlton, University of Washington

Student Travel Sponsors:

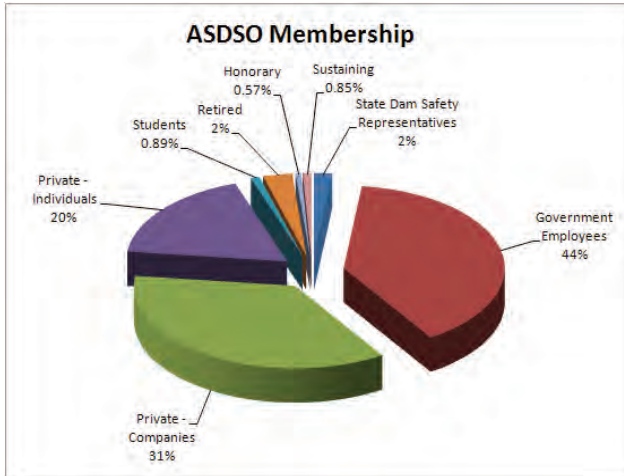
- The Benham Companies, LLC, Tulsa, OK
- Meshek & Associates, PLC, Tulsa, OK
- Bruce A. Tschantz, P.E.
- Portland Cement Association
- USACE – St. Louis District
- USACE Waterways Experiment Station

**Dam Safety 2009 Student Paper Competition** – The CEO received six entries for its first annual student paper competition. John Moyle coordinated the judging and paper selection. The winners were:

- Rachael Bisnett, Grad Student, CE, Purdue University - *A Simplified, Probability-Based Risk Analysis for Small Embankment Dams*
- David Judi, PhD Candidate, CEE, University of Utah - *Impacts of Elevation Data Spatial Resolution: Two-Dimensional Dam Break Flood Modeling and Socio-Economic Impacts*
- Abouzar Sadrekarimi, Grad Student, CEE, University of Illinois at Urbana-Champaign - *Influence of Sand Particle Mineralogy on the Earthquake-Induced Displacement of Embankment Dams*

Each will receive \$500 prizes and will present their papers in a special session on at Dam Safety '09. With the help and recommendations from Committee members, Bruce Tschantz provided guidance to the students in drafting their final papers.

**Survey of Past ASDSO Scholarship Winners** – For many years, it was unclear what the ASDSO scholarship winners were doing after they graduated. In FY09, the CEO tried to find out. Results were used for the Waterpower presentation and will also be included in an upcoming article on CEO projects in the Journal of Dam Safety.



	FY08 (Final)	FY09 (Final)
Full Voting	46	51
Associate	1100	1096
Affiliate		
Company	189	181
Company Emp.	824	886
Individual	502	548
Student	25	27
Honorary	16	14
Senior	82	91
Sustaining	29	31
Total	2813	2905

### Projects:

- ▶ Recruit members nationwide.
- ▶ Recognize individuals and entities making a difference within the dam safety community.
- ▶ Create new and better ways to welcome new members and increase volunteerism within the community of members.
- ▶ Develop public awareness initiatives to help identify ASDSO's mission outside the membership community.

- Five Sustaining Members are States: California, Missouri, New Hampshire, New Jersey, Ohio, Oregon, and Pennsylvania, and Oregon.
- 492 new members joined in FY09.

## Goal #7: Create a unified community of dam safety advocates through membership in ASDSO.

### Volunteerism

#### Focus on New Members

The Membership Committee had another successful year. The annual "Meet and Greet" was held once again at ASDSO Annual Conference in Indian Wells, California. The main purpose of this event is to give a brief overview of the Association and to let the new/young members know where they can go to get answers to their questions. Over 50 new/young members attended this informative event.

Along with the "Meet and Greet" the committee held a New/Young Member Luncheon on Tuesday at the Annual Conference. The goal for this event was to help new members become connected to the association and its "veteran" members. ASDSO's new mentoring program was highlighted. The committee hopes this program will

*Many types of ASDSO members are participating on committees, task forces and projects. A current roster is included in Appendix C. Additional committee reports are included under different goals.*

encourage new engineers to continue their career in the dam safety industry, as well as become active members in the Association.

The committee also completed work on its new member packet, which will be distributed in FY10 to all new members.

#### The Affiliate Member Advisory Committee (AMAC)

The AMAC is a select group of private sector (Affiliate) members who have had outstanding careers and experience in dam safety related fields. This 30-member



President Ogden (far right) with representatives of Southern Cal Edison & CARPI winners of the National Rehab Award (L to R) John Wilkes, John Stoessel, Mark N. Davis and Matthew Pruchnik.



Larry Caldwell (center), winner of the National Award of Merit pictured with Bill Irwin (NRCS-retired) and ASDSO Director Lori Spragens.



Northeast Award of Merit Winner representative Joe Scannell (accepting for Denise Ruzkicka) with NJ Representative John Moyle (left).



Midwest Award of Merit winner James Hadley Williams (second from left) with Midwest reps (from L to R) Jim Alexander, Ken Smith and Mark Ogden.

group provides expert advice to the ASDSO Board and continues to lead through its work on many of ASDSO's most important projects and programs.

AMAC reps are chairing the following committees:

- Keith Ferguson, Journal Editorial Committee
- George Mills, Owner Education Committee
- Randy Bass, Technical Training Committee
- Art Miller, Technical Training Subcommittee on the Program of Study
- Paul Schweiger, Technical Training Subcommittee on Web-Based Training
- Bill Bingham, Peer Review Committee

John France was elected to chair AMAC beginning in FY09 and Mr. Bingham took over as vice-chair.

Thanks go to Bill Bingham for chairing the Peer Review Committee for over 15 years. He will be stepping down this next year. Steve Verigin will take over as chair.

Greg Paxson (Schnabel Engineering) was nominated and approved by the ASDSO Board of Directors to sit on the AMAC.

## 2008 Awards/Recognition

### **2008 Rehabilitation Project of the Year Award: Gem Lake Dam, Southern California Edison**

Freeze-thaw deterioration of the downstream face of concrete arch dams reduces the thickness and integrity of the concrete, leading to lower effective strength and subsequent reduced factors of safety. Eventually the factor of safety drops below the acceptable levels requiring extensive repairs or major reconstruction efforts. Gem Lake Dam, a multiple arch concrete dam located in the Eastern Sierra Nevada Mountains, just west of June Lake, California, exhibited just such freeze-thaw conditions.

Southern California Edison, the owner, evaluated three alternatives to address freeze-thaw conditions at Gem Lake Dam, settling on installing a polyvinyl chloride geomembrane on the upstream face of the dam. The geomembrane liner would stop the seepage of water through the porous concrete, thus interrupting the freeze-thaw cycles and reducing the deterioration evident on the downstream face of several arches.

SCE has been monitoring Gem Lake Dam for several decades, carefully observing seepage rates and concrete deterioration. In 1999, SCE began the investigation of alternatives to refurbish Gem Lake Dam. At the same time, the Federal Energy Regulatory Commission and the California Division of Safety of Dams asked SCE to





*Southeast Award of Merit winner Lindy Farmer (third from left) with Southeast reps (from L to R) Bo Bolourchi, Tom Woosley and James MacLellan.*



*West Award of Merit Winner Dwayne Lillard (center) with West Reps Rob Martinez (L) and Pat Diederich (R).*



*President's Award winner Matt Lindon (L) with President Ogden.*



*Outgoing president Mark Ogden (L) is honored by incoming president Rob Martinez.*

develop a plan to address the continuing concrete deterioration at the dam. The geomembrane installation in 2007 culminates more than seven years of planning and permitting of the project.

In order to evaluate the effectiveness of the installation of a geomembrane at Gem Lake Dam, drains were installed behind the liner at the three low points of the dam. These drains insure that water behind the geomembrane system is drained and that there is an air gap between the geomembrane and dam face. Thus, any water that makes its way behind the geomembrane will not seep into the dam, since gravity will move water to the low points, where the installed drains will allow the water to drain out the bottom of the geomembrane system.

**The Joe Ellam President's Award**

Outgoing President Mark Ogden tapped Matt Lindon, Dam Safety Hydrological Engineer with the Utah State Engineer's Office, as recipient of the Joe Ellam President's Award. Matt has been an active member of ASDSO for 16 years, serving on the Finance and Program committees and the Organizational Study Review Workgroup. In presenting the award, Ogden remarked, "For me, Matt has been a wealth of information about finances and investing, and about philosophy and life in general. As you all know, I have tried to emphasize involvement and service to ASDSO in this past year, and Matt is a model for all ASDSO members."

**2008 National Award of Merit: Larry Caldwell**

The National Award of Merit is ASDSO's most prestigious award, given to individuals who have advanced the dam safety cause nationwide. For his efforts to ensure the safety of those living downstream of potentially dangerous dams, the ASDSO Board of Directors enthusiastically confers this award to Larry Caldwell, U.S. Department of Agriculture Natural Resources Conservation Service State Engineer in Oklahoma.

In 2004, the USDA NRCS and ASDSO launched a joint effort to develop a sample EAP for earthen high hazard dams. Larry led a multi-agency work group that gathered examples of EAPS from various state and federal agencies, solicited "lessons learned" from activations of EAPs, and developed a draft sample EAP that was widely distributed for comment. Based upon the information gathered and comments received, NRCS revised its EAP policies, prepared a model EAP, and developed an electronic "fillable form" template, instructions, and helpful hints to prepare site specific EAPs.

As the NRCS state engineer in Oklahoma, Larry was instrumental in the implementation of these newly developed tools for the development of EAPs for 188 high hazard dams in one year through a cooperative effort between the NRCS, the Oklahoma Conservation Service, and local conservation districts.



Marty Stralow



Alan Pearson

**Honorary Members: Alan Pearson (Colorado) and Marty Stralow (Illinois)**

A registered Professional Engineer in California and Colorado, Alan Pearson has dedicated his professional life to dam safety. After receiving his B.S. in Civil Engineering from Michigan Technological University in 1962, he began his professional career as an Assistant Engineer with the California Department of Water Resources, where he was involved with water projects construction and dam safety. In 1971, Alan became a Dam Safety Engineer for the Colorado Division of Water Resources, retiring as Principal Engineer for the Dam Safety Program in 2002. Some of his career highlights include leading the Colorado State Engineer's investigation of the failure of Lawn Lake Dam, developing a training program on Failure Mode and Consequence Analysis and chairing the Geotechnical Division of the Colorado Section of ASCE. Alan served ASDSO as Colorado's State Representative (1992-2002), a member of Board of Directors (1993-1998) and ASDSO president (1996-1997). He has contributed his time and expertise to numerous ASDSO projects, participating in peer reviews for B. C. Hydro and the states of North Carolina, Maryland, Washington, Texas and Arizona. He also chaired the workgroup on Guidelines for Environmental Permitting for Dam Projects, participated in a workgroup for preparing the Guidelines for Reporting the Performance of Dams, and was part of the Interagency Committee on Dam Safety (ICODS) Technical Activities Committee that prepared the Training Aids for Dam Safety (TADS) program.

Marty Stralow graduated from the University of Illinois in 1974 with a B.S. Degree in Civil Engineering. He became a registered Professional Engineer in Illinois in 1979. Marty retired January 1, 2005 as Division Manager of the Illinois Department of Natural Resources water resources regulatory programs, supervising a staff of 25 engineers and support staff. He oversaw the processing of approximately 1200 annual construction permit requests; allocation of Lake Michigan water to 200 communities; annual expenditure of approximately \$5M state dollars for purchase of flood-prone properties; assurance of the safe construction, inspection, operation and maintenance of 1200 dams statewide; and eligibility of 600 communities for federal flood insurance. Marty was a member of



Three of the four 2008 scholarship winners attend Dam Safety '08 (from L to R): John Moyle (Scholarship Cmte. Chair), Joe Tom, Rachel Ernst, Brian Carlton, Bruce Tschantz (Chair, Committee on Education Outreach).

FEMA's original National Dam Inventory and Owner Dam Safety Guidebook committees, and its Blue Ribbon Committee on Probable Maximum Precipitation/Probable Maximum Flood. He served on the Upper Mississippi River Basin Association Floodplain Management Task Force, the Interstate Committee on Water Policy Dam Safety Policy Committee, and the Corps of Engineers Mississippi River Flow/Frequency Task Force following the flood of 1993. Marty served as Illinois state representative to ASDSO from its founding in 1984 through the early 1990s. He was ASDSO Vice President in 1989 and President in 1990. He served on numerous committees, including the first Model Dam Safety Program Committee, which he chaired, and the original Peer Review and Scholarship teams. He was honored to be appointed as an original state representative to the National Dam Safety Review Board.

**2008 Regional Awards of Merit**

**Northeast Region Award of Merit: Denise Ruzicka and the Connecticut Department of Environmental Protection Inland Water Resources Division**

In Fall 2005, floods damaged several of the state's bridges and dams. During that time the Connecticut DEP became aware of an internet based software application for monitoring bridges during floods developed by USEngineering (USES). A similar product was being developed as a means for efficiently dispatching field personnel to dams as part of DEP's flood response. Denise Ruzicka, Director of the DEP Inland Water Resources Division, contacted USES regarding the use of this program, DamWatch, to monitor and manage DEP-owned dams during floods. USES had just finished the beta version and was seeking clients interested in implementation. In 2007, through the dedicated efforts of Ms. Ruzicka and the Dam Safety staff, the CTDEP entered into a contract with USES to implement DamWatch for 276 state owned dams. The funding for this project was provided by Connecticut's award under the National Dam Safety Program grant.

The DamWatch system collects and processes real-time data at regular intervals from weather and hydrologic sources, meters and gauges and other

sensing devices. Data comparisons are then performed against internal dam databases to alert, when appropriate, essential personnel via any electronic medium when dams are experiencing a dangerous or critical event. DamWatch can also be utilized as a hands-on training and scenario tool for emergency preparedness because of the application's archiving and event simulation capabilities. The State of Connecticut has demonstrated great foresight in adopting this technology. The DEP's commitment to public safety is exemplary. This recognition of the Inland Water Resources Division and Ms. Ruzicka will further dam safety advocacy, not just in the Northeast Region but nationwide.

#### **Midwest Region Award of Merit: James Hadley Williams**

Prior to his retirement in 2000, James Hadley Williams served as State Geologist and director of the Division of Geology and Land Survey in the Missouri Department of Natural Resources. Since retiring, he has volunteered his services as a registered professional geologist to the Missouri Dam and Reservoir Safety Program in evaluating the geology of proposed dam sites and assessing geology related problems on existing dams. Dr. Williams was instrumental in getting the current Missouri Dam and Reservoir Safety Law passed in 1979. This effort took a number of years to accomplish and was successful largely due to the excellent reputation and rapport Dr. Williams developed over the years with the Missouri legislature. This law is the foundation on which the Missouri Dam Safety Program is founded.

Following the Taum Sauk Dam failure in 2005, Dr. Williams quickly stepped forward to volunteer his time in supporting the changes proposed to the Missouri Dam Safety Law. Soon after the dam failed, Missouri's governor announced his intent to expand the state's dam safety law to cover more dams. This effort involved completely rewriting the Missouri law to include a wider range of dams and eliminate some exemptions included in the original statute, as well as educating the public and members of the state legislature. Dr. Williams was more than willing to step into this role as an ASDSO representative. His efforts included driving halfway across the state several times in order to meet with state lawmakers and coordinating ASDSO's state-wide volunteer effort. His presence during the lobbying stage of this legislative effort and the fact that he represented a national organization known for its expertise on dams garnered the immediate attention and respect of Missouri legislators. Unfortunately, this year's legislative effort was not successful; however, next year's effort is in the planning stages, and Dr. Williams has once again volunteered his time to help. The Midwest Region is proud to recognize Dr. James Hadley Williams for the generous donation of his time, knowledge and skills and for the extraordinary depths of his dedication to public safety.

#### **Southeast Region Award of Merit: Lindy Farmer and the Henry County Water and Sewerage Authority**

Henry County Water and Sewerage Authority (HCWSA) and its General Manager, Mr. Lindy Farmer, are winners of the 2007 Southeast Regional Award of Merit. Under the direction of the Authority Board and Mr. Farmer, the Authority has planned and developed a comprehensive reservoir system to meet the County's current and future demands for water. The Authority takes every step to ensure its dams are well designed, constructed, and maintained, and its compliance with the Georgia Safe Dams Program is exemplary.

The Henry County Water and Sewerage Authority was founded in 1961 by an Act of the General Assembly of the State of Georgia, to "acquire, construct, and thereafter operate and maintain projects embracing sources of water supply and the distribution and sale of water and related facilities." With this legislation, the HCWSA was able to begin development of a water supply system and to begin protection of the watersheds contributing to the future reservoirs.

Prior to construction of Interstate 75 through Henry County in 1969, this rural farming community had seen a gradual 40-year decline in population. In 1970, Henry County's population increased to 20,000 – the same number recorded in 1920. Henry County is now the fastest growing county in Georgia and the sixth fastest growing county in the U.S. The population explosion and increasing business presence has increased the demand for water to approximately 15.3 million gallons per day (MGD), with a maximum of nearly 23.5 MGD. In 1995, the Authority served just over 19,000 customers; today it has over 50,000. Because of good foresight and planning, the supply of water has kept up with demand.

Because the county is located on the Eastern Continental Divide, provision of an adequate water supply required an ambitious program of storage reservoirs. The HCWSA system now has five reservoirs - Steele Mill, Gardner, Long Branch, Upper Towaliga and Tussahaw, the newest – with a combined storage capacity of over 55,000 acre-feet and a firm yield of more than 46 MGD, sufficient to meet the County's needs for at least 20 years.

The Authority has consistently stayed abreast of new developments to increase the safety of its dams. Notable design, operation, and maintenance features adopted by the Authority include:

- raising and strengthening Steele Mill Dam using roller compacted concrete
- installation of comprehensive internal drainage and instrumentation for all earth embankments
- modifications to increase the safety of earth emergency spillways; and
- installation of irrigation systems to maintain good vegetative cover on embankments.

*The ASDSO National Rehabilitation Project of the Year Award. In 2008, presented to Southern California Edison for the rehabilitation of Gem Lake Dam.*



### **2008-09 in Memoriam**

*Dan L. Fread  
Richard H. Frueh  
Carlos Marin  
Thomas F. Myers  
Lou Jordan*

#### **West Region Award of Merit: Dwayne E. Lillard, USACE Albuquerque District (retired)**

Dwayne Lillard, P.E., is the personification of a learning organization's professional. Following receipt of his civil engineering degree in 1971, he enlisted in the Army and served as a civil/geotechnical engineer for 2.5 years at USACE Waterways Experiment Station. In 1981 Mr. Lillard earned his M.S. in Civil (Geotechnical) Engineering and continued his tenure with the Corps, integrating knowledge into practice and sharing this experience with others.

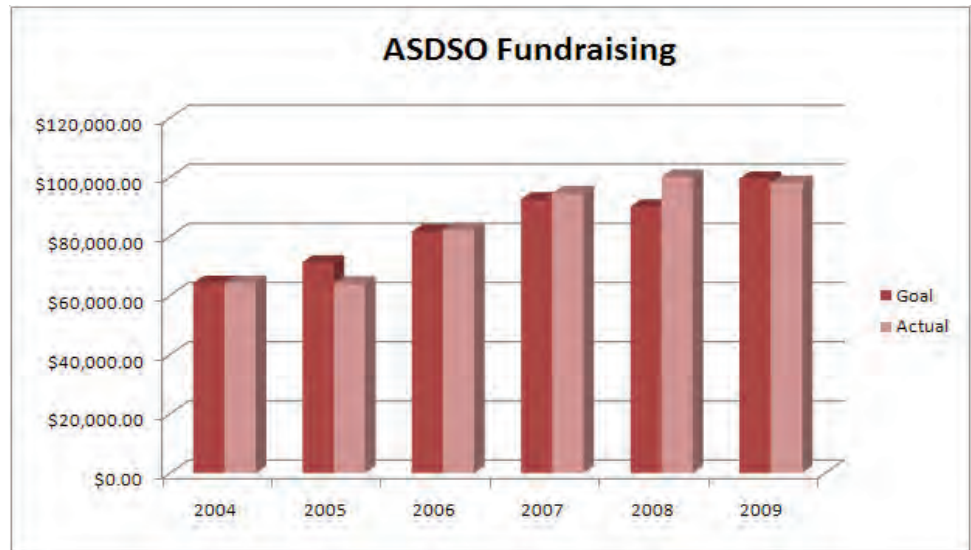
During his tenure, Mr. Lillard's expertise and leadership in the Dam Safety community resulted in technically defensible and practical USACE guidance and regulations, including ER 1110-2-1156, Dam Safety – Policy and Procedures. His reputation for technical excellence is widespread; and as a nationally respected member of the Corps of Engineers' Geotechnical Community, he has worked on highly visible, politically sensitive, high hazard earthen dams in California. Typical of his leadership and work ethic, he was name requested and deployed with a team of 6 engineers to Kauai, HI, and served as team leader for the inspection of 54 dams following the catastrophic failure of Kaloko Dam. During this same interval, he remained actively involved in the seismic and dam safety investigations for Isabella and Success Dams in California and responded to requests for guidance from his District co-workers. He is held in the highest regard by national, regional, and district USACE personnel.

Mr. Lillard has always endeavored to excel in his chosen profession, meeting the challenges placed before him in his typical manner – directly. The unique climate, soils, rock and hydrology of the Southwest

demand a unique understanding. His contributions to the understanding of Alkali-Silica Reactions of southwest soils resulted in successful concrete mix designs used for construction of outlet works, spillway sections, and appurtenant structures for various dam projects for the district and region.

Among Mr. Lillard's contributions to the Corps of Engineers has been his ability to develop successive leaders in the field of Civil and Geotechnical Engineering. Over nearly four decades, he took the time and effort to mentor, coach, encourage, and teach young engineers the nuances of soil mechanics, foundation and pavement designs, and dam safety. His strong work ethic, expertise, and dedication served to make him an outstanding role model for scores of young engineers, geologists, and engineering technicians. His ability to recruit, develop, and champion young engineers is evidenced by the strong professional workforce of the Albuquerque District.

Upon retirement, he held the position of South Pacific Division Dam Safety Program Manager; Regional Geotechnical Engineer; and was a valued member of the USACE-HQ Dam Safety Communities of Practice Steering Committee, USACE Infrastructure Security Assessment Team, and the Risk Assessment Methodology from Dams Team. He was also an influential member of the USACE Field Review Groups for Dam Safety Risk Analysis and Geotechnical Engineering Research and Development Program, and principal lecturer in the Corps' Dam Safety Prospect Course, "Design and Safety Surveillance of Embankment Dams."



## Goal #8 - Managing the association effectively through internal policies and procedures.

### ASDSO Leadership Transitions

#### Board of Directors

During the annual conference in September, the state voting members elected new officers and new regional representatives to sit on the Board of Directors. The 2008-09 officers include the following:

- President: Rob Martinez, Nevada
- President-Elect: David Gutierrez, California
- Treasurer: John Moyle, New Jersey
- Secretary: James MacLellan, Mississippi

These officers, along with immediate past president Mark Ogden (Ohio) and executive director Lori Spragens made up the Executive Committee in 2008-09.

Thanks go to outgoing president Rob Martinez for his outstanding contribution and extensive time devoted over 2008-09 to ASDSO.

New Board members elected in 2008 include the following:

- Cas Taherian (Maryland), representing the Northeast Region
- Dennis Dickey (Pennsylvania), representing the Northeast Region

- Tom Woosley (Georgia), representing the Southeast Region
- Jason Boyle (Minnesota), representing the Midwest Region
- Jason Campbell (Illinois), representing the Midwest Region
- Mark Haynes (Colorado), representing the West Region
- John Falk (Idaho), representing the West Region

These elected officials join the following members to complete the Board of Directors for 2008-09:

- Bo Bolourchi (Louisiana), representing the Southeast Region
- Pat Diederich (Nebraska), representing the West Region

AMAC Chair John France (URS Corp.) sits on the Board representing the AMAC. AMAC Chair-Elect Bill Bingham (Gannett Fleming) also attended meetings on behalf of the AMAC.

Thank you to those Directors leaving the Board at the end of FY09.

- James MacLellan, Mississippi
- Mark Ogden, Ohio

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See Appendix D for a list of 2008-09 Patron Donors and Sustaining Members.

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### State Representatives

North Carolina State Dam Safety Engineer Steve McEvoy was named as North Carolina's voting representative in October of 2008.

Arthur P. Christian, II, P.E., Supervising Civil Engineer of the Connecticut Department of Environmental Protection is Connecticut's new state rep. Art is taking over for long-time member Wes Marsh, who retired from state service in August, 2009.

The new state rep in Oklahoma is Robert S. Fabian, Technical Section Program Manager. Bob replaces Walid Maher who left state service in June, 2009.

### ASDSO Nominations Committee

The Nominations Committee (Mark Ogden, Chair) was formed in early 2009 to identify potential candidates for future office (2009-10). At the summer Board meeting, the committee nominated the following individuals for officers' positions:

- President: David Gutierrez, CA
- President-elect: John Moyle, NJ
- Treasurer: Bo Bolourchi
- Secretary: Jason Campbell

The State Voting Representatives will consider these nominations at the Annual Business Meeting in September 2009.

### Finance Committee

The Finance Committee had its hands full this year overseeing changes in ASDSO's investment program, as the economic downturn affected a small portion of ASDSO's long-term investment plan. But, on a positive note, the committee also saw an outpouring of giving by many members and the hard work of volunteers across the country, as the sixth year of the ASDSO Annual Fundraising Drive exceeded its goals.

### FY2009 Action Plan

There were 67 projects spelled out in the FY2009 Action Plan. All were completed or underway at the end of the fiscal year.

### Budgeting and Income

ASDSO ended FY09 under budget and with a surplus of income.

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Minutes from Board meetings and the Annual Business Meeting for State Representatives are available at the ASDSO website. All other committee meetings and regional caucus meetings minutes are available upon request.

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During FY09, ASDSO signed or carried out project contracts with the following:

DHS, FEMA (National Dam Safety Program projects): Signed Federal FY08 contract through ASDSO's GSA Contract totaling \$424,370. To carry out technical seminars, distribute training stipends to state dam safety engineers, and to maintain the information clearinghouse.

DHS, Office of Infrastructure Protection (Dams Sector). Signed in Federal FY08 contract through ASDSO's GSA Contract totaling \$410,000. To carry out dam security workshops, stand up the State Dam Security Panel, hold the Second Annual National Dam Security Forum, create and collect baseline metrics to analyze state participation in dam security programs.

US Army Corp of Engineers Topographic Engineering Center: Extension of contract in Federal FY09 totaling \$19,500 to coordinate state dam safety program and NID data collection.

State of Florida: \$20,000 to hold a technical seminar for state dam safety officials.

State of New Mexico: \$22,000 to hold a dam owners workshop.

ASDSO is a GSA Multiple Award Schedule contractor. GS10F0261R.

#### FY09 Financial Summary

<u>Revenues</u>	<u>Budget</u>	<u>Actual</u>
Dues	\$276,500	\$282,754
Patron Program	\$27,000	\$23,565
Annual Conference	\$540,045	\$549,990
Seminar/Workshop Fees	\$144,500	\$117,918
All Other Income	\$90,500	\$81,575
Contracts	\$768,458	\$797,812
<b>Total Revenue</b>	<b>\$1,847,003</b>	<b>\$1,853,614</b>
<u>Expenditures</u>	<u>Budget</u>	<u>Actual</u>
Salaries, Fringes, Taxes*	\$262,182	\$223,024
Board & Committees	\$113,500	\$118,250
Annual Conference	\$377,904	\$374,225
Journal and E-News	\$65,120	\$70,656
Direct Operating Costs and Subcontracts	\$279,859	\$264,218
Contracts*	\$748,137	\$746,380
<b>Total Expenditures</b>	<b>\$1,846,702</b>	<b>\$1,796,753</b>

\* Contracts include a portion of salaries, fringes and payroll taxes: \$121,103 (budgeted) \$157,240 (actual). Total Payroll budgeted for FY09 = \$383,285 vs. Actual = \$380,264.

# WORKING TOWARD A FUTURE WHERE ALL DAMS ARE SAFE



THE ASSOCIATION OF STATE DAM SAFETY OFFICIALS

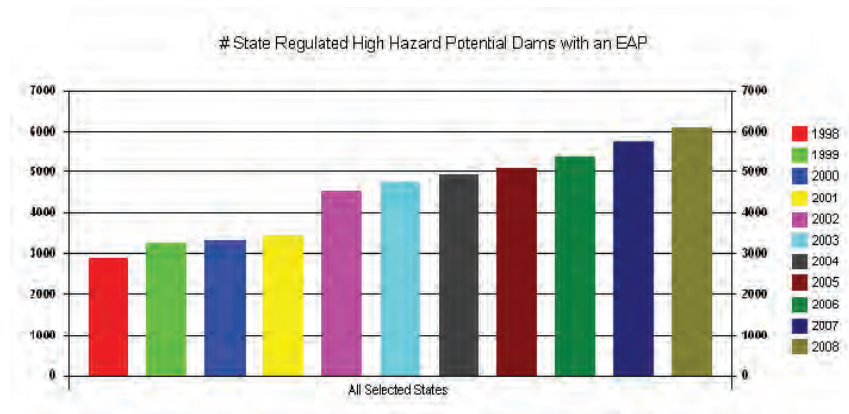
450 OLD VINE STREET, LEXINGTON, KY 40507

859.257.5140 - [INFO@DAMSAFETY.ORG](mailto:INFO@DAMSAFETY.ORG)

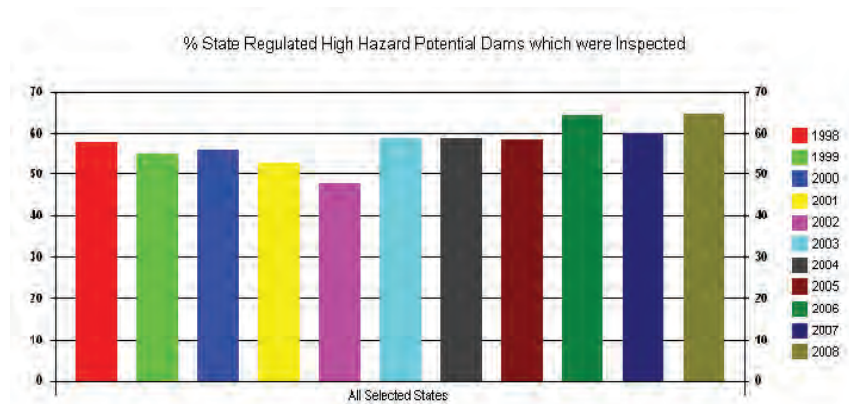
[WWW.DAMSAFETY.ORG](http://WWW.DAMSAFETY.ORG)

# Appendix A

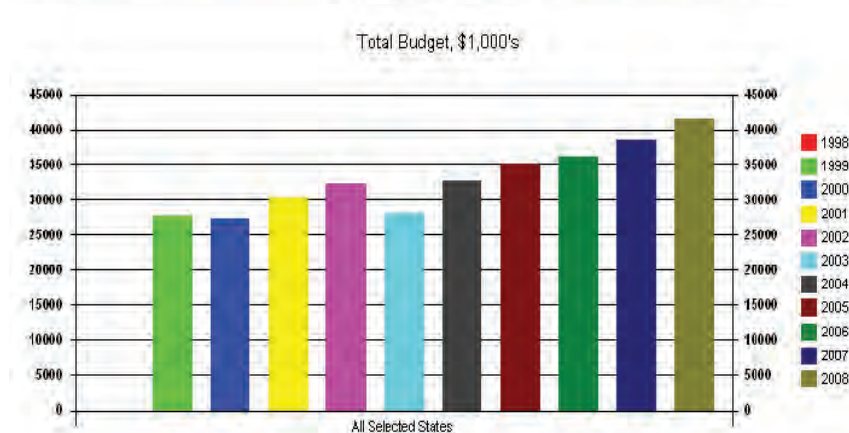
The following graphs summarize data collected in FY09 from the state dam safety regulatory agencies for the Calendar Year 2008. Data collected was used to update performance metrics that are used by the National Dam Safety Program at FEMA to measure improvement in dam safety programs, by ASDSO as a benchmarking project comparing each state to the Model State Dam Safety Program and by the National Flood Insurance Program's Community Rating System to give credit to states with adequate dam safety programs. New this year, data was collected to establish a baseline for the measuring the efficacy of state dam security efforts.



Measuring progress in number of Emergency Action Plans on file with the state.

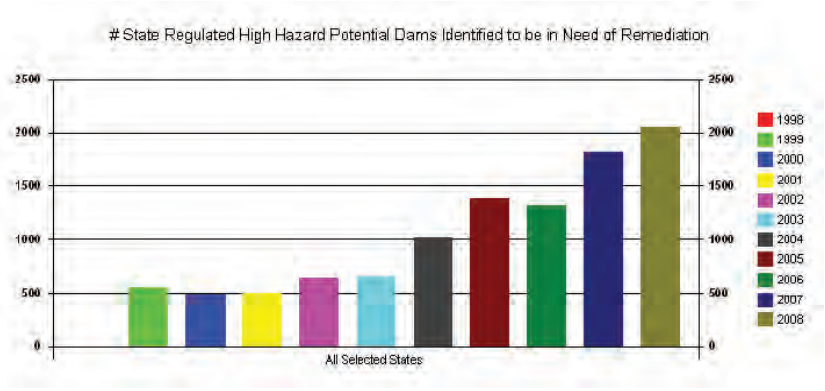


Measuring progress in number of inspections of high-hazard potential dams.

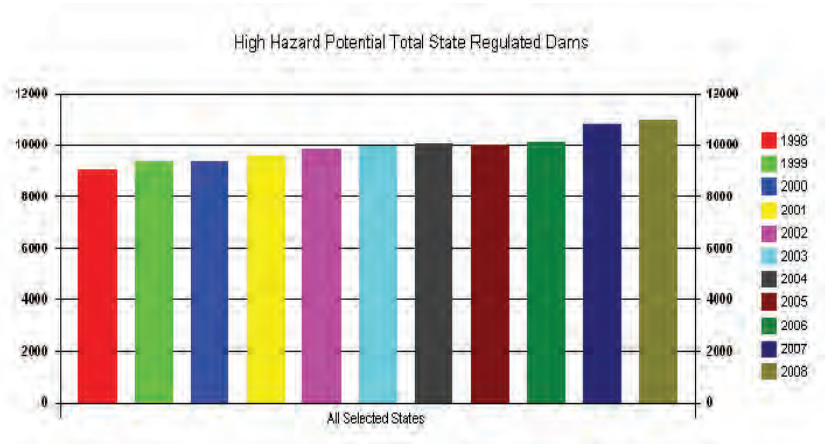


Measuring state resources for dam safety regulation: budgets.

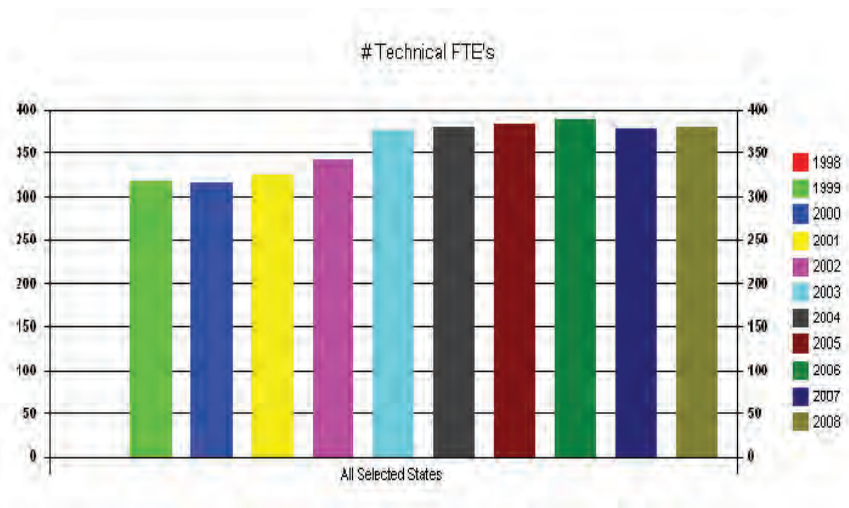




Number of State Regulated High Hazard Potential Dams Identified to be in Need of Remediation.



Changes in number of high-hazard potential dams of any size under state regulation.



Measuring state resources for dam safety regulation: staffing.

# Appendix B

## ASDSO Press Release

### Investment in Infrastructure: Focus on Dams

*For Immediate Release: January 29, 2009*

The Association of State Dam Safety Officials (ASDSO) today releases new numbers on the national cost of rehabilitating the nation's non-federal dams and recommends a federal program to fund rehabilitation of dams, which will encourage state parallel funding programs, provide for cost sharing and stretch the funding pool to maximize the number of dams that will be rehabilitated.

As the new Congress and Administration focus funding on infrastructure improvements and the American Society of Civil Engineers releases its 2009 Infrastructure Report Card, US dam safety officials announce new estimates for upgrades to non-federal dams: The total cost of needed dam repairs nationwide is \$50 billion, including \$16 billion for high-hazard-potential dams. These cost estimates have increased significantly since the Association's 2003 report (\$36 billion for all dams and \$10.1 billion for high-hazard-potential dams).

Of the \$16 billion directed toward high-hazard dams (those whose failure would likely cause loss of human life), roughly \$8.7 billion is needed to repair publicly owned dams with the remaining \$7.3 billion needed for privately owned dams.

Further, in order to eliminate the existing backlog of 1819 deficient high-hazard-potential dams<sup>1</sup> over the next ten years, the number of high-hazard-potential dams repaired will need to be increased by an additional 270 dams per year above the number currently being repaired - at an annual cost of \$850 million. ASDSO estimates that, in 2007, about \$700 million was spent collectively to rehabilitate about 341 dams (according to state data on dam rehabilitations completed during that year).

The nation's approximately 85,000 regulated dams provide vital benefits, including flood protection, water supply, hydropower, navigation, irrigation and recreation. While the estimated cost of rehabilitating our nation's dams is high, the collective cost of deferring maintenance on these structures is staggering.

The latest data from the National Inventory of Dams (NID), maintained by the US Army Corps of Engineers, shows that the number of deficient dams in the nation is increasing – up by 36% in the last five years.

Dam owners — municipal, state and private – not state or federal regulators – are responsible for dam maintenance and repairs. Many dam owners, both public and private, are facing rehabilitation price-tags averaging in the hundreds of thousands of dollars, which few can afford.

While federal agencies own or regulate only about 4% of the 85,000 dams in the US, they too face formidable challenges as the nation's dams continue to age, downstream development increases and dam design and construction standards evolve. The US Army Corps of Engineers is spending roughly \$317 million to fix a dangerously leaking Wolf Creek Dam in Kentucky; the Corps is working with the US Bureau of Reclamation on a ten-year \$1.5 billion project to upgrade Folsom Dam in California; Center Hill Dam in Tennessee is undergoing rehabilitation estimated to cost \$263 million; and the list goes on.

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Regulators determine a dam's hazard potential classification based on the downstream consequences should the dam fail or have a serious incident; the classification has absolutely nothing to do with a dam's condition or safety. **A high-hazard potential classification does NOT mean the dam is deficient.** Dams that have a high-hazard rating are supposed to meet very stringent standards so that they can withstand all credible extreme events such as floods and earthquakes; yet states have determined many high-hazard-potential dams as deficient, proving that—in many instances—the stringent standards are not being met.

"Deficient" is defined as a dam that is not capable of performing safely under all required design pool and loading conditions. Note: Each state may have different definitions and standards.

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ASDSO reports that state dam safety officials are preparing for a potential influx of needed funds, as state and federal lawmakers begin to focus on infrastructure. Many states are compiling lists of “shovel-ready” dam rehab projects – those where construction could begin within two to 24 months. ASDSO is aware of 272 projects in 21 states that meet this definition. The funding need for these projects alone reaches almost \$382 million, which is the tip of the iceberg for dams in need of rehab.

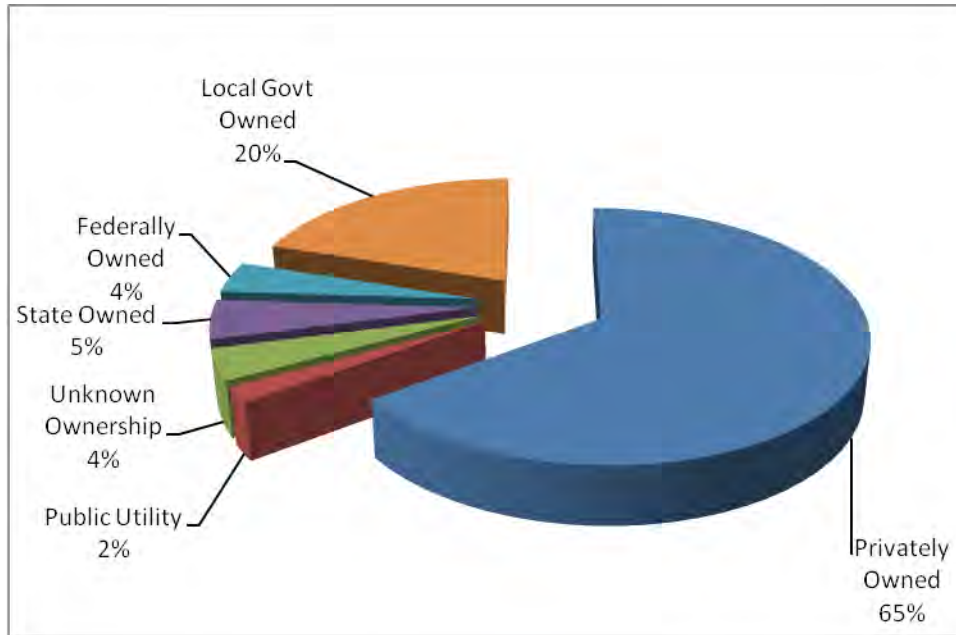


Figure 1: Breakdown of Dam Ownership

Current ASDSO President Rob Martinez states, “Rehabilitating dams not only sustains their benefits, but also protects public safety. ASDSO applauds the American Society of Civil Engineers, and *Building America’s Future*, led by Pennsylvania Governor Ed Rendell, in bringing national attention to the aging infrastructure issue. In concert with these efforts, ASDSO asks the Obama Administration and Congress to create a fund for dam rehabilitation—administered through state dam safety programs—that could focus dollars over several years toward the most critical dam rehabilitation needs.”

ASDSO endorses legislation that would provide federal funds to be cost-shared at 65 percent federal to 35 percent state/local for non-federal publicly owned dams. The legislation would provide funds to states based on the number of high-hazard dams in each of the participating states.

##

*Since its formation in 1984, the Association of State Dam Safety Officials (ASDSO) has served as one of the premier professional organizations for individuals committed to ensuring the safety of dams in the U.S., including government officials, engineering consultants, contractors, manufacturers and suppliers, researchers, teachers, dam owners and operators and students.*

# Appendix C

## ASDSO Committees, Task Forces and Liaisons

### Affiliate Member Advisory Committee

John France, URS Corp. CO, Chair  
Bill Bingham, Gannett Fleming, PA, Vice-Chair  
Randy Bass, Schnabel Engineering, GA  
Terry Arnold, MWH America, CO  
Bob Bowers, O'Brien & Gere  
Bob Dalton, Vasconcelles, IL  
Al Davis, Independent Consultant, NH  
Eric Ditchey, McCormick Talyor, NJ  
Dave Eichelberger, Christopher R. Burke Engineers, IN  
Keith Ferguson, Kleinfelder, CO  
Craig Findlay, Findlay Engineering, ME  
Steve Fry, Avista Corp., WA  
John Garland, Brazos River Authority, TX  
Joe Kula, URS Corp., Gaithersburg, MD  
Marty McCann, Jack R. Benjamin & Associates, NPDP, CA  
Art Miller, Penn State University, PA  
Don Millikan, Southern California Edison Co., CA (retired)  
George Mills, GEM Consulting, OH  
Carl Montana, French & Parrello, NJ  
Karl Myers, Piedmont Geotechnical Consultants, GA  
Greg Paxson, Schnabel Engineering  
Kurt Rinehart, Miami Conservancy District, OH  
Richard Rudolph, Xcel Energy., WI  
John Rutledge, Freese & Nichols, TX  
Mel Schaefer, MGS Engineering Consultants, WA  
Paul Schweiger, Gannett Fleming  
Steve Snider, Independent Consultant, NY  
Ed Tomlinson, Applied Weather Associates, CO  
Jim Weldon, Denver Water Board, CO

### Annual Conference Program Committee

#### 2008

John Ritchey, New Jersey, Chair  
John France, URS Corp.  
Audrey Karper, US Fish and Wildlife Service  
Eric Ditchey, McCormick Taylor  
Michele Lemieux, Montana  
Matt Lindon, Utah  
Greg Hanson, Ag. Research Center (Dept. of Ag)  
Y-Nhi Enzler, California

### Annual Awards Committee

John Falk, Idaho, Chair, West Region  
Bob Finucane, Vermont, Northeast Region  
Lyle Bentley, Tennessee, Southeast Region  
Bob Dalton, Illinois (Retired), Midwest Region  
Dennis Dickey, Pennsylvania, Northeast Region  
Pat Diedrich, Nebraska, West Region

### Constitution & Bylaws Committee

Brian Long, Chair, West Virginia  
Jim Gallagher, New Hampshire  
Ed Fiegle, Georgia  
Dave Gutierrez, California  
Jim Leumas, City of Raleigh, NC  
Ken Smith, Indiana

Jim Alexander, Missouri  
Bill Jenkins, Maricopa County, AZ  
Charles Cobb, Alaska  
Mark Ogden, Ohio  
Elaine Pacheco, New Mexico  
Glenn Lloyd, Missouri

### Dam Owner Outreach Advisory Committee

George Mills, Chair, GEM Consulting  
Richard DeBold, New Hampshire  
John Moyle, New Jersey  
Raul Silva, Massachusetts  
Brad Iarossi, US Fish & Wildlife Service

#### Trainers

Phil Moreschi, Fuss & O'Neil  
Dan Marks, Marks Ent.  
John Rutledge, Freese & Nichols  
Eric Ditchey, McCormick Taylor  
Carl Montana, French & Parello  
Paul Schweiger, Gannett Fleming  
John France, URS

### Finance Committee

John Moyle (Chair), New Jersey  
Dave Gutierrez, California  
Mark Ogden, Ohio  
Ken Smith Indiana  
John France, URS Corp., Colorado  
Matt Lindon, Utah  
Dave Eichelberger, Christopher Burke Engineering, Indiana  
Karl Myers, Piedmont Geotech. Eng.  
Rob Martinez, Nevada  
(Include Board Secretary in correspondence as well.) James MacClellan

#### 2008 Silent Auction Coordinators

Dean Durkee, Gannett Fleming  
Tara Meyer-Schutter, Applegate  
Katy Goolsby-Brown, Kimley-Horn  
Stephanie Lindloff, American Rivers

### Legislative Activities

Brad Iarossi, Chair, Maryland  
Jim Gallagher, New Hampshire  
John Moyle, New Jersey  
John Falk, Idaho  
Raul Silva, Massachusetts  
Meg Galloway, Wisconsin  
Dan Lawrence, Maricopa County, AZ  
Eric Ditchey, McCormick Taylor, NJ  
John Ritchey, New Jersey  
Ken Smith, Indiana  
George Mills, GEM Consulting  
Joe Kula, URS  
Jack Byers, Applegate

### **Levee Safety Committee**

Mark Ogden, Chair, Ohio  
Steve Verigin, GEI  
Dave Gutierrez, California  
Paul Perri, Colorado  
Bill Bingham, Gannett Fleming  
Matt Scherer, Kansas  
John Rutledge, Freese and Nichols

### **Membership Committee**

Sky Medors (Chair), Lawson-Fisher  
Jason Boyle, MN  
Chrissy Ferazanno, Schnabel Engineering  
Visty Dalal, Maryland

### **Officers Nomination Committee**

#### 2009

Mark Ogden, Chair

### **Outlet Works Committee**

Chuck Cooper (Chair), Bureau of Reclamation  
George Annandale, Colorado  
Ed Toms, Colorado  
Ray Martin, Virginia  
Greg Zamensky, Maryland  
Dick Horn, West Virginia  
Mike Knarr, California  
Anders Bjarngard, Massachusetts  
Lisa Cahill, Virginia  
Scott Cahill, Virginia  
Arvil Bass, Oklahoma  
Wade Anderson, Texas  
John Falk, Idaho  
Randy Sullivan, Georgia  
Jim MacLellan, Mississippi  
Mark Haynes, Colorado  
Erin Gleason, Colorado  
Joe Monroe, Georgia  
Param Dhillon, California

### **Peer Review Committee**

Steve Verigin, Chair, GEI Consultants  
Bill Bingham, Gannett Fleming Engineers  
Carl Montana, French & Parelo (Consultant)  
Jim Weldon, Denver Water (Owner)  
Tom Kelly, Southern Cal Edison (Owner - retired)  
George Mills, Ohio (State-retired)  
Jim Simons, North Carolina (State)

### **Peer Review Team Pool**

#### **Consultants**

Mr. Terry Arnold, Senior Project Manager, MWH America, Denver, CO  
Mr. Randall P. Bass, P.E., Senior Associate, Schnabel Engineering South LLC, Alpharetta, GA  
Mr. William B. Bingham, Vice President, Gannett Fleming Inc., Harrisburg, PA  
Mr. Eric J. Ditchey, P.E., Project Manager, McCormick, Taylor & Associates, Mount Laurel, NJ  
Mr. Ron M. Lemons, Senior Vice President, Freese & Nichols, Inc., Fort Worth, TX  
Mr. Carl J. Montana, Senior Vice President, French & Parrello Associates, P.A., Wall, NJ

Mr. Alton P. Davis, Jr., President, Alton P. Davis, Jr. Engineering Consulting, West Ossipee, NH

### **Dam Owners**

Mr. Thomas A. Kelly, P.E., (Formerly with) Southern California Edison Company, West Hills, CA  
Mr. Larry K. Lambert, Project Manager, Flood Control Dist. Of Maricopa County, Phoenix, AZ  
Mr. Richard M. Rudolph, P.E., Supervisor/Hydro Engineering, Xcel Energy, Eau Claire, WI  
Mr. James H. Weldon, Engineering Manager, Dam Safety, Denver Water Department, Denver, CO  
Mr. John Cima, Consulting Engineer, Dominion Resources Services, Inc., Glen Allen, VA

### **State Dam Safety Officials**

Mr. David A. Gutierrez, Chief, California Dept. of Water Resources, Division of Safety of Dams, Sacramento, CA  
Mr. Greg Hammer, Sr. Professional Engineer, CO Division of Water Resources, Greeley, CO  
Mr. Dan R. Lawrence, P.E., (Formerly with the) Arizona Department of Water Resources, Phoenix, AZ  
George E. Mills, (Formerly with the) Ohio Dept. of Natural Resources, Division of Water Engineering) Pickerington, OH  
John Moyle, Manager, NJ Department of Environmental Protection, Dam Safety Section, Trenton, NJ  
John Ritchey, Supervising Engineer, NJ Department of Environmental Protection, Dam Safety Section, Trenton, NJ  
Stephen W. Verigin, (Former ) Chief Deputy Director, CA Department of Water Resources, Sacramento, CA

### **Specialized Pool (US Federal & Canada)**

Ms. Mona Bechai, Principal, MOBEC Engineering  
Mr. Barry Hurndall, Director, BJH Engineering Ltd.  
Mr. Daniel J. Mahoney, Deputy Director, Div of Dam Safety & Inspections, Federal Energy Regulatory Comm.  
Mr. Arthur H. Walz, Jr., P.E.

### **Retired reviewers**

Marty Stralow  
George Austin  
Cat Cecilio  
Alan Pearson

### **Other**

Chris Veesaert did BC Hydro

### **Scholarship Committee**

John Moyle, Chair, New Jersey  
Carl Montana, French & Parelo  
Raul Silva, Massachusetts  
Jeris Danielson, Danielson & Associates  
George Mills, GEM Consulting  
Don Martino, (PA, retired)  
Elaine Pacheco, NM

### **Student Education Outreach Committee**

Bruce A. Tschantz, Co-Chair, Prof. Emeritus, Knoxville, TN (Chair Emeritus)  
Beth Cooper, Co-Chair, Kansas Dept. Agr, Dam Safety Program  
Fares Y. Abdo, Portland Cement Assoc., Birmingham, AL  
John Livingston, CH2M Hill, Redding, CA  
Dan Marks, Marks Enterprises, Arden, NC  
Marty McCann, Stanford University, Stanford, CA  
Art Miller, ret., Penn State Univ., College Sta., PA

John Moyle, New Jersey DEP  
Milton Myers, USACE-WES, Vicksburg, MS  
Peter Nicholson, University of Hawaii  
Keith Thole, USACE - St. Louis Dist.

USSD Liaisons

Donald Basham, USACE, Crestwood, KY (retired)  
Dan Johnson, MWH, Denver, CO

**Technical Journal Editorial Committee**

Keith Ferguson, Chair, Kleinfelder  
Don Millikan, Southern Cal Ed., retired, CA  
Al Davis, Alton P. Davis, Jr. Consulting Engineers  
Michele Lemieux, Montana  
Jim Gallagher, State of New Hampshire  
John France, URS Corp.  
Mark Schultz, California  
Craig Findlay, Findlay Engineering  
Bill Sturtevant, Wisconsin  
Lyle Bentley, Tennessee

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