

## WHAT IS AN EMERGENCY ACTION PLAN?

A plan of action to reduce potential property damage and loss of lives in an area affected by a dam failure. A complete EAP includes a map of the potential inundation area, procedures and information for warning emergency management authorities, and other crucial information.

More than 400 HHP dam owners in Missouri have not completed an EAP. No dam owner has to shoulder the burden of creating an EAP alone. City and County Emergency Management Directors and the Missouri Department of Natural Resources (DNR) Water Resources Center staff stand ready to partner with dam owners in helping them create EAPs. Available resources include technical and emergency management expertise, along with state and national educational materials, EAP forms and examples, and step-by-step guidelines.

EAP procedures are developed in coordination with local emergency management officials to ensure compatibility with their needs, systems and functions. The dam owner has to be the leader who initiates the EAP process, but the emergency responders are going to be the primary users of the EAP. They and other involved parties need to be satisfied with its accuracy, thoroughness, and likelihood of success. The completed document should have had input from emergency action managers, emergency response organizations, and leaders of downstream communities and development – directly or indirectly, everyone who may be impacted.

DNR has begun an initiative to greatly increase the number of EAPs for state-regulated dams over the next few years. DNR engineers and technicians are using new technologies to create inundation maps of areas below HHP dams. This will help dam owners complete a vital element of their EAPs. Inundation maps show areas that may have to be evacuated in a dam emergency. The maps facilitate notification by displaying flood areas and also estimated travel times for the wave front.



**DamSafetyAction.org**

### KEY POINTS ABOUT EAPs

- An EAP must clearly specify the dam owner's responsibilities to ensure timely and effective action. Responsibilities of dam owners include: surveillance (watching the condition of the dam) and notification (phoning local emergency officials).
- EAPs are developed by the dam owners working in coordination with emergency managers.
- The emergency manager is the link between the dam owner and emergency responders.
- Local emergency responders are primary users of EAPs.
- Public awareness is a critical component of emergency planning. Many citizens do not know they may live or work near a HHP dam. Public participation in preparation of an EAP will enhance confidence in the plan and its accuracy.
- The EAP defines events that trigger emergency actions.
- Inundation maps show areas that may have to be evacuated. The maps facilitate notification by displaying flood areas and also estimated travel times for the wave front.
- An EAP includes a notification flowchart with names and numbers of who will call whom and in what priority.
- EAPs are constantly updated to include new information such as changes in downstream development.
- Emergency events at dams are infrequent. Training and rehearsals/exercises of EAPs help maintain readiness.

### QUESTIONS OR COMMENTS

Phone toll-free 877-410-3551  
eMail: [info@damsafetyaction.org](mailto:info@damsafetyaction.org)

# EMERGENCY ACTION PLANS HELP DAM OWNERS AS WELL AS PEOPLE DOWNSTREAM AND UPSTREAM



**DamSafetyAction.org**



An Emergency Action Plan includes procedures for warning those living, working, or enjoying recreation below a dam. Local emergency managers may add evacuation routes to an EAP.

### DAM OWNER RESPONSIBILITIES

For most dam owners and managers, a failure of their dam would be a personal as well as a legal calamity. Often the owners are local residents who know many of the people, businesses, schools, and other institutions that would be impacted by an inundation. Some dam owners are neighborhood associations and other organizations whose members reside near the dam's reservoir.

In Missouri, the owner of a High-Hazard Potential (HHP) dam has the legal and social responsibility to provide an Emergency Action Plan (EAP). A dam owner is responsible for a dam's operation and any incident related to it. That entails significant liability, especially with HHP dams that can threaten lives and property.

Considerable time and effort must be devoted to creating an EAP, filing it appropriately with state and local officials, updating plan details, testing the plan's assumptions and functionality, and following its procedures in an emergency. The act of completing an EAP demonstrates that a dam owner has been actively attempting to prevent and mitigate harm to persons and property.

# EVERY HIGH-HAZARD POTENTIAL DAM NEEDS AN EAP

*An EAP takes time, focus,  
and dedication. The time is now.  
The focus is on saving lives.  
The dedication is to the safety  
of all Missourians.*



## GETTING STARTED

Some owners of HHP dams are simply not aware that by Missouri regulation they must have EAPs on their dams. Other owners believe that periodic state safety inspections are sufficient for an EAP. This is not the case. Safety inspections and EAPs are very different. Most dam owners are anxious to complete an EAP but many do not know how to get started or do not realize the urgency.

Missouri's State Emergency Management Agency noted in its October 2008 Missouri Hazard Analysis that "Dam owners have the primary responsibility for the safe design, operation, and maintenance of their dams. They also have responsibility for providing early warning of problems at the dam, for developing an effective Emergency Action Plan, and for coordinating that plan with local officials." For more information on Missouri dam regulations and laws, visit [www.damsafetyaction.org](http://www.damsafetyaction.org).

A typical form for an EAP on a HHP dam can be somewhat intimidating. An extensive amount of detail is required and a dam owner may feel overwhelmed. That need not be the case. Creating an EAP for a HHP dam is a process that involves a partnership with the state, the county, and the community.

## ***Emergency Action Plans are a Public Health and Safety Benefit for all Missourians***

### TEAM UP WITH THE EXPERTS

The best way to begin is by drawing on the expertise of state and county officials who will be part of your EAP team. Locally, make time to sit down with the city or county Emergency Management Director (EMD). The EMD will know how and where to gather much of the information needed, other professionals who can be called upon for help, and precisely which details are most important to gather first. Priorities can be established, and a reasonable timetable for completion of the EAP can be developed. The county courthouse or city hall will have the name and contact information for the EMD.

Another good starting point is the Missouri Department of Natural Resources Water Resources Center in Rolla, where the state dam safety regulatory team is headquartered. DNR has posted an EAP template for Missouri dam owners online at [www.dnr.mo.gov/env/wrc/damsft/EAP.htm](http://www.dnr.mo.gov/env/wrc/damsft/EAP.htm). Recently DNR began a program to develop HHP dam inundation maps, which dam owners can integrate into their EAPs. Dam owners may contact the DNR dam safety office:

**Missouri Department of Natural Resources  
Water Resources Program  
111 Fairgrounds Road  
Rolla, MO 65401  
Phone: 573-368-2177, Fax: 573-368-2193**

### DNR RESOURCES:

A summary of Missouri guidelines for emergency action planning may be found at:  
[www.dnr.mo.gov/env/wrc/damsft/pubs\\_av.htm](http://www.dnr.mo.gov/env/wrc/damsft/pubs_av.htm)

This document, "Dam and Reservoir Guidelines for Community and County Emergency Action Planning," was developed to encourage thorough and consistent emergency action planning. It offers a blueprint to be followed in developing EAPs for HHP dams.

The Water Resources Center has several dam safety and EAP booklets and audio-visual aids. They can be ordered by phone or online at the website and include:

- FEMA: Dam Safety Publications and Other Resources
- Dam Safety - Who Is Responsible
- Training Aids For Dam Safety (TADS): How to Develop and Implement an Emergency Action Plan

### NATIONAL RESOURCES

Several national organizations provide extensive training and information for dam owners wanting to complete EAPs. Among them:

- The Association of State Dam Safety Officials (ASDSO), which welcomes dam owners as members and has an extensive website at [www.damsafety.org](http://www.damsafety.org)
- The Federal Emergency Management Agency (FEMA) at [www.fema.gov](http://www.fema.gov).
- The USDA Natural Resources Conservation Service (NRCS) at [www.nrcs.usda.gov](http://www.nrcs.usda.gov).

Following are just some of the materials available.

### ASDSO RESOURCES:

[www.damsafety.org/resources/downloads](http://www.damsafety.org/resources/downloads)

- Dam Ownership: Responsibility & Liability
- Dam Safety, An Owners Guidance Manual
- Emergency Action Planning for Dam Owners (FEMA 64)
- Emergency Action Planning Video
- Procuring the Services of a Professional Engineer

ASDSO also holds workshops for dam owners at various locations around the United States. These workshops cover several topics, including EAPs. For more information, contact ASDSO at:

**Association of State Dam Safety Officials  
450 Old Vine Street  
Lexington, KY 40507  
Phone: 859-257-5140  
[info@damsafety.org](mailto:info@damsafety.org) • [www.damsafety.org](http://www.damsafety.org)**

### FEMA RESOURCES:

FEMA also makes several publications and videos available to dam owners through the website:

[www.fema.gov/plan/prevent/damfailure/publications.shtm](http://www.fema.gov/plan/prevent/damfailure/publications.shtm)

The following resources are free to dam owners, operators, and regulators and address emergency action planning and the safety of dams.

- Training Aids for Dam Safety (TADS): A Self-Instructional Study Course in Dam Safety Practices (FEMA 609DVD)
- Expert Video Series (FEMA P-717DVD through FEMA P-722DVD)

- Emergency Action Planning Video
- Emergency Action Planning for State Regulated High-Hazard Potential Dams: Findings, Recommendations, and Strategies (FEMA 608)
- Emergency Action Planning for Dam Owners (FEMA 64)
- Federal Guidelines for Dam Safety (FEMA 93)
- Glossary of Terms (FEMA 148)
- Hazard Potential Classification System for Dams (FEMA 333)

For information specific to Missouri, contact:

**Federal Emergency Management Agency  
9221 Ward Parkway, Suite 300  
Kansas City, MO 64114-3372  
Phone: 816-283-7063**

### NRCS RESOURCES:

USDA's Natural Resources Conservation Service works with sponsors/owners of HHP dams, many of which fall under state regulation. NRCS has created guidelines and templates for EAPs. A fact sheet on EAPs can be found at: [www.damsafety.org/media/Documents/EAP/EAPfactsheet.pdf](http://www.damsafety.org/media/Documents/EAP/EAPfactsheet.pdf).

NRCS also has posted its own EAP instructions at: <http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21519>.

For NRCS dam safety programs in Missouri, contact:

**Missouri NRCS State Office  
Parkade Center, Suite 250  
601 Business Loop 70 West  
Columbia, MO 65203-2546  
Phone: 573-876-0900 • Fax: 573-876-0913**

