

Dam Safety News

VOLUME 9, ISSUE 1

SPRING 2018

A DAM

A dam is a barrier that impounds water and generally serves the primary purpose of retaining water. Wisconsin law defines a dam as "any artificial barrier in or across a watercourse which has the primary purpose of impounding or diverting water and includes all appurtenant works, such as a dike, canal or powerhouse".

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2018 National Dam Safety Technical Seminar

Each year FEMA sponsors a National Dam Safety Technical Seminar at the Emergency Management Institute in Emmitsburg, Maryland. This year marked the 25th anniversary of the seminars with a subject matter including Interim Risk Reduction Measures and Rehabilitation.

Over 200 professionals attended the seminar, representing various agencies including but not limited to the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission (FERC), State Government officials, and Local Government officials. This year's seminar was held on February 21-22, 2018.

Both days of the seminar were filled with extraordinary speakers with a vast amount of knowledge and experience related to dam safety and emergencies involving dam incidents. One of main topics of interest included the 2017 incident relating to the Oroville Dam in California. The Oroville Dam is the tallest earthen dam in the United States (770 ft), with over

180,000 residents located immediately downstream on the Feather River. The dam is assigned an Extremely High hazard rating in the State of California and is owned by the California Department of Water Resources. In 2017 due to the extreme amount of water received, the concrete spillway flowed at record flow rates and the emergency spillway flowed for the first time in the dam's history. As a result, the flow way below emergency spillway, and the concrete chute downstream of the primary spillway were both severely damaged.

Federal, State, County and City officials responded to the emergency, and were tasked with the difficult decision to evacuate tens of thousands of residents downstream. Roads were backed up with traffic, and many people were evacuated from their homes to higher ground, which may have taken over 5-6 hours to get to. Thankfully, no lives were lost related to the dam emergency.

It is difficult to summarize the intense nature of the Oroville Dam situation, especially since I wasn't there. However, hearing the experiences of the professionals who were, was eye opening. As a Dam Safety and Floodplain Engineer for the Wisconsin Department of Natural Resources, these types of experiences remind me how important my job and the job of dam safety professionals everywhere is. Even though the State of Wisconsin may not have dams the same size of the Oroville Dam, it is important that the goal to protect life, health and property is met.

An important takeaway from the training was just how important local Emergency Managers are. They wear several hats, and are assumed to be a jack of all trades. From responding to fires, floods, or even dam failures. The level of involvement of Emergency Managers varied from agency to agency but it was clear, how important it is to keep these folks involved.

2018 Technical Seminar cont.

In our State all large dams are required to have an adequate Emergency Action Plan (EAP). During the seminar various speakers, including County Emergency Managers, described the importance of an adequate and thorough EAP. They also described how important the relationships between the dam owner, emergency responders, regulatory agencies, and all those involved in the EAP are. One of the recommendations was to get those involved on site to see the actual dam structure and to meet one another. By seeing what the dam structure consists of gives everyone an idea of what they are dealing with under various failure conditions.

Unfortunately, dam failures do happen and the results can be catastrophic. It is important that dam's owners and those involved know what their roles are in the event of an emergency. Deciding to evacuate residents downstream of a dam may be one of the toughest decisions those involved will ever have to make. I cannot express enough how important an effective EAP and maintaining the structural integrity of all dams really is. Mike Rogney—WME, Eau Claire

Do you know who is your local emergency management director? Is their contact information up to date in your EAP? See Page 4 for a link to the

Spring Cleaning Tips

Spring cleaning is not just for the house. Dam owners also need to do some "spring cleaning" to ensure their dam is ready for the new season. Some spring cleaning tips include:

- Debris clean up – clean debris from the gates, spillways and other outlet structures. Debris accumulates all year, but it is very important to clear the branches, weeds and other accumulated debris from your dam before spring flooding. Debris in the spillway and gates severely reduces the capacity of the dam and often leads to overtopping during high flows.
- Gate operation – Check your gate operators. If you have chains to lift gates, be sure they are in good condition and will not fail if you are faced with opening gates or pulling logs. Get the grease gun out and lubricate the motors and gate stems. Find your gate wheels, keys to the fences, pike poles and gaff hooks and put them in a place that is easily accessible during a flood event.
- Structural inspection – Walk the dam and note problems that have developed during the winter months. Take pictures and document ice and freeze/thaw damage, scour, erosion, seepage or piping, and other changes that could affect how your dam operates, both under normal and flooding conditions. If you see serious problems, notify your consultant engineer now, before spring thaw.
- Review IOM/EAP – Review the documents you have developed for Inspection, Operation and Maintenance, as well as Emergency Action. Revise telephone lists, if necessary, and your list of suppliers for emergency resources. Make sure that you let everyone on the sign-off know changes you have made.



Lake Altoona Dam

Municipal Dam Grant Program

The 2017-19 Biennial Budget provided \$4 million for Dam Grants, of that, approximately \$3.5 million will be committed to fund eligible engineering and construction costs associated with the maintenance, repair, modification or abandonment and removal of municipally owned dams. The updated Municipal Dam Grant Application Form 3500-088 (Rev. 11/17) and instructions were available beginning November 13, 2017. **The grant application deadline is April 30, 2018.** Follow this link for application information: <http://dnr.wi.gov/Aid/DamMunicipal.html> or type "dam grant" into the search bar @ www.dnr.wi.gov .



Minong Dam

The Municipal Dam grant program provides a cost-sharing opportunity for eligible engineering and construction costs for dam maintenance, repair, modification or abandonment and removal up to a maximum of \$400,000. Funding sources outside the applicant's own resources can be used toward the local match for this grant. We encourage interested, eligible parties to begin work now on documents that must be submitted with your grant application. You can find information about these documents under the *How to Apply* tab. Costs related to the development of these documents may be grant eligible for those applicants who receive a grant.

ELIGIBLE PROJECTS

Eligible projects include dam repair, reconstruction or modification to improve the safety of the dam, or abandonment and removal. The owner must have the inspection directives or an administrative order that requires the dam safety project.

Dam repair/reconstruction/modification project grant awards will cover:

- 50 percent of the first \$400,000 of eligible project costs;
- 25 percent of the next \$800,000 of eligible project costs; and
- Dam abandonment and removal project grant awards will cover 100 percent of the first \$400,000 of eligible project costs.

A fully completed application and all required attachments must be received on or before close of business on April 30, 2018 in order to be considered for funding.

Dam Safety Database

The DNR Dam Safety Database is a great resource for dam owners and operators and others in the dam safety profession. The information in the database can be used when developing an emergency action plan or an inspection, operation, and maintenance plan. The database can also assist dam owners in determining inspection schedules.

The Dam Safety Database can be accessed from the Dam Safety website at: <http://dnr.wi.gov/topic/Dams/damSearch.html>. Two searches have been developed to help determine the inspection schedules for state regulated, large dams and to provide selected database information for dams in the dam inventory.

Emergency: Who do you call?

If despite your best efforts at maintaining your dam, an emergency arises, the first thing to do is to open your Emergency Action Plan (EAP) and follow the steps outlined. If for some reason, you do not yet have an EAP for your dam and failure is imminent, then call 911 and prepare to provide the following information to the 911 operator:

- Name and title of the person reporting the incident;
- Call back number of the person reporting the incident;
- Name/location of the dam, including: county, waterbody, and nearest road;
- Present condition of the dam such as perceived problem, gate status, or level of pond in relation to the low point in the embankment

Link to County Emergency Managers: http://emergencymanagement.wi.gov/counties/county_directors.asp

**Under any circumstance, if failure is imminent, call 911 first.
Then call the Wisconsin Emergency Hotline to reach Dam
Safety Staff.**

Wisconsin Emergency Hotline
1(800) 943-0003 (24-hour)
Press "1"
Ask for "DNR Duty Officer"

"Dam Safety News" is published by the WDNR, Bureau of Watershed Management. Its purpose is to inform dam owners and operators as well as others concerned about dam safety issues. Comments or contributions are welcome.

This newsletter is supported by funding through NEMA National Dam Safety Grant No. EMW-2016-GR-00009 as part of the National Dam Safety Program. The contents do not necessarily reflect the views and policies of the federal government.

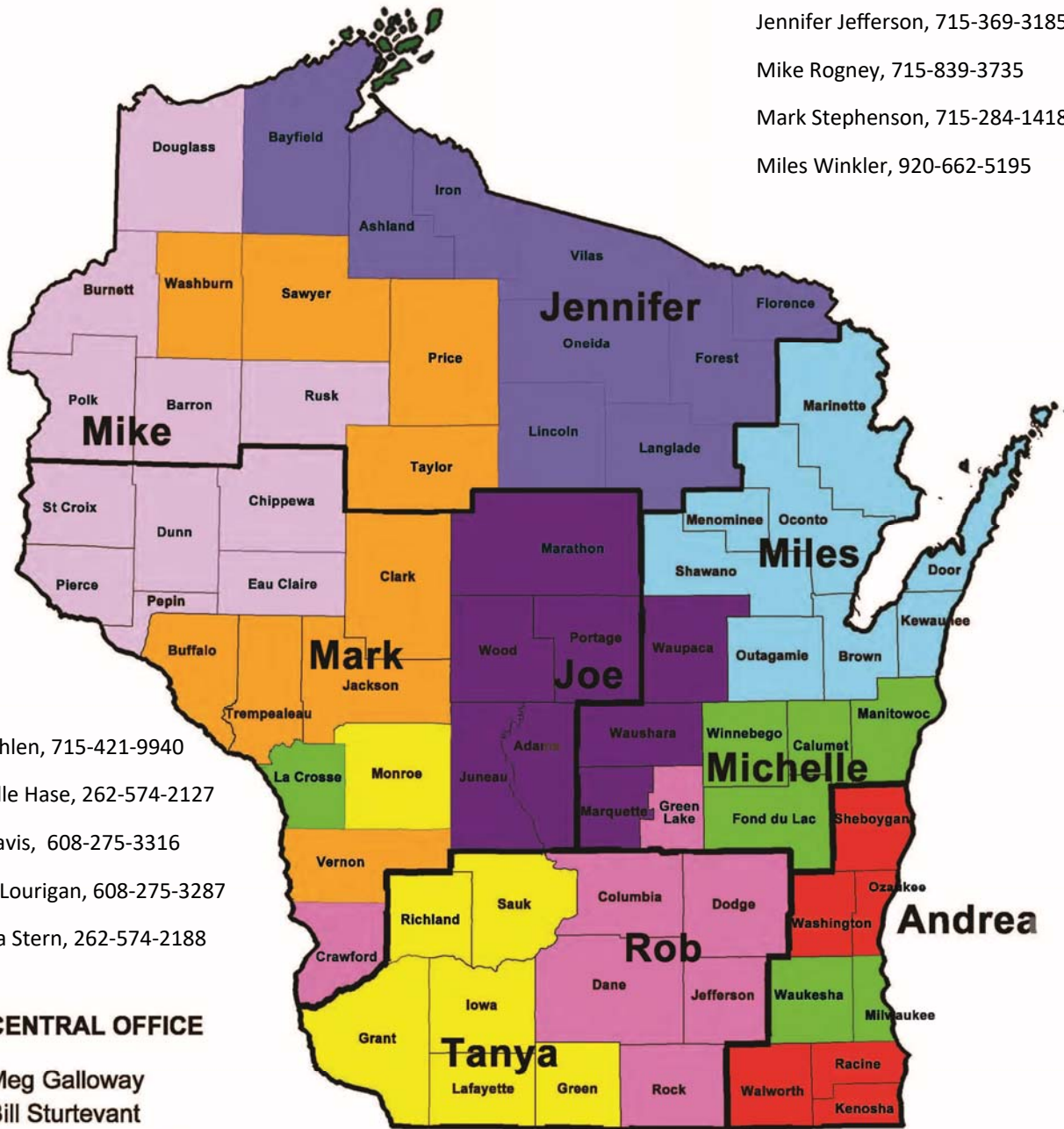
For further information regarding the WI Dam Safety Program, please visit our website at:

<http://dnr.wi.gov/topic/dams/> or email: dnr damsafety@wisconsin.gov.



Dells Lake Dam

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