



Dam Safety Program
2600 Bull Street
Columbia, SC 29201



South Carolina Dam Safety News

ISSUE 7

SPRING/SUMMER 2023

A Message from John McCain, PE– Dam Safety Program Manager

It's 2023 and another year has passed since our last Newsletter. Fortunately, Hurricane Season 2022 spared us any severe impacts, and only produced one hurricane – Ian, in September – that made landfall in South Carolina with minimal impact to dams. Tropical Storm Colin formed just off the coast and dissipated soon after in July. The 2023 hurricane season is right around the corner, and unfortunately, it's unlikely we will be so lucky two years in a row. But we can't focus only on tropical storms and hurricanes; in May 2022 approximately 3 inches of rain fell in Columbia's Five Points district in one hour. A very intense burst of rainfall can be just as problematic for dams as the multi-day soakings we see with tropical systems. Owners of dams must always be prepared for adverse weather impacts by routinely checking on dams, performing maintenance tasks when they're due, keeping spillways clear, keeping Emergency Action Plans up to date, and fostering healthy relationships with partners in dam safety (co-owners, neighbors, emergency management officials, city and county employees, DHEC, etc.). Feel free to reach out to your Regional Dam Safety Representative (see Page 4) if you have any questions about how to make your dam as prepared as possible for extreme rainfall events.

The past year has been very busy for the Dam Safety Program, with a lot of new and continuing initiatives underway. I would like to take this opportunity to describe some of these initiatives that may affect you, the dam owner.

High Hazard Potential Dams (HHPD) Rehabilitation Grant Program Update

The Dam Safety Program has been administering the High Hazard Potential Dams Rehabilitation Grant (HHPD) since 2019, with \$2,547,754 total Federal funds awarded to the state but only \$415,750 passed through to dam owners and another \$301,821 used by DHEC Dam Safety to perform risk assessments on publicly owned eligible High Hazard dams. The remainder of these funds were unused and returned to the Federal government. DHEC understands how complex the HHPD grant program is, and how restrictive the eligibility requirements set by FEMA have been. FEMA conducted a series of HHPD listening sessions this winter, and DHEC conveyed that the HHPD grant program is too complex and has too many requirements; however, many of these requirements are set in law (Water Infrastructure Improvements for the Nation Act of 2016) and cannot be changed except through an act of

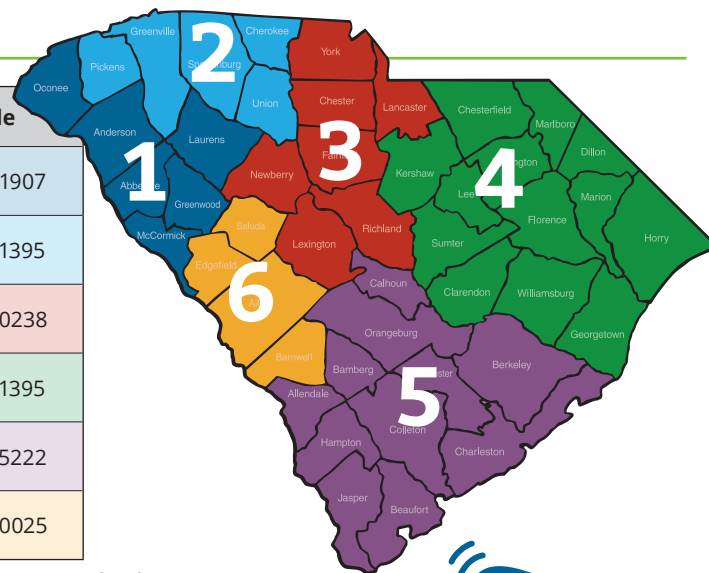
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Congress. Regardless, we will continue to be a voice for simplification and refinement of the HHPD program. FEMA has additional changes planned for the Fiscal Year 2023 HHPD grant, and DHEC will work to ensure dam owners are well informed and fully prepared to submit applications for funding in this year's grant cycle. One major change is that the past timeline for HHPD grants – where DHEC receives a grant in September and begins accepting sub-award applications from dam owners in October through December – is changing. This is due to the Infrastructure Improvement and Jobs Act of 2021 providing \$585 million for the HHPD grant program. Because of this new source of funding, the HHPD grant is no longer tied to annual appropriations from Congress, and thus FEMA is no longer tied to a Federal Fiscal Year (i.e., funds obligated before September 30) for the grant cycle. As of this writing, I do not know when the FY23 HHPD grant application window will open for the states, and thus I do not know when DHEC's sub-award application window will open for dam owners and/or project sponsors. Please visit DHEC's Dam Safety Program website frequently for the most current information on the HHPD grant program.

DHEC Regional Staff Listing

Area	Office	Staff	Office	Mobile
1	Anderson	Hannah Vinson vinsonhm@dhec.sc.gov	864-260-5585	864-276-1907
2	Greenville	Chuck Owens owensc2@dhec.sc.gov	864-372-3273	864-561-1395
3	Columbia	Ryan Sullivan sullivrd@dhec.sc.gov	803-896-9548	843-992-0238
4	Florence	Chuck Owens* owensc2@dhec.sc.gov	864-372-3273	864-561-1395
5	Orangeburg	Dani Felkel felkeldh@dhec.sc.gov	803-533-5490	803-614-5222
6	Aiken	Tim Mettlen mettleta@dhec.sc.gov	803-642-1637	803-522-0025



*Jared Woodard left DHEC Dam Safety Program in April, Chuck Owens is the interim contact for the Pee Dee Region.

We're On Call: 803-898-1939

Dam Safety Program Staff are available 24–7 in the event of an emergency situation.



VIEW PAST ISSUES OF THIS NEWSLETTER AT SCDHEC.GOV/DAMS.

Message (CONTINUED)

Emergency Action Plan (EAP) service / EAP app on the horizon

Many dam owners have taken advantage of DHEC's EAP assistance service, where Dam Safety Program staff will help create a draft EAP that is pre-populated with information such as: detailed dam information, dam ownership info, potentially at-risk population info, and a dam breach inundation map. While we continue to offer this service, we are hoping to create a website that will make this more of an automated service where dam owners can use a custom-designed website to create, update, and share Emergency Action Plans. A mock-up of this EAP website is available here: tinyurl.com/nhzmbfv5. We will gladly accept feedback from dam owners to take into consideration in the development of the final version. Send your comments, thoughts, and suggestions to us at response@dhec.sc.gov.

Bathymetry service

We have recently added a new piece of equipment to make our bathymetric surveys (i.e., mapping of the pond bottom) much easier. For dams and reservoirs that are very close to the 50-acre-foot threshold for regulation, a bathymetric survey can more accurately provide a pond volume measurement than the old USDA Natural Resources Conservation Service method of multiplying dam height (in feet) by pond surface area (in acres) by 0.4 to estimate maximum dam storage capacity. The bathymetric survey can also help estimate how much storage has been lost to sedimentation in a reservoir over the years. For dam owners whose ponds may be very close to the 50-acre-foot threshold, a bathymetric survey may result in a new pond volume estimate below 50-acre-feet and allow the dam to be exempted; however, for reservoirs that are much larger than 50 acre-feet (based on USDA-NRCS method) and/or have dams 25 feet in height or above, a bathymetric survey will not result in an exemption. Contact the Dam Safety Program to inquire if your dam is a good candidate for a bathymetric survey.

Notices/Reminders

Trees on Dams

Did you know trees are detrimental to the structural integrity of a dam? During significant or even moderate wind events, trees can topple over and leave holes and voids in the dam that can lead to an uncontrolled release of impounded water. Roots can extend significant distances into the dam, allowing water to travel along their path; this situation is called piping, and it can occur without inclement weather events whether the roots are healthy or not. Diseased or dead roots become

a larger problem as they decompose. Toppling of trees can create a catastrophic failure. Piping generally starts slow and increases with time, but the voids left by fallen trees increase the rate at which water is able to escape. These situations can potentially cause the dam to fail and impact homes, roads, and other property downstream.

Trees can also create shade on a dam, which hinders the ability to have sustained grass cover. Bare areas are vulnerable to erosion during rain events and are especially dangerous if the dam overtops. It is recommended that trees and brush be removed from the entire dam, including both slopes, the crest, 15 feet or half the height of the dam (whichever is greater) past the toe, and the emergency/auxiliary spillway. Spillways should be kept clear at all times to prevent restrictions on the flow of water.

DHEC recommends removing tree saplings as soon as they appear; a permit is not required to remove trees less than 4 inches in diameter. Generally, trees larger than 4 inches in diameter also require removal of the stump and roots. Because stump removal can affect the structural integrity of the dam, a permit to remove the trees and stumps through a tree management plan created by a South Carolina licensed professional engineer is needed. If you have any questions, please call the Dams and Reservoirs Safety Program at 803-898-4050 or email us at response@dhec.sc.gov.



Dam Safety Staff Photo - Well Maintained Dam (left), Uprooted Trees (right)

When Do I Need a DHEC Dam Safety Permit?

The South Carolina Dam Safety Program is governed by the Dams and Reservoirs Safety Act (SC Code of Laws, Title 49, Chapter 11, Article 3) and the Dams and Reservoirs Safety Act Regulations (SC Code of Regulations 72-1 through 72-9). The complete text may be found on our website (scdhec.gov/dams), just follow the link labeled "Laws and Regulations." Regulation 72-3 outlines which activities require a permit.

Change of Dam Ownership/Change in Contact Information

It is critically important that DHEC has both correct and current ownership and contact information for all owners of state regulated dams. If you've recently sold your dam, or changed address, telephone number, or e-mail address, please let us know so we can update our records. We are also happy to verify the contact information we currently have on file for you. The Dams and Reservoirs Safety Program can be reached at 803-898-4050 or via email at response@dhec.sc.gov

News/Information

ReadyOp Emergency Notification

The Dam Safety Program utilizes the ReadyOp Emergency Notification system to send scripted telephone calls (robocalls), text messages, and emails to owners and operators of regulated dams. ReadyOp is used in a targeted manner, where alerts are sent to dam owners in the counties which may be affected by a given weather event. Under certain circumstances, such as a hurricane approaching the state with a large cone of uncertainty, do we send an alert to all dams across the state. Once a year, the Dam Safety Program conducts a test alert to all owners of regulated dams. This year, our test will take place on **June 9th, 2023**. If you would like to be registered for ReadyOp system notifications, are not sure about your registration status, or want to change registration details, dam owners may register themselves and/or a desired emergency contact by contacting the Dams and Reservoirs Safety Program at 803-898-4050 or by emailing us at response@dhec.sc.gov.

SC Adopt-a-Stream



SC Adopt-a-Stream is expanding its statewide volunteer water monitoring efforts from wadable streams to now include lake monitoring. Our team is looking to connect with volunteers interested in learning more about their local water quality. To start out, trained volunteers will monitor water temperature, transparency, aquatic plants and shoreline habitat by submitting data to our publicly accessible [database](#). This data is intended to be used for educational, screening and baseline purposes. Volunteer data from our 500+ adopted stream sites has already proven to help identify issues and help to educate citizens on how they are connected to their waters. Learn more by filling out this interest form office.com/g/cuKBTSWFy6.

Have a Problem with Beavers?

Talking about tenacious and incessant, beavers are definitely an example of never giving up. Remove one of their dams and it seems like overnight they will rebuild them. While they can be controlled it will also take some tenacious and incessant effort on the dam owners part to be successful. Check out the following for information on beaver control.

SC Department of Natural Resources (SCDNR) provides information concerning what a landowner can do in South Carolina for beaver control. For information from SCDNR concerning beaver control for landowners visit: dnr.sc.gov/wildlife/publications/pdf/beavercontrol.pdf

For SCDNR information concerning wildlife removal services visit: dnr.sc.gov/wildlife/control.html

U.S. Department of Agriculture (USDA) Animal and Health Inspection Service offers Beaver Management Assistance from Wildlife Services State Offices. For information on USDA assistance with beavers visit: aphis.usda.gov/aphis/ourfocus/wildlifedamage/operational-activities/sa_beavers/ct_assistance.

For Wildlife Services assistance in your state, call toll-free (866-487-3297).

Meet your Regional Dam Safety Staff



Tim Mettlen, PG, Area 6 — Aiken

Tim Mettlen is a 1989 graduate of the University of South Carolina with a B.S. in Geology. He began his career with DHEC in 1991 as a Hydrogeologist. Since then, he has expanded his experience in both the public and private sectors as a SC Professional Geologist with over 30 years of groundwater experience. His experiences include ground modeling, contamination, and remediation. He joined the Dam Safety Program in February 2023 as the Regional Dam Safety Inspector covering Area 6, based out of the Aiken office. The aspect of extensive field work and understanding the relationship between groundwater discharge and recharge in correlation with surface water bodies has always been of interest to Tim.