

KANSAS

FLOODPLAIN MANAGEMENT TIPS



August 2021

Do Farm Tiles Increase Flooding?

In Illinois, community-wide public meetings after flood disasters are common. Angry residents demand to know why they are flooding! At virtually every one of these events, someone stands up and blames farm tiles for the increase in flooding. Heads in the crowd all nod in agreement. It seems to be a commonly held belief in downstate Illinois where many people blame tile drainage for their flood problems

So, let's just cut to the chase. The short answer is that farm tiles do not affect flooding very much, at least within the context of large floods.

Over the years, many researchers have studied this oft heard complaint about farm tiles. A 2016 University of Iowa study found "...there exists a threshold rainfall magnitude over which there is minimal effect of subsurface drainage. For smaller events, tiling routes the flow through the subsurface and keeps the soil drier, which increases infiltration and reduces surface runoff while increasing subsurface flow." Translation: for small non-flood events, farm tiles minimally increase stream flows.

However, the study continues to say: "For very large storm events, the rainfall magnitude and intensity are so high that surface runoff dominates, irrespective of the antecedent conditions created by the tile drains". Translation: During heavy rainfall, water runs off on the surface rather than through tiles.

Other researchers in the Midwest have shown much the same thing; that farm tiles minimally increase total stream flow over the course of the year (non-flood conditions). Most of this happens during late spring and summer. There is little debate that tiles have increased average stream flows over the last century. But, during heavy rainfall or flood conditions, farm tiles have little or no impact on flooding.

There are likely other reasons for the increased flooding in Illinois. Climate change is causing temperatures to increase, hotter temperatures cause greater evaporation, more evaporation results in heavier rainfalls, and heavier rainfalls cause an increase in flooding. It's not a good time to live in an identified flood risk area. But, farmers and farm tiles are not to blame.

Sloan, B.P., Mantilla, R., Fonley, M. and Basu, N.B., 2017. Hydrologic impacts of subsurface drainage from the field to watershed scale. *Hydrological processes*, 31(17), pp.3017-3028.

Schilling, K.E. and Helmers, M., 2008. Effects of subsurface drainage tiles on streamflow in Iowa agricultural watersheds: Exploratory hydrograph analysis. *Hydrological Processes: An International Journal*, 22(23), pp.4497-4506.

KAFM Conference

Due to the extraordinary events that took place in 2020, the Kansas Association of Floodplain Managers (KAFM) were forced to cancel the planned 2020 Conference set in Mulvane, Kansas in early September. Though many were disappointed, the Board of Directors decided to postpone the Mulvane arrangements as well as allow attendees to postpone their registrations for one year to the 2021 Conference, set for September 1st-3rd, 2021.

With the cancelation of the 2020 conference, the attendees missed the scheduled

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speakers. Topics included the NFIP and Endangered Species Act, Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), and Building Resilient Infrastructure and Communities (BRIC) Funding, as well as Permitting and Notification/Definition of Waters of the US. Possible points of interest

in these topics that may be further expounded upon during the presentations is that the U.S. Fish and Wildlife Department has released several new tools to help individuals find potential habitats that could interfere with a planned project, and to receive official determinations and documentation of compliance with the Endangered Species Act. There are interesting new CRS planning sub-element opportunities that can be completed via these tools. The Federal Emergency Management Agency (FEMA) mitigation funding can be a complicated and daunting undertaking for those unfamiliar with the required processes to achieve a successful grant application.

Receiving instruction from federal grant experts can be invaluable information. FEMA has also released new digital tools available online to help guide potential applicants through the grant application process. Permitting of all kinds is a prevalent issue and challenge for developers and communities, so receiving perspectives and lessons learned from entities such as the U.S. Army Corps of Engineers is highly advantageous. Navigable waters often intersect floodplain issues, for instance, in flood control projects. There were many other knowledgeable speakers scheduled to give presentations on current floodplain management and industry challenges, changes, successes, and insights at the 2020 KAFM Conference.



DWR Staff at KDA booth KAFM 2019

With the progress Kansas has made with the global pandemic over the last year and a half, KAFM has been able to proceed with the scheduled conference, in-person, in Mulvane at the Kansas Star Event Center. On this year's topics agenda, the 2020 speakers have been given another chance to give their missed presentations. New topics have also been introduced, such as nonstructural flood solutions for the city of Rossville and a presentation on elevation certificates and LOMAs from the surveyor perspective. Further details about the conference can be found at KAFM.org | Kansas Association for Floodplain Management, Inc. Come see the DWR Floodplain Team at our KDA KAFM booth this year.

Risk Rating 2.0 In Kansas

Risk Rating 2.0 is fundamentally changing the way insurance will be rated. The first phase of Risk Rating 2.0 will be rolling out on October 1, 2021 for new policies or those that would benefit from it. The goal of the new methodology is to update a system that has been in place since the 1970s and needs a change to reflect new technology and more variables contributing to flood risk than the current, or legacy rating. A variety of datasets will now be included in the calculation such as flood types, distance to a flooding source, heavy rainfall, catastrophe modeling, and cost to rebuild. The datasets will be pooled from numerous entities, public and private. The new rating will ensure policyholders are paying their fair share for their individual risk. Home value reflected in the cost to rebuild has caused some of the disparities in premium amounts, which will now be corrected.

Some insurance aspects will be phased out as policies are purchased and existing policies are renewed after the start of the second Phase on April 1, 2022. This is the date the remaining existing policies that are still under the legacy rating will be converted to Risk Rating 2.0, encompassing all policies under the NFIP. Grandfathering from a zone or BFE change will be discontinued under Risk

Rating 2.0 as individual risk is assessed, the premium will change to the actuarial rate. Very few grandfathered policies currently exist under the legacy rating. Preferred Risk Policies (PRP) will no longer exist, as well as submit for rate policies. It is as though all policies are now submit for rate and premiums are determined based on their individual characteristics, whether in compliance or not. Elevation certificates are no longer required for insurance rating but could help to reduce premiums. They will also still be required to demonstrate compliance with floodplain management regulations.

Mandatory purchase requirements are still based on FIRM zone designation, The Community Rating System (CRS) participating communities, pre-FIRM subsidized, and newly mapped properties will all continue to receive discounts. CRS will be applied to all policies in or out of the Special Flood Hazard Area. FIRMs and flood zones are still used for floodplain management. Any increases in premiums will still be capped at 18% maximum, annually as limited by statute. Risk Rating 2.0 will make flood insurance more equitable and the NFIP more resilient and self-sustaining. The new methodology ensures the NFIP and the state of Kansas are prepared to take on changes to the industry and the environment. Policyholders will better understand their risk and the contributing factors. A better understanding of the risk allows the policyholder more power to mitigate the risk and make better decisions for their floodprone structures.

Most policyholders in the State of Kansas will see a minimal increase in premiums; 38% will see a decrease per month immediately under Risk Rating 2.0, 56% will see a \$0-\$10 increase, 3% will see a \$10-\$20 per month increase, and 3% will see an increase of greater than \$20 per month. Meaning, 97% of current policyholders' premiums will either decrease or increase by \$20 or less per month while promoting equity by reflecting the cost to rebuild a particular home based on its value combined with its flood risk, going beyond the legacy factors. Under the current methodology, all policy holders are seeing average increases annually. Increases will not continue indefinitely. New pricing means policyholders will not be paying more than their share, and others will no longer be paying under. If the structure is not in the floodplain, it is encouraged for property owners to purchase a PRP before September 1, 2021. It cannot be guaranteed that Risk Rating 2.0 policies will be equal to or less than a PRP. September is the recommended deadline due to the 30-day wait period. Risk Rating 2.0 is preceding further possible changes to the NFIP in the coming years. Though there will be considerable time before anything is implemented, FEMA is thinking ahead to further adaptations. Ensuring that FEMA's programs and responsibilities remain up to date are essential to functionality and sustainability. Adaptability is necessary in a changing environment.

FEMA strongly encourages mitigation actions to protect property, and can possibly help to reduce premiums, depending on the actions taken. Discounts can now be acquired outside of high-risk flood areas. One might consider elevating the structure or installing a compliant crawlspace to reduce potential damage and cost of insurance. Increased Cost of Compliance (ICC) coverage will still be part of the NFIP Standard Flood Insurance Policy for structures that are determined to be substantially damaged. On a community-wide basis, the CRS will remain in place after Risk Rating begins and gives the opportunity for all policyholders to receive discounts on flood insurance from 5%-45%. CRS discounts are earned by receiving documented credit of implementing floodplain management measures above the NFIP minimum requirements. There are currently 44 communities in Kansas that participate in CRS.

Additionally, a community may choose to submit a mitigation grant application for one of FEMA's Hazard Mitigation Assistance (HMA) grants. FEMA provides funding for well-designed mitigation projects. Mitigation is highly promoted because its effectiveness and cost savings have been demonstrated. Each \$1 spent on mitigation has shown to save an additional \$6 in damage. Communities come together with increasingly innovative ideas to combine stakeholder needs and wants with community goals and mitigation strategies to design projects that are approved by FEMA. HMA Grants are split into pre and post disaster categories. Insurance premiums under Risk Rating 2.0 can be offset by mitigation efforts, including mitigation projects, planning, and adoption or strengthening of building codes and zoning regulations.

Risk Rating 2.0 will change the world of flood insurance. FEMA continues to work towards sustainability and equity through more informed policies and policyholders. Policyholders that would benefit from an immediate switch to Risk Rating 2.0 by decreased premium will be able to do so after the start of Phase I with quotes becoming available in August. For more information about Risk Rating 2.0 changes, visit: https://www.fema.gov/sites/default/files/documents/fema_kansas-state-profile_03-2021.pdf. For individual policy information, contact your insurance agent.

Training Opportunities

The Floodplain Management Program will host the following training sessions throughout Kansas. If you are interested in any of the no-cost training opportunities, please contact Cheyenne Sun Eagle at 785-296-0854 or Steve Samuelson at 785-296-4622. A training registration form is in this newsletter.

KDA Grants Training Series, Steps to Win Mitigation Projects: Developing a Scope of Work (SOW)

Attend this training to learn about how to develop a Scope of Work (SOW) for a FEMA Hazard Mitigation Assistance grant including, HMGP, FMA, and BRIC. Options for technical assistance projects with DWR will also be discussed. County agency and local jurisdictions that are interested in applying for grant assistance should take this class.

Virtual Training on August 6th, 2021, from 1:30 p.m.-3:00 p.m.

Floodplain Design, Construction, and Impacts on Flood Insurance

This course provides insight into the importance of proper foundation flood vents and dry floodproofing techniques for buildings located in a flood zone. It will identify FEMA Technical Bulletins 1, 2, and 3, the National Flood Insurance Program, ASCE 24-14, ICC, and Building Code regulations and standards as they relate to sustaining foundations and overall business continuity in flood hazard areas. The course will also analyze the role of building compliance in securing lowering flood insurance rates and what mitigation solutions are available for both residential and non-residential structures. This class has been approved for 1 hour of Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential.

Virtual Training on August 19th, 2021, from 10:00 a.m.-11:00 a.m.

Post Flood Responsibilities

This free class is intended for community officials responsible for administering floodplain management regulations. The course focuses on what to do during and after a disaster event. Topics include substantial damage, permitting, Increased Cost of Compliance and violations. This in-person class has been approved for 3.5 hours of Continuing Education Credits (CEC) toward the Certified Floodplain Manager credential. Limited to 20 participants.

Shawnee County– September 15, 2021 8:30 a.m.-12:30 p.m.

Find more information about floodplain management from Kansas Department of Agriculture
Division of Water Resources online at:

<http://agriculture.ks.gov/divisions-programs/dwr/floodplain>

Email saves money on postage. The electronic newsletter also has links and the photos are in color. In the case that you are getting this newsletter by postal mail and would prefer email please contact Cheyenne Sun Eagle at: cheyenne.suneagle@ks.gov.

To find and register for upcoming training, as well as recordings of previous trainings, please see our new Floodplain Management Training webpage at:

<https://agriculture.ks.gov/divisions-programs/dwr/floodplain/training>

Kansas Department of Agriculture
Division of Water Resources
Floodplain Program
Training Registration Form

Name _____

Title _____

Organization _____

Address _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

E-mail _____

Name, date and location of training you will attend _____

*Please share this invitation with anyone else who could benefit from the training.

**Classroom locations will be sent to registered participants one week before the training.

**To find and register for upcoming training, as well as recordings of previous trainings, please see our new Floodplain Management Training webpage at: <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/training>

** Any individual with a disability may request accommodation in order to participate in training. Persons who require special accommodations must make their needs known at least five working days prior to training. For more information, including special accommodations, please contact Cheyenne Sun Eagle at 785-296-0854 or email Cheyenne.Suneagle@ks.gov.

Please scan and email your registration to: cheyenne.suneagle@ks.gov

Or mail to:

KANSAS DEPARTMENT OF AGRICULTURE
FLOODPLAIN MANAGEMENT PROGRAM
1131 SW Winding Road, Suite 400
TOPEKA, KS 66615

For questions about training, please contact Cheyenne Sun Eagle by email at cheyenne.suneagle@ks.gov or by phone at 785-296-0854. You may also contact Steve Samuelson by email at steve.samuelson@ks.gov or by phone at 785-296-4622.

Please help us keep our records current. If the name that appears on this newsletter is for an individual no longer with your organization, please call 785-296-0854 or email cheyenne.suneagle@ks.gov to report the change.

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Kansas Department of Agriculture
Division of Water Resources
Topeka Field Office
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1131 SW Winding Road, Suite 400
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Kansas Association For Floodplain Management Conference in Mulvane

The 2021 KAFM conference will be September 1-3, at the Kansas Star Event Center in Mulvane, Kansas.

Association of State Floodplain Managers 2022 Conference in Orlando

The 2022 ASFPM conference will be May 15-19, at the Caribe Royale Orlando Hotel in Orlando, Florida.

**KDA/DWR Water Structures
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