

Upper Cottonwood Discovery and Initial Map Review

September 26, 2019



wood.



Your engagement in this process is important to the success of this project, so thank you for taking the time to be here today!

Today's Goals

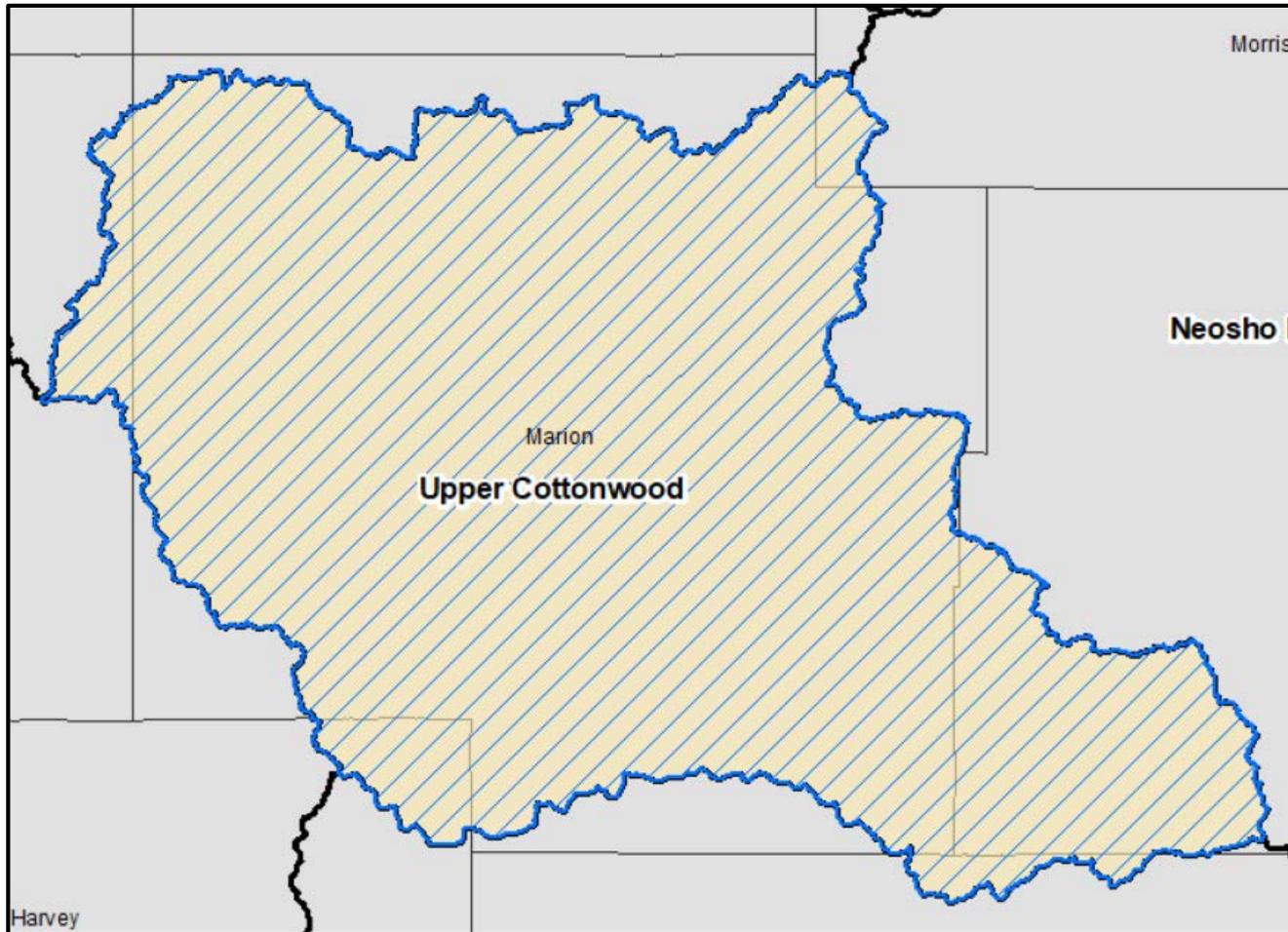
- ▶ Project Overview- Review Process and Project Timeline
 - ▶ This is the beginning, not the end!
 - ▶ Initial Base Level Engineering (BLE) Data will change with Data Development
- ▶ Discovery Process and Identification of Mitigation Actions
 - ▶ Technical Assistance Options
- ▶ Group Discussion of Community Flood Risk

Why We're Here?

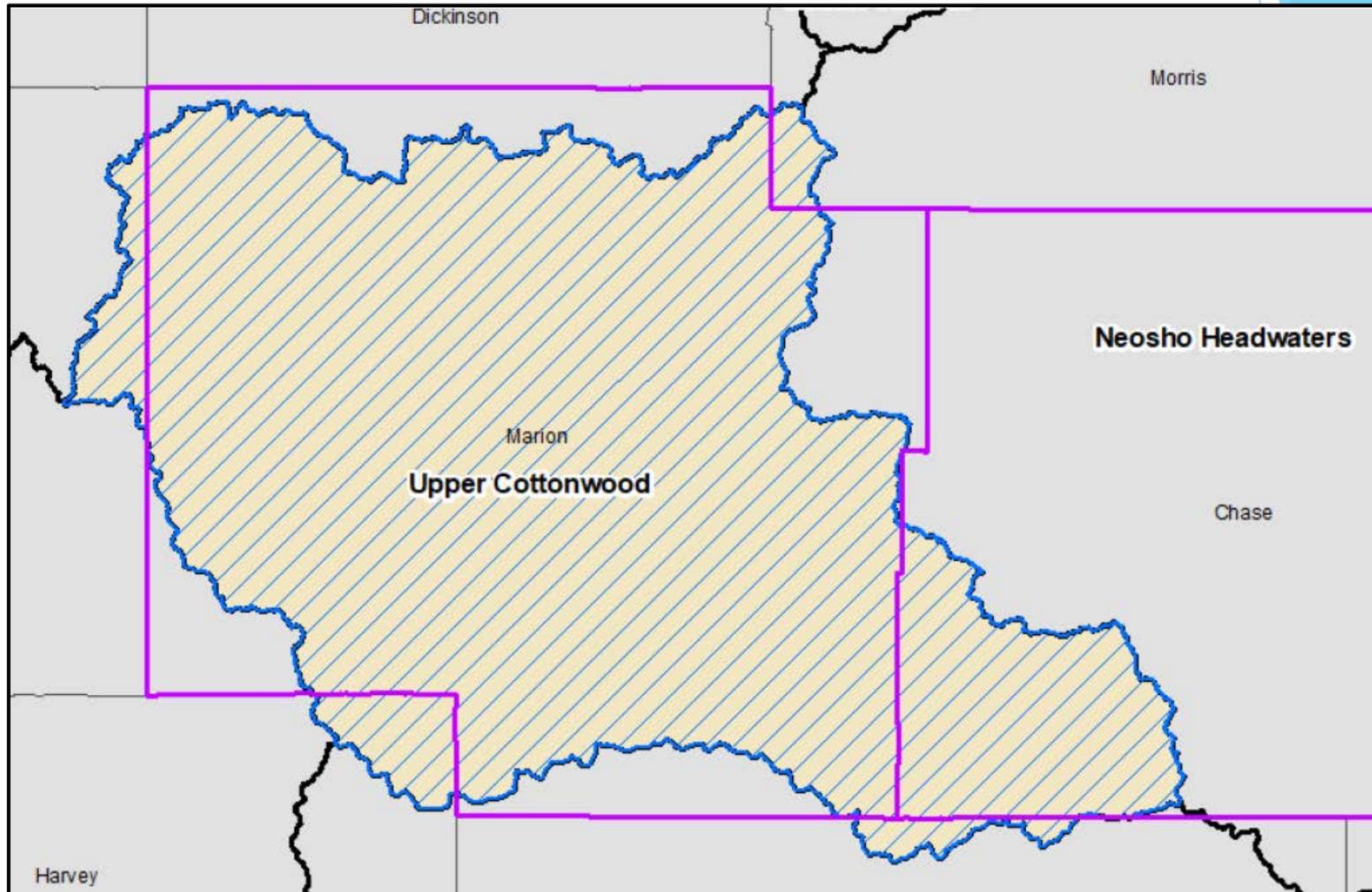
- ▶ Your watershed was chosen for a Discovery/ Base Level Engineering project to identify flood risks.
- ▶ Develop a complete, current picture of your flood hazards and risks to help you better:
 - ▶ Plan for the risk
 - ▶ Take action to protect your communities
 - ▶ Communicate the risk to your citizens
- ▶ Determine the next steps for future projects.

Base Level Engineering

- ▶ January 15, 2019 we held a kickoff meeting.



Planned Regulatory Updates

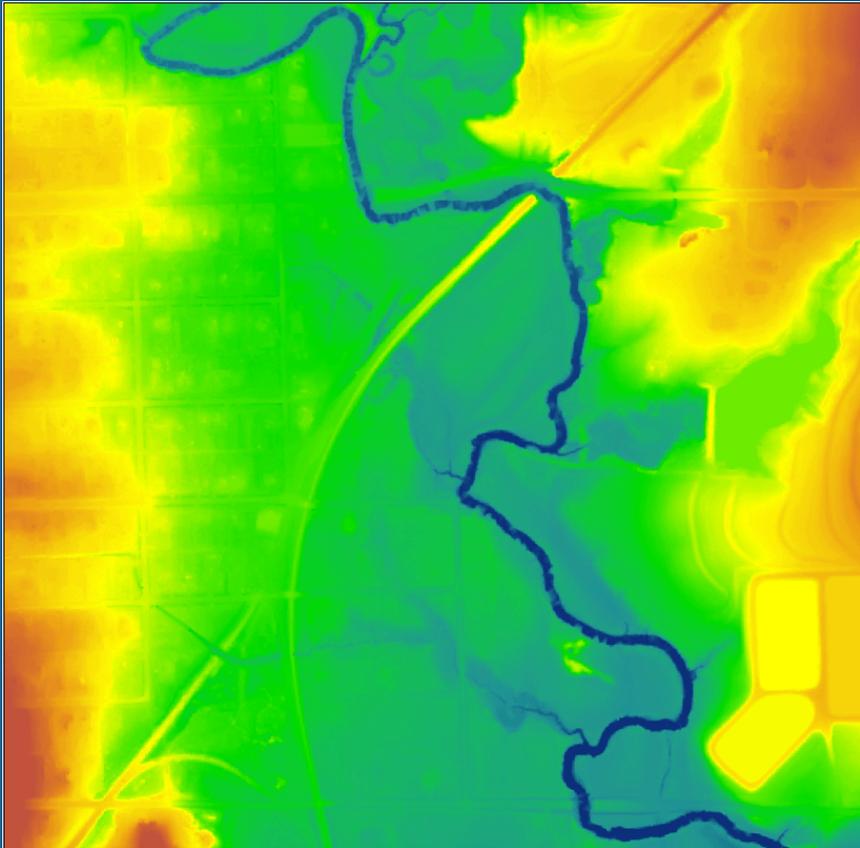


Project Overview

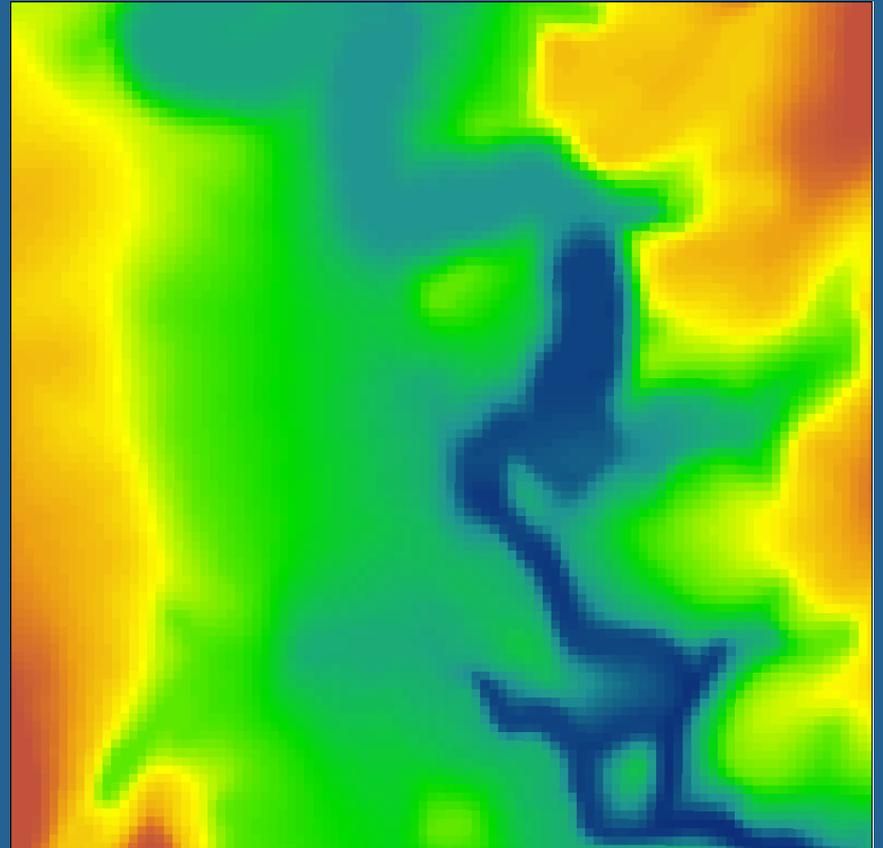
The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light sky blue to deep navy blue. These shapes are primarily located on the right side of the slide, creating a modern, dynamic feel.

LiDAR versus 10m DEM

LiDAR



10m DEM



Ultimate Project Goals

- ▶ Update floodplains in the Upper Cottonwood Watershed (MN County new regulatory maps).
- ▶ Leave a map that communities BELIEVE.
- ▶ Help communities and residents better understand and prepare for their flood risk.
- ▶ Identify mitigation opportunities.

What is Base Level Engineering (BLE)?

- ▶ Development of initial draft floodplains
- ▶ Based on:
 - ▶ LiDAR Topography
 - ▶ National Weather Service (NWS) Rainfall
 - ▶ National Land Cover Database Land Use
 - ▶ NRCS Soil Information
 - ▶ USGS Gage Data Calibration

What is Data Development?

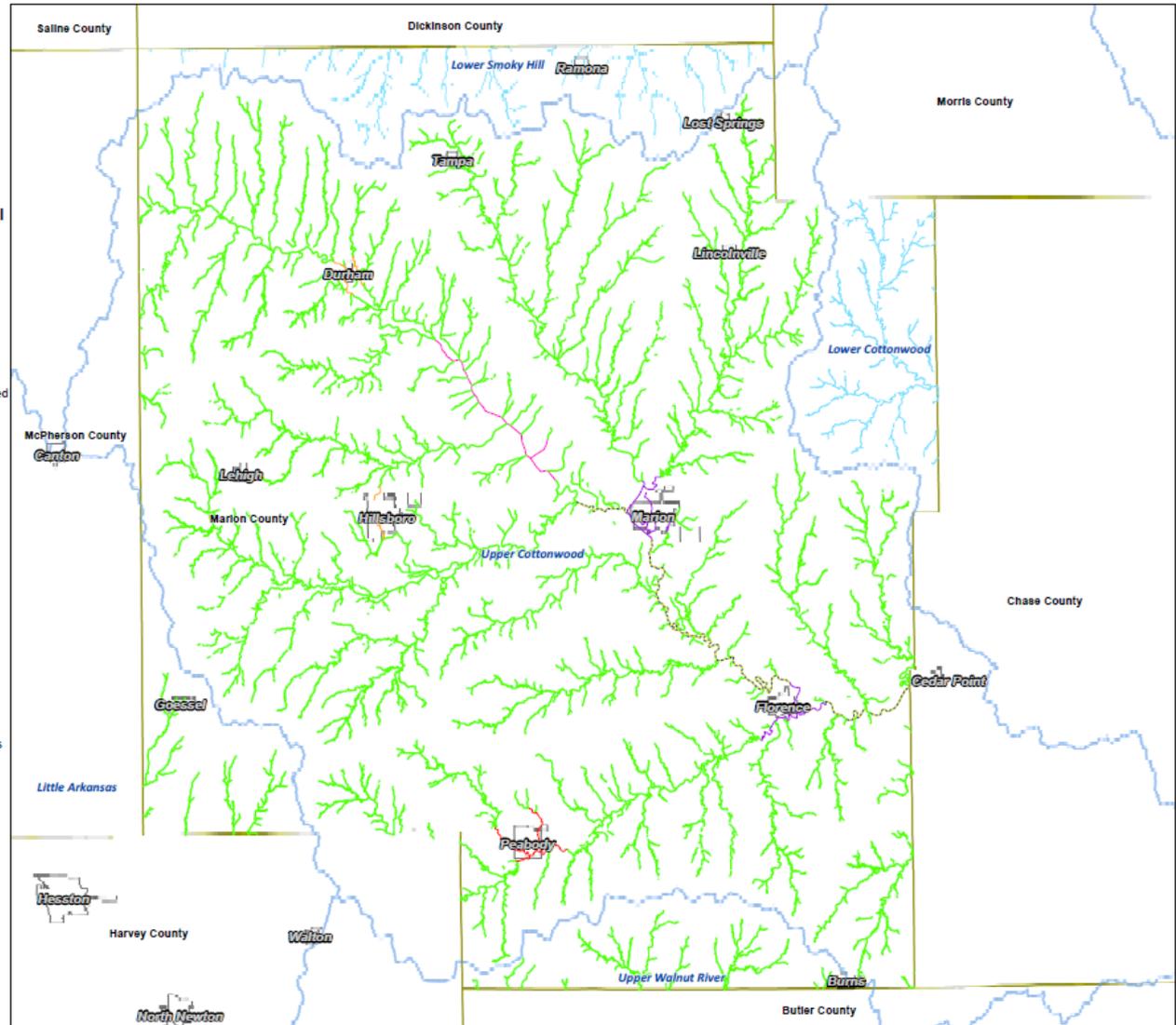
- ▶ Engineering Modeling & Mapping used for county-wide update.
- ▶ Considerations include:
 - ▶ Enhancements to BLE, including additional model calibration
 - ▶ Additional rainfall-runoff modeling for specific areas and calibration purposes
 - ▶ Consideration of historical flooding events and other local data
 - ▶ Field-measured survey of structures, where specified
 - ▶ Robust review internally and externally
 - ▶ Considers and addresses community review comments

Data Development

Marion County 2019 Mapping Updates

Scoped Studies

- New Zone A- Excess Rainfall On Grid**
New Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology, and Hec-Ras 2D hydraulics.
- New Zone A - Gage Analysis**
New Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology calibrated to Gage Analysis Flows, and 2D Hec-Ras hydraulics.
- New Zone AE without Floodway - Rainfall Runoff**
New Zone AE without floodway studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology calibrated to HEC-HMS Flows, and 2D Hec-Ras hydraulics. Field Measurements will be collected. No Floodway will be shown on the maps, but Base Flood Elevations will be shown.
- New Zone AE With Floodway- Rainfall Runoff**
New Zone AE with Floodway studies will be developed for these streams using Rainfall Runoff hydrology. Survey data will be collected. Either 1D or 2D HEC-RAS modeling will be used for hydraulics. A floodway will be developed.
- New Zone AE -Existing Study**
New studies developed during levee certification efforts exist for these streams through projects that were funded separately. Those floodplains will be incorporated into this mapping.
- New Static Zone AE**
New Static Zone AE studies will be developed for these streams using a statistical frequency analysis.
- New Zone A- Incorporation of Lower Cottonwood Watershed and Lower Smoky Hill Watershed Studies**
New Zone A studies from the Lower Cottonwood Watershed and Lower Smoky Hill Watershed projects will be incorporated into the new mapping.



Project Timeline

- ▶ Discovery & Initial Map Review
 - ▶ Initial Map Review Meeting - September 26, 2019
 - ▶ Community Review of BLE floodplains
 - ▶ Data Collection
 - ▶ Identify Community Needs
- ▶ Data Development Tasks for Marion County- 2020
- ▶ Preliminary Map Products
- ▶ Post-Preliminary Processing

Initial Map Review of BLE Floodplains



Floodplain Map Review

- ▶ Wood E&IS Review
 - ▶ Engineering reviewed by separate Wood E&IS office
- ▶ Independent Technical Review (ITR)
 - ▶ 3rd party review of engineering
 - ▶ AECOM
- ▶ KDA Review
 - ▶ Visual review
 - ▶ “eye test”
 - ▶ Identify impact of the map
- ▶ FEMA Review
 - ▶ Formal quality review process of regulatory products

Community Map Review

- ▶ Review the approximate Base Level Engineering (BLE) Data to let us know if the floodplains are making sense and are scoped appropriately
- ▶ Keep in mind this early BLE floodplain data is subject to change and we are at the very early stages of developing the data
 - ▶ Another round of Community Review will Occur after Data Development at the **Flood Risk Review (FRR) Meeting in the Fall of 2020**

Community Map Review

- ▶ A review web map has been provided to submit comments

Comments are public facing (FYI)

- ▶ Now through 10-26-19 (More if needed)
- ▶ Conduct as the Working Group / Community sees fit



Upper Cottonwood

Initial Base Level Engineering (BLE) Floodplain Data

Q Enter an address or place

Help

Legend

Floodplain Data

Upper Cottonwood HUC 8



Streams



Draft Floodplain Changes - Sept. 2019

-  Floodplain Increase
-  Floodplain Decrease
-  Floodplain Retained - Neither Increase or Decrease
-  Levee area - will use existing study

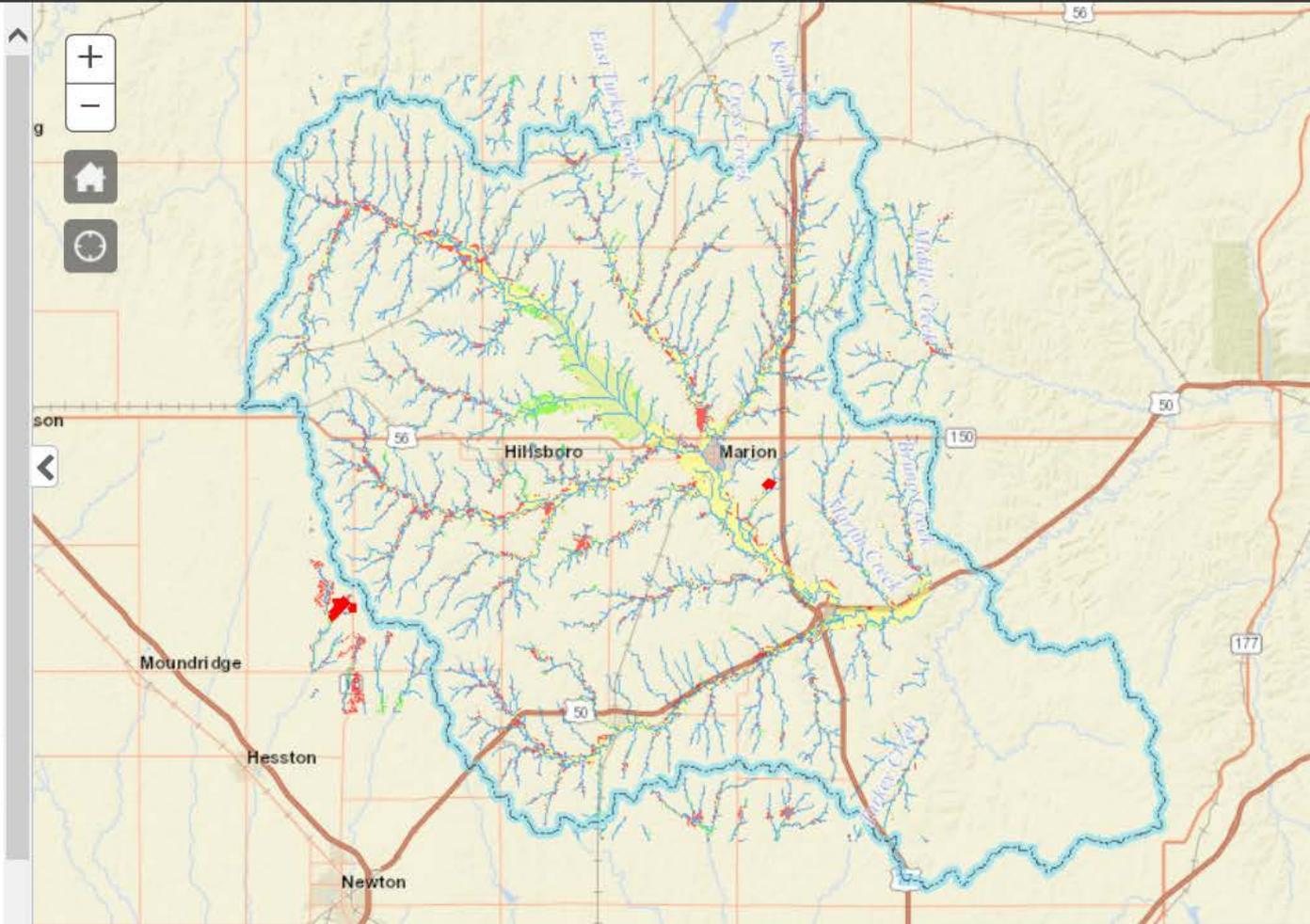
Comments



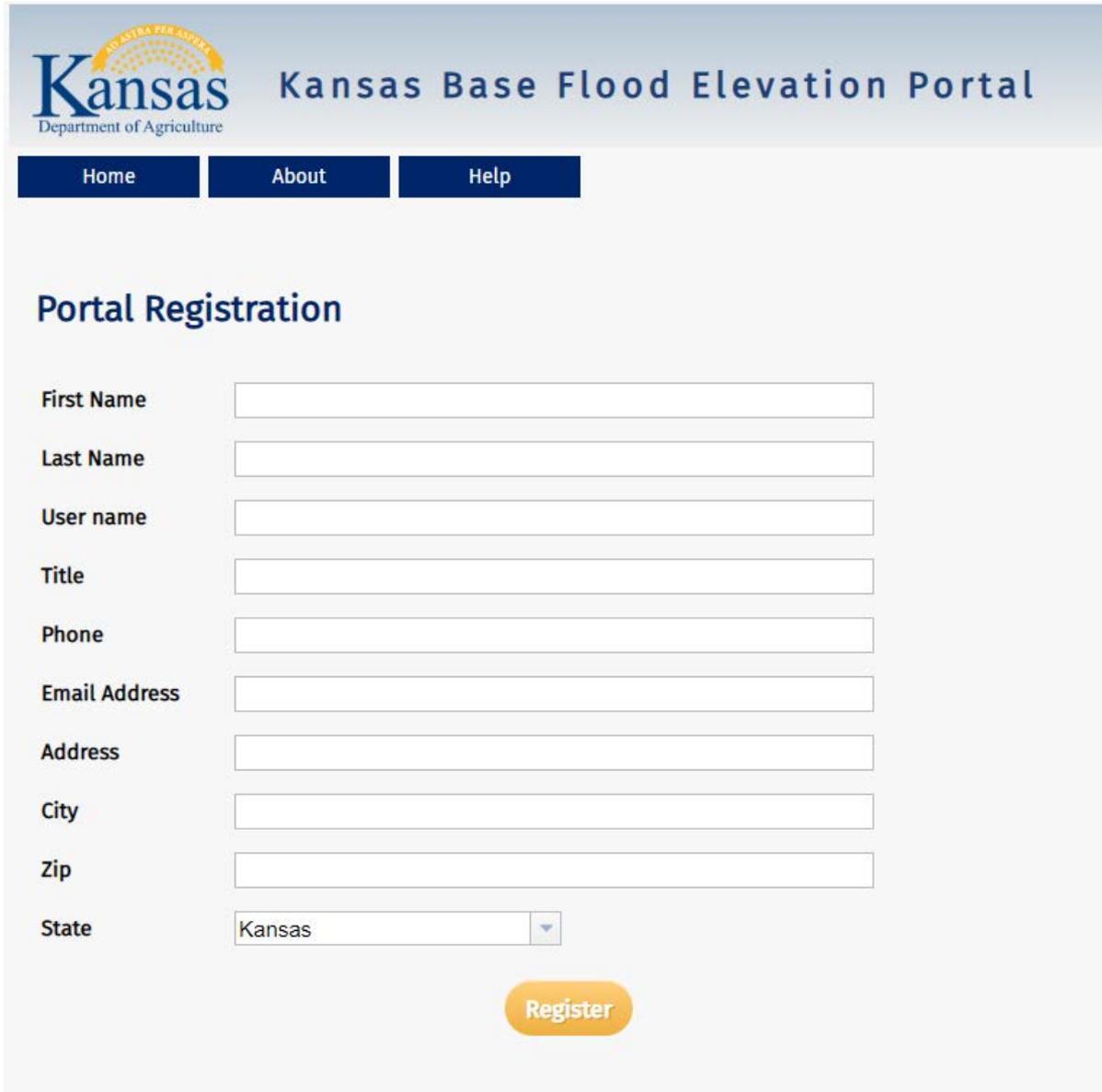
Layers (Click to expand)

Editor

Leave Comment



Base Flood Elevation Portal



The screenshot shows the 'Portal Registration' page of the Kansas Base Flood Elevation Portal. At the top left is the Kansas Department of Agriculture logo with the motto 'AGRICULTURA PER AVANGUARDIA'. To the right of the logo is the page title 'Kansas Base Flood Elevation Portal'. Below the title is a navigation bar with three buttons: 'Home', 'About', and 'Help'. The main content area is titled 'Portal Registration' and contains a registration form with the following fields: First Name, Last Name, User name, Title, Phone, Email Address, Address, City, Zip, and State. The State field is a dropdown menu currently set to 'Kansas'. At the bottom center of the form is an orange 'Register' button.

Kansas
Department of Agriculture

Kansas Base Flood Elevation Portal

Home About Help

Portal Registration

First Name

Last Name

User name

Title

Phone

Email Address

Address

City

Zip

State

Register

For Zone A Floodplains, you can request BFE Data. Keep in mind, BLE data is subject to change.

Discovery is the process of data mining, collection, and analysis with the goal of initiating a flood risk or mitigation project and discussing risk within the watershed

Why is Discovery Important?

- ▶ Required for new and updated:
 - ▶ Flood studies
 - ▶ Flood risk assessments
 - ▶ Data Development for Mitigation
- ▶ Includes a Survey to assess flood related concerns (sent by email)
- ▶ Identify Leverage data available for use in a project
- ▶ Identify Areas of Greatest Flood Risk
- ▶ Identify Mitigation Options

What information do you have that can help us make better maps?

- ▶ Updated Imagery
 - ▶ Will typically use the latest NAIP Imagery
- ▶ Survey or As-Built Plan Information
 - ▶ Bridge or Culvert Openings
 - ▶ Channel Information
- ▶ LOMR's or LOMA's
- ▶ Levee Information

What information do you have that can help us make better maps?

- ▶ High Water Marks/ Historical Flood Information
- ▶ Let us know areas of development where the ground surface has likely changed since the date of the Lidar (2011 for most of watershed)
 - ▶ Provide us with survey/as-builts/grading plans for recent development
 - ▶ We will have 2018 LiDAR here in 2020 where we can look for changes in the ground elevation and update if needed

Are there areas where Mitigation should be considered?

- ▶ Determine areas that would benefit from mitigation efforts
- ▶ Determine the amount of interest from local stakeholders
- ▶ Determine funding opportunities

Mitigation Technical Assistance

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KDA Mitigation Technical Assistance

- ▶ Funding has been available in recent years from the KS CTP Grant
 - ▶ Predefined projects & pot of money to allocate when projects are identified
- ▶ Project Types:
 - ▶ Modeling infrastructure improvements to see flooding reductions in SFHA
 - ▶ Benefit-Cost Analysis (BCA)
 - ▶ Structure Based Risk Assessment
 - ▶ Community Outreach and Education - Story Maps, Virtual Reality (VR)

KDA Mitigation Technical Assistance

- ▶ Timeline: Ideally performed during Base Level Engineering (BLE), Discovery or Data Development Phase
- ▶ Cannot fund the improvement project itself
- ▶ Website for Technical Assistance Projects
- ▶ Includes project specific information
- ▶ Link to fillable request form
 - ▶ <https://www.agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/technical-assistance>

[Kansas Floodplain Map Viewer](#)

[LOMC Search](#)

[Mapping Projects](#)

[Technical Assistance](#)

[Home](#) > [Divisions & Programs](#) > [Division of Water Resources](#) >

[Floodplain Management](#) > [Mapping](#) > [Technical Assistance](#)

Technical Assistance

TECHNICAL ASSISTANCE PROJECTS

- [Gypsum](#)
- [Hoisington](#)
- [Solomon](#)
- [South Hutchinson](#)
- [Topeka](#)

TECHNICAL ASSISTANCE INFORMATION

FEMA Funds for technical assistance projects have come available in recent Cooperating Technical Partner (CTP) funding cycles. These projects do not include funding for construction of projects, but they can be utilized for modeling mitigation scenarios for possible projects. These funds can be applied for grant-related purposes, ordinance or code support, engineering and analysis, planning, outreach and education. Communities within Kansas can apply for Technical Assistance support through KDA, though priority will be given where there are active [mapping projects](#). For questions, please contact Tara Lanzrath, by phone at 785-296-2513 or [email](#).

[Technical Assistance Request Fillable Form](#)

What Should You Do Next?

▶ Initial Map Review

- ▶ Review scope for data development projects
- ▶ Review BLE floodplains and comment within 30 days (more if needed).
- ▶ Review stream extents. Are we missing anything?

▶ Provide Data

- ▶ Provide any existing data (Imagery, Surveys, Plans, LOMRs, etc.)
- ▶ Provide information on drainage studies, stormwater plans, capital improvement plans, upcoming projects.

▶ Consider Mitigation Projects

- ▶ Should a Technical Assistance Request be submitted?
- ▶ Should other Mitigation Projects be initiated

Stay Informed

- ▶ Email List
 - ▶ Get me names, addresses, and titles
 - ▶ Will be main source of project updates
- ▶ Project Updates
 - ▶ Minimum of quarterly
 - ▶ When important milestones are reached
 - ▶ When action is necessary (reminders)
- ▶ Meetings
 - ▶ 5 planned in-person meetings
 - ▶ Kickoff, Discovery Meeting, Flood Risk Review, Open House, Post-Preliminary CCO meeting
 - ▶ Others as needed
- ▶ **DON'T HESITATE TO CALL, WE ARE AVAILABLE**

Online Project Information

▶ Project Website

- ▶ Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- ▶ <https://www.agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/upper-cottonwood>

▶ Web Review Map -

- ▶ Initial Map Review
- ▶ Link provided to stakeholders

▶ Story Maps

- ▶ Project Info
- ▶ “Floodplain Current”: Mapping Process ‘Nuts and Bolts’

Web Map Review and Discussion

Q & A

Tara Lanzrath

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Division of Water Resources

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