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Division of Water Resources

FEMA

wood.

Upper Arkansas Custom Watershed

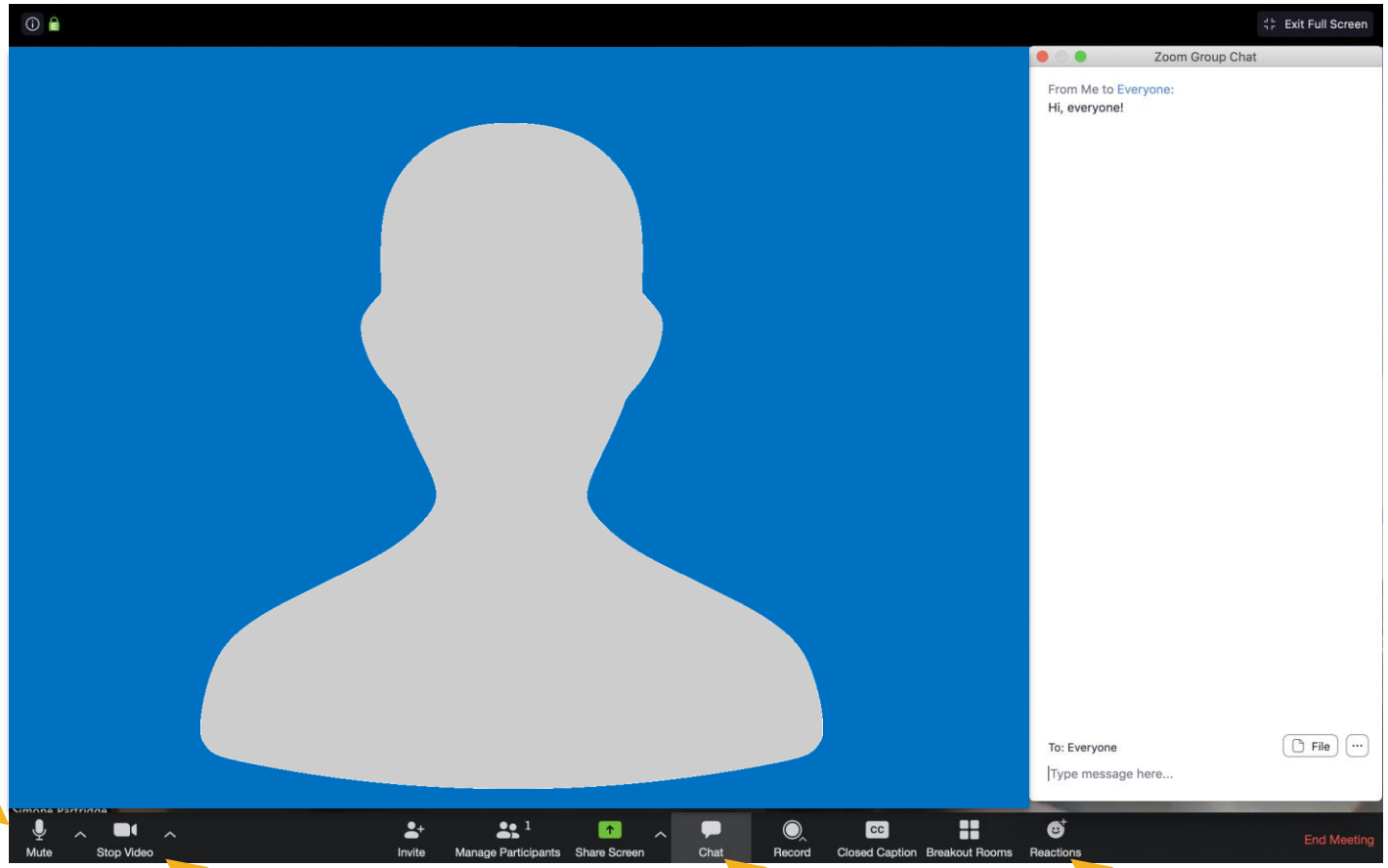
Floodplain Mapping Project Kickoff Meeting

April 20, 2022

While we are waiting, please enter your name and community in the chat box!

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

Zoom Features



Mute / Unmute

Start your Video

Use the Chat Feature

Reactions

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Rules of the Road

- Attendees will be muted during the presentation to help eliminate background noise.
- Use the chat to ask questions during the presentation! We will pause for questions at various stopping points and have several poll questions.
- If you want to share your video, please do!
- For technical difficulties, send a private chat to Bill Pace or by email at william.pace@ks.gov
- We'll be recording this webinar for those who aren't able to attend today.

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Introductions

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Floodplain Mapping Coordinator

Joanna Rohlf, GISP, CFM
Floodplain Mapping Specialist

William Pace, CFM
Floodplain Mapping Specialist

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NFIP Specialist

FEMA – Region VII

Andy Megrail
Regional Project Officer

Wood Environment & Infrastructure Solutions

Matt Long, PE, CFM
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Sr. GIS Analyst

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Over the past 30 years, flooding has been more dangerous in the U.S. than any other weather-related problem. To minimize flood damage, we must first understand where the risk is.

Overview

Why We're Here: The Big Picture

The flood risk information in portions of the Upper Arkansas Watershed is outdated and warrant updating.

We want to develop a complete, current picture of your flood hazards and risks.

The ultimate goal is to help you better:

Plan for how to reduce your flood risk

Communicate the risk to your citizens

Take action to protect your communities

FEMA Floodplain Mapping Program

- Risk Mapping, Assessment, and Planning (Risk MAP)
- Supports the National Flood Insurance Program (NFIP). Performed on a watershed basis.
- Consists of both Regulatory and Non-Regulatory Products.
- Through Risk MAP, we provide new or updated floodplain maps, as well as other (free!) data and tools that can help you plan to reduce your community's risk.

RiskMAP
Increasing Resilience Together

Flood Maps Affect Important Decisions

To Identify Flood Risk

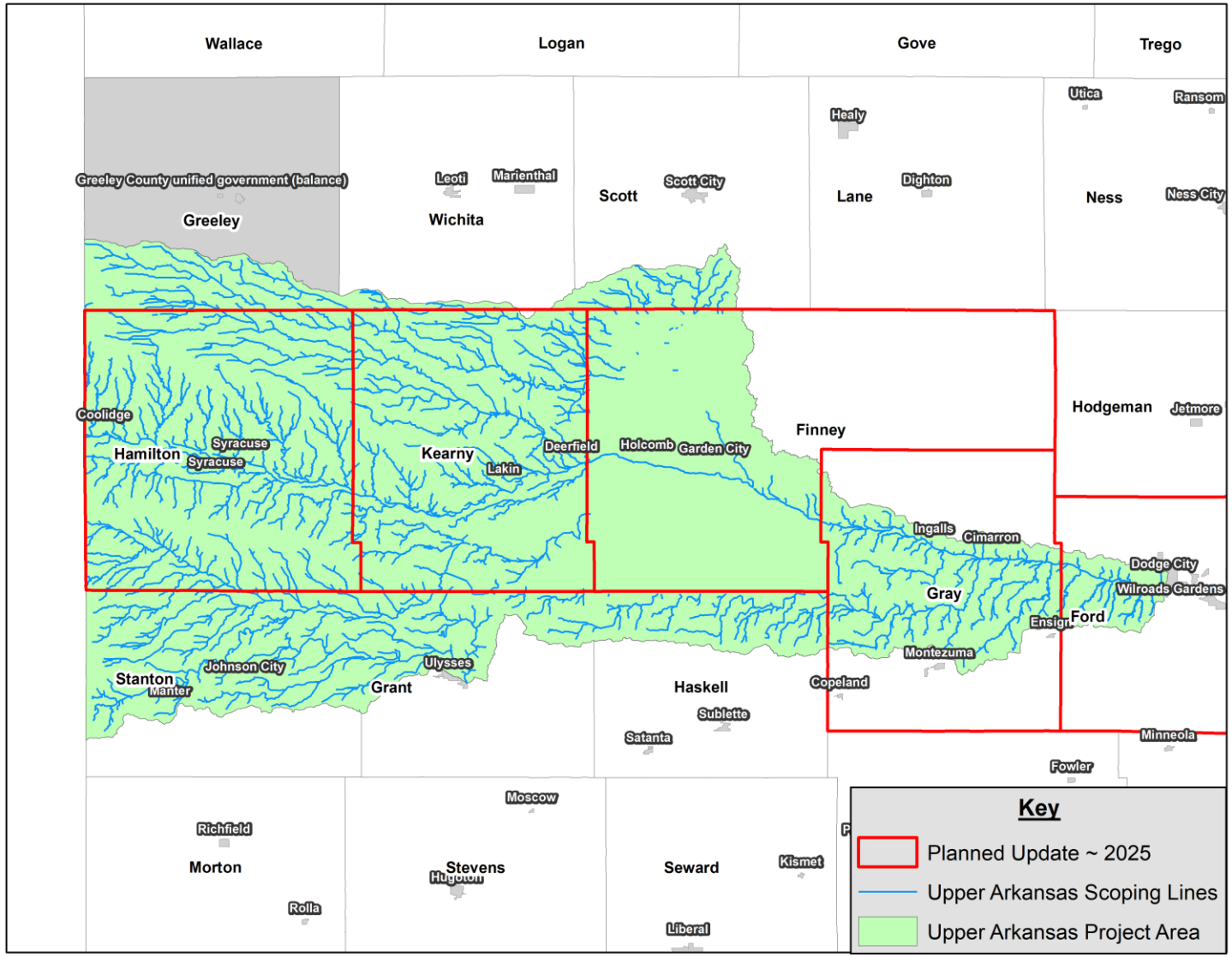
To Determine Where Flood Insurance is Required

To Determine Land Use & Update Ordinances

To Inform Engineers and Developers

To Equip Emergency Managers

Overview of Watershed



Finney County-
- Planned for 2025

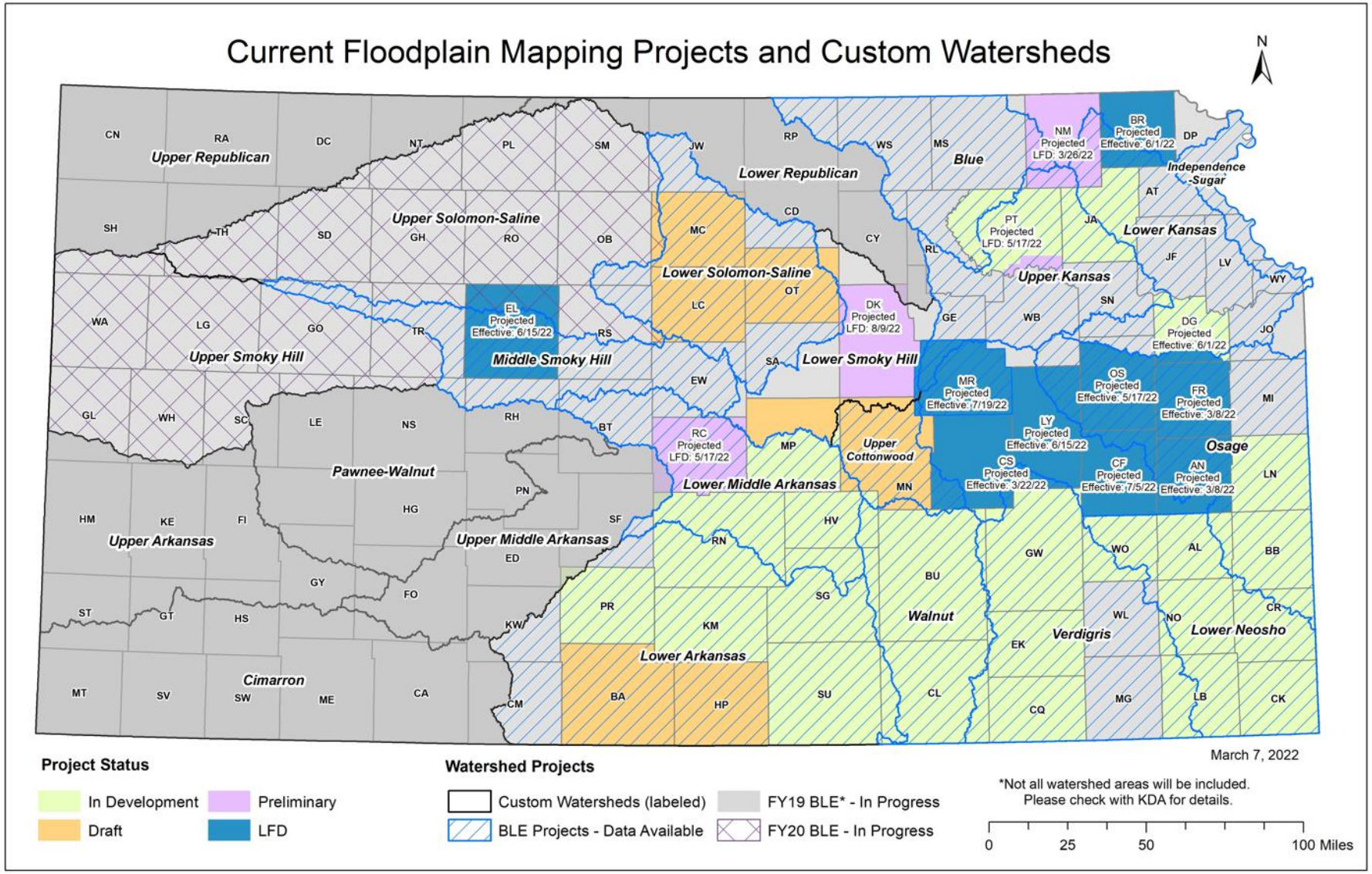
Ford County
- Planned for 2025

Gray County
- Planned for 2025

Hamilton County
- Planned for 2025

Kearny County
- Planned for 2025

We are doing this work across Kansas…



Today's Goals

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Today's Goals

Get Input	Get your input on where you have seen flooding
Share	Share how we can help your community lower its flood risk
Review	Review the work ahead and how we propose doing it
Discuss	Discuss your role in this work moving forward

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Your Role

- Tell us where you've seen flooding in your community.
- Share where and how we can help lower your flood risk.
- Ask questions as we review the work ahead – we'd like your input.

- *NOTE: if there are others in your community who might have input about your community's flooding concerns and our approach to this work, PLEASE put their name, community, and email into the chat, or email Joanna so we can make sure to connect with them.*

We Need Your Input:

Where has your community experienced flooding?

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How are your community's daily activities impacted when it floods?

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As We Review Your Floodplain Maps, We Want to Hear from You:

Where are you experiencing flooding?

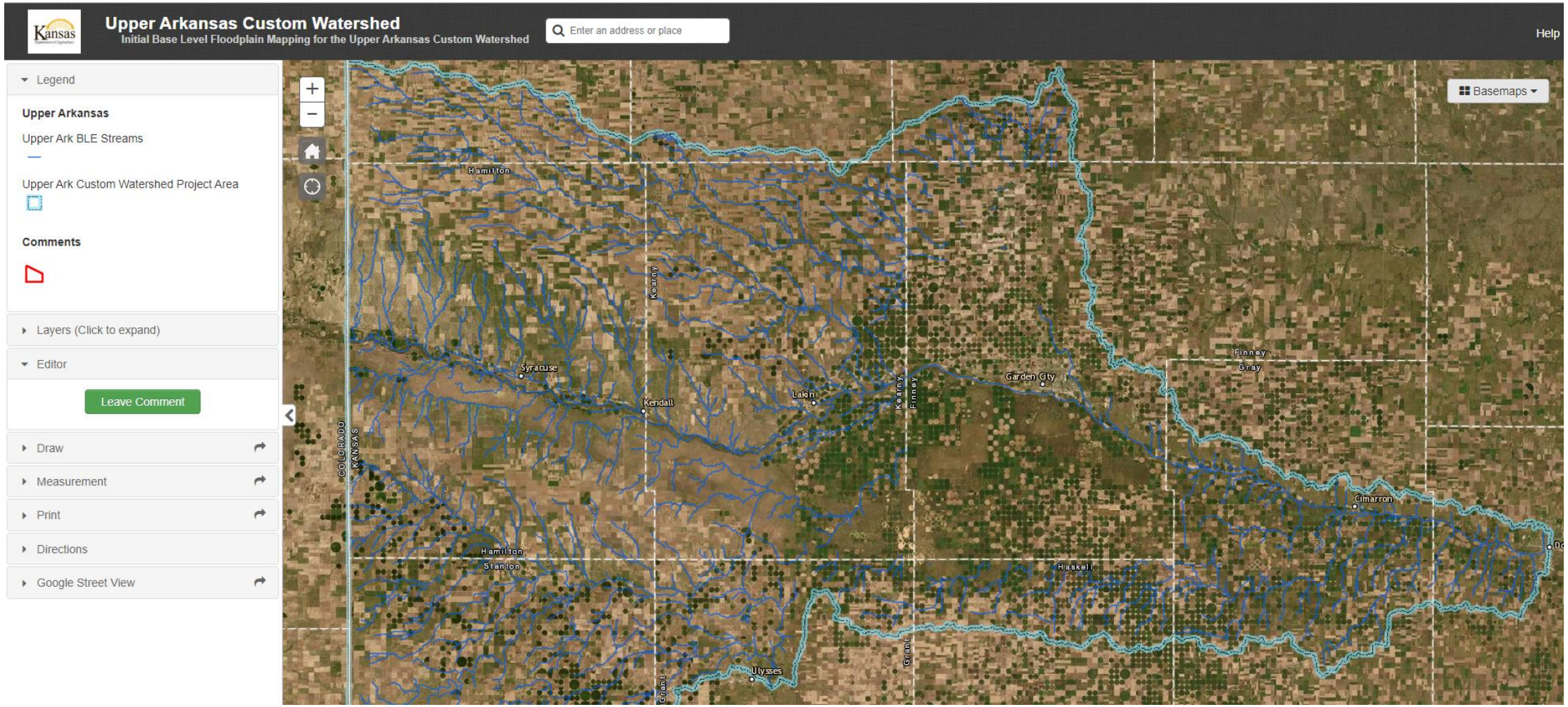
- Intersections that often flood and stop traffic?
- Drainage areas that cause problems?
- Any parts of town where homes or businesses have flooded?

Are there areas where there has been recent construction/development? Or, where there are plans to build?

Are there any tricky areas to take a closer look at?

Do you have projects related to flooding underway that we could help with?

Image of Web Map



How We Can Help

"Mitigation Technical Assistance"

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We are asking this question for two reasons:

If you've had flooding, we want to know WHERE. This helps truth-test the engineering analysis we will be doing.

Depending on how and where your community is being impacted by flooding, we might be able to help.

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How We Can Help

STEP 1:

Explain what you need help with.

STEP 2:

We determine if it's something we can support.

STEP 3:

If we can support it, we'll work with you to put together a plan and a timeline.

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Guidelines:

- We want to identify what help is needed now, so we can plan accordingly.
- The work will be done over the next 1-3 years.
- We can't pay for "the thing" itself (e.g., the installation of a new culvert or retention basin), but **we can help you move a project forward by developing technical information**.
- Your community must be invested in moving a project forward.

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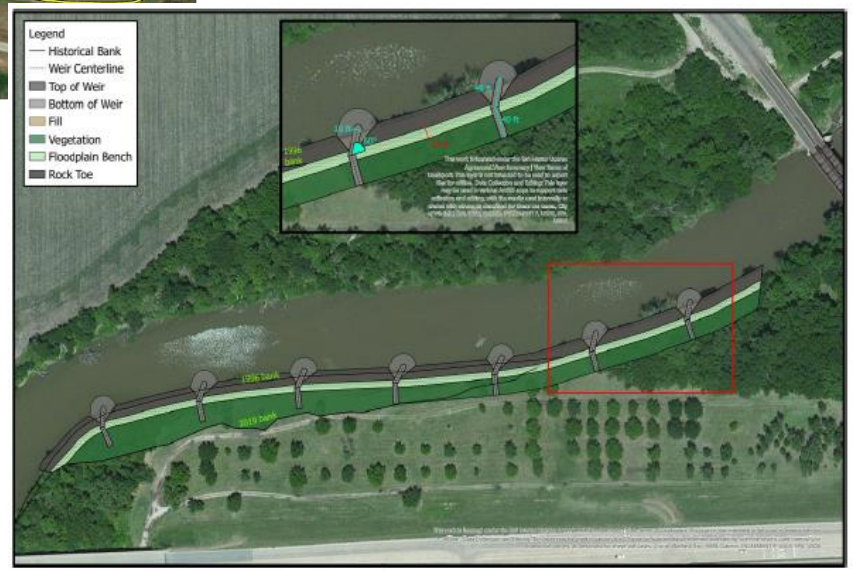
Some Ways We Can Help:

- Present potential flood mitigation alternatives, streambank stabilization solutions, and internal drainage solutions in your community



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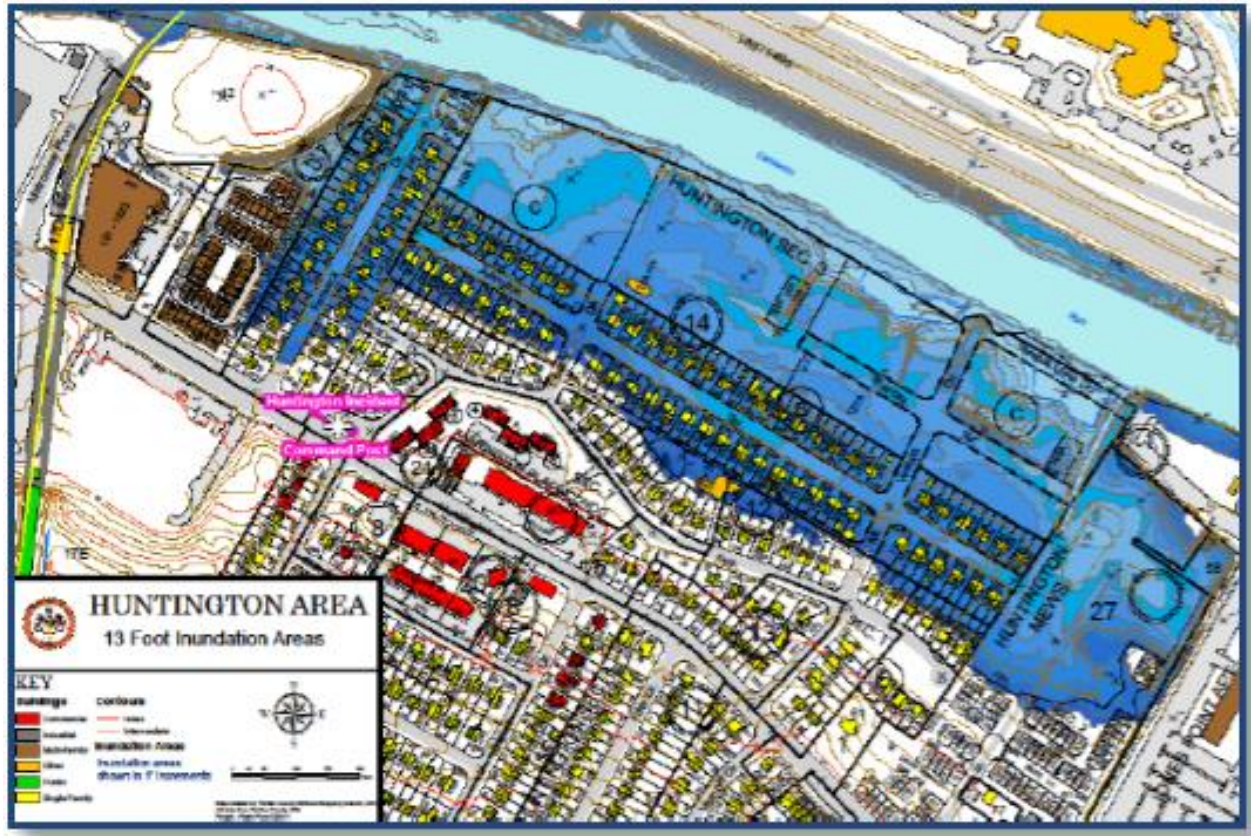
Some Ways We Can Help:

- Analyze flooding impacts from blockages at culverts
- Support participation in the Community Rating System (CRS) Program.



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Some Ways We Can Help:

- To help better understand and reduce flooding issues by performing peak flow and volume sensitivity analysis to justify volume control requirements.

Figure 11: Volume Sensitivity for North Topeka

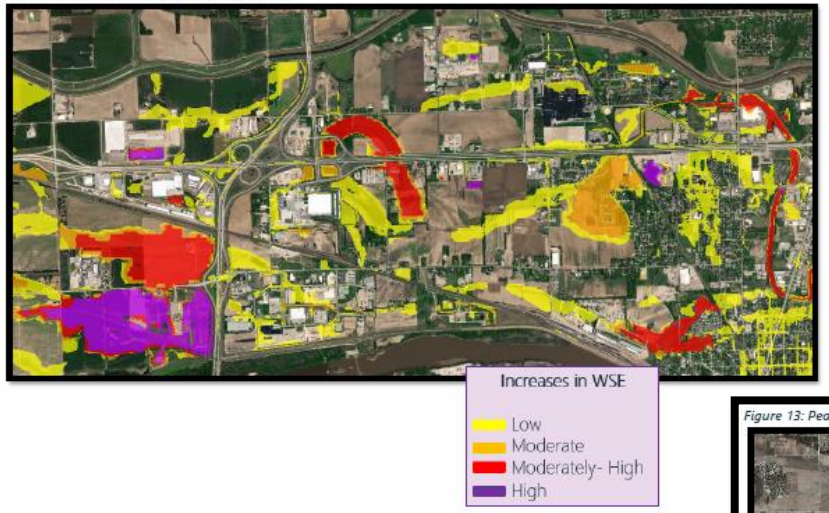
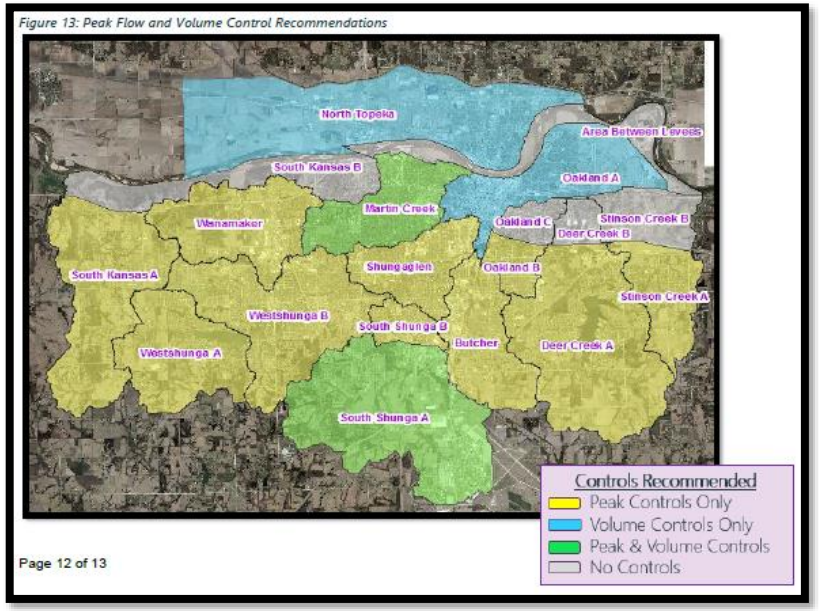


Figure 13: Peak Flow and Volume Control Recommendations



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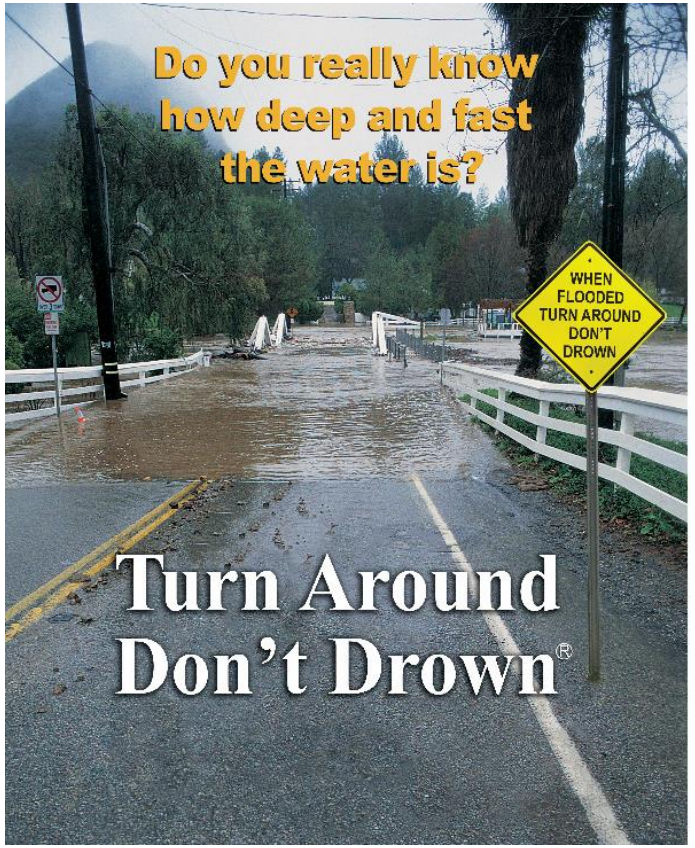
Some Ways We Can Help:

- Provide training for staff on how to use flood risk products.
- Support Education and Outreach



Any Ideas?

Review of the Work Ahead and How We Propose Doing It

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To Note

A lot of our work is technical and it's likely that not everyone in the (virtual) room is an engineer.

That's OK!

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Our Next Steps:

1. Generate early flood risk data with Base Level Engineering (BLE)
2. Gather additional data from you that will inform us of mapping needs and assist us in our analysis for any new floodplain maps
   - We will ask for this during a future Discovery meeting with you
3. Complete data development for specific areas of watershed as part of future regulatory updates

Throughout this work, we will share the emerging picture of flood risk with you to get your feedback.

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Base Level Engineering: What is it?

BLE is an engineering approach that provides an initial (or “base” line) understanding of flood hazards, providing enough information for us to draft initial floodplains.

**Provides flood hazard information for areas that currently have no information, little information, or outdated information.*

FLOODPLAIN: On the maps we create, the floodplains, which are areas with high flood risk – where a flood has a 1-percent chance of happening each year.

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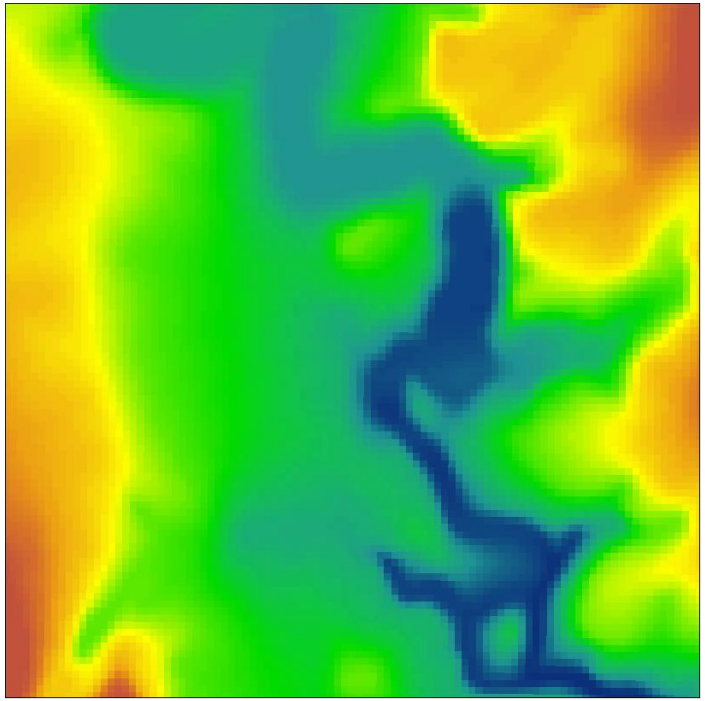
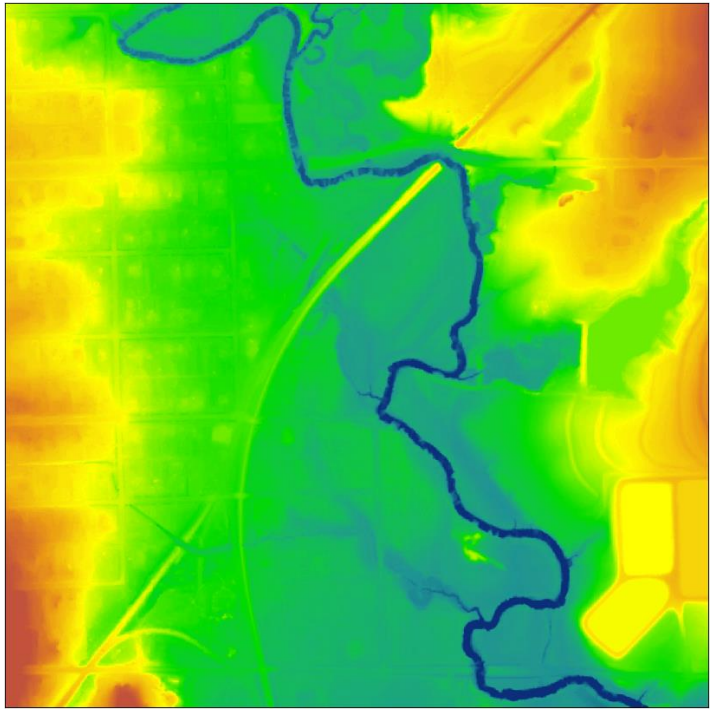
We Use LIDAR in our Base Level Engineering

Some of your current maps are based on a 10-meter Digital Elevation Model. Updated LiDAR Topography will be used in the new modeling.

10m DEM



LiDAR



**Bare-Earth*

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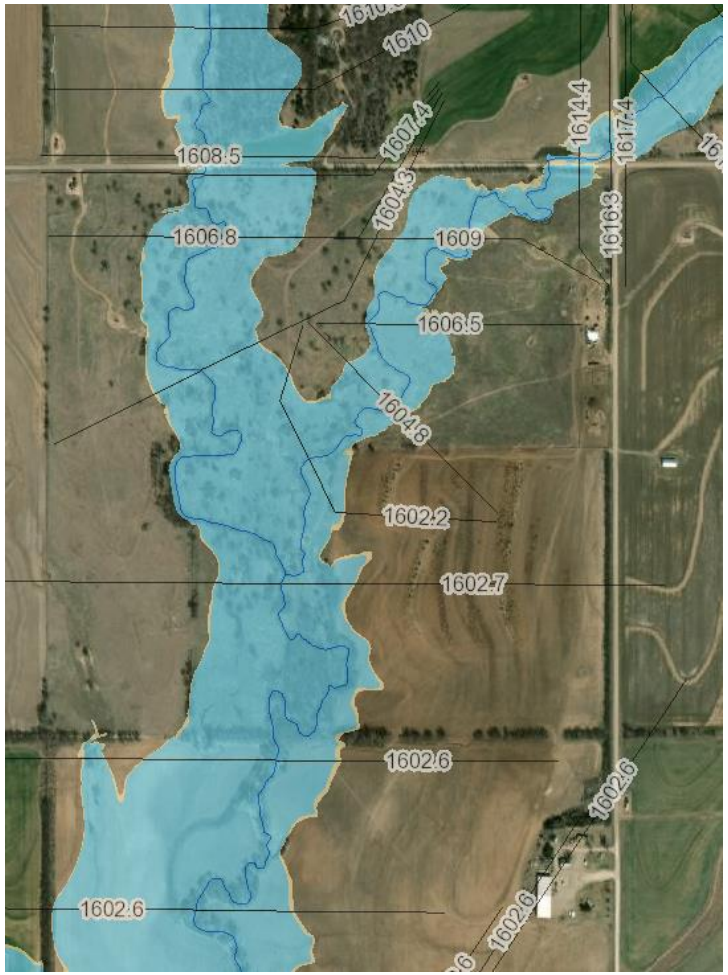
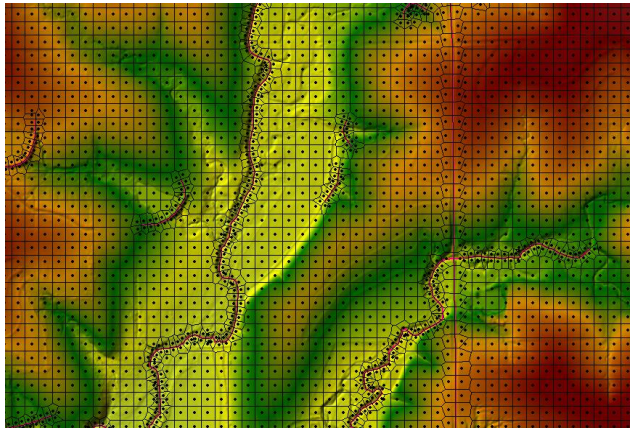
We Use 2D Hydraulic Modeling in our Base Level Engineering

The current maps are done with one-dimensional (1D) modeling. Two-dimensional (2D) modeling will be used for the new modeling.



1-D 2-D



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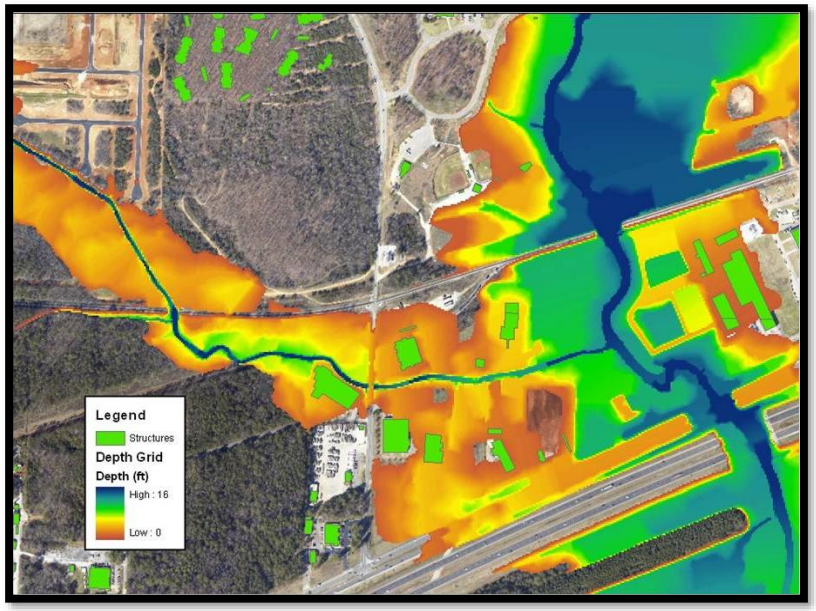
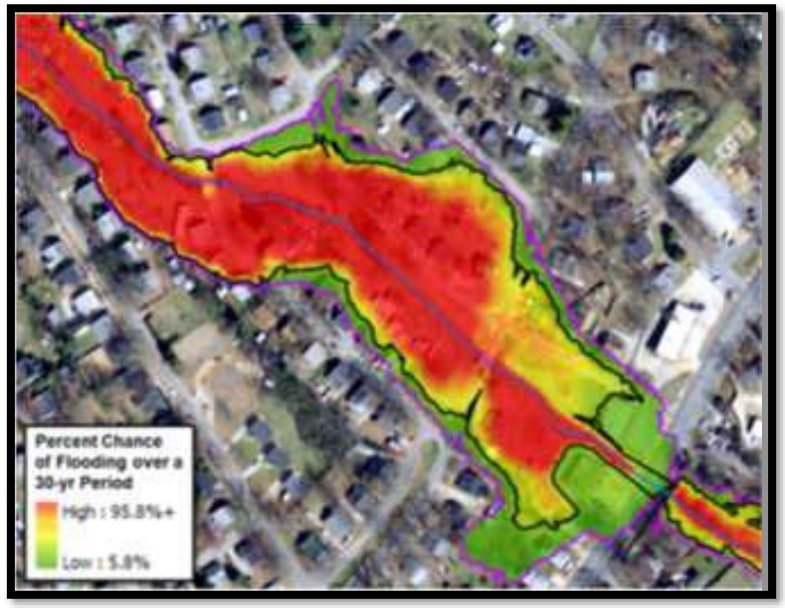
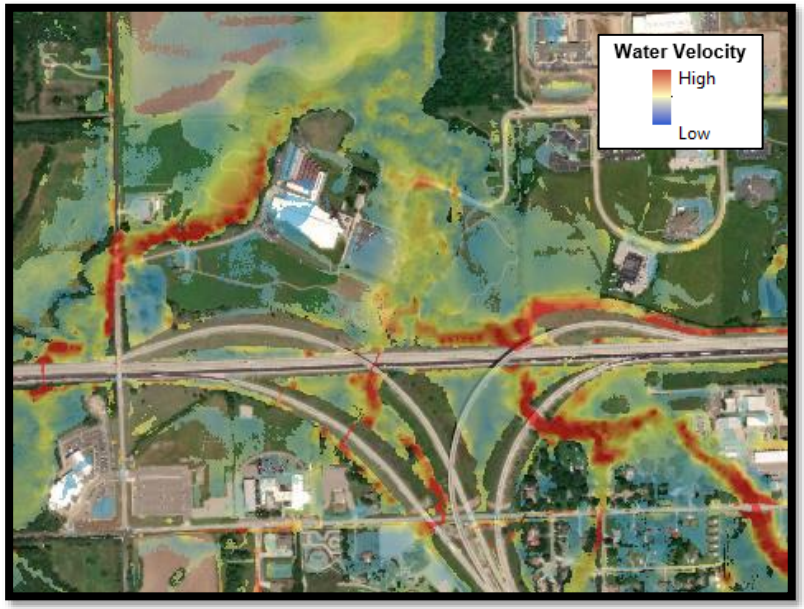
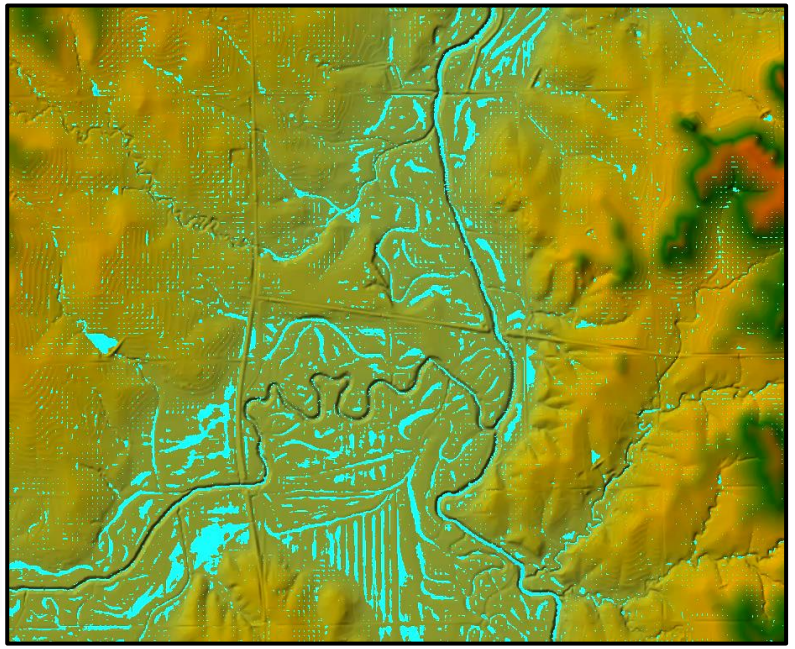
More precise data and modeling methods gives you more information about flood risk









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Key Takeaways for BLE

1. Uses highly advanced engineering techniques
2. Provides early insight into community flood risk
3. It’s an important step in our partnership to get the data right

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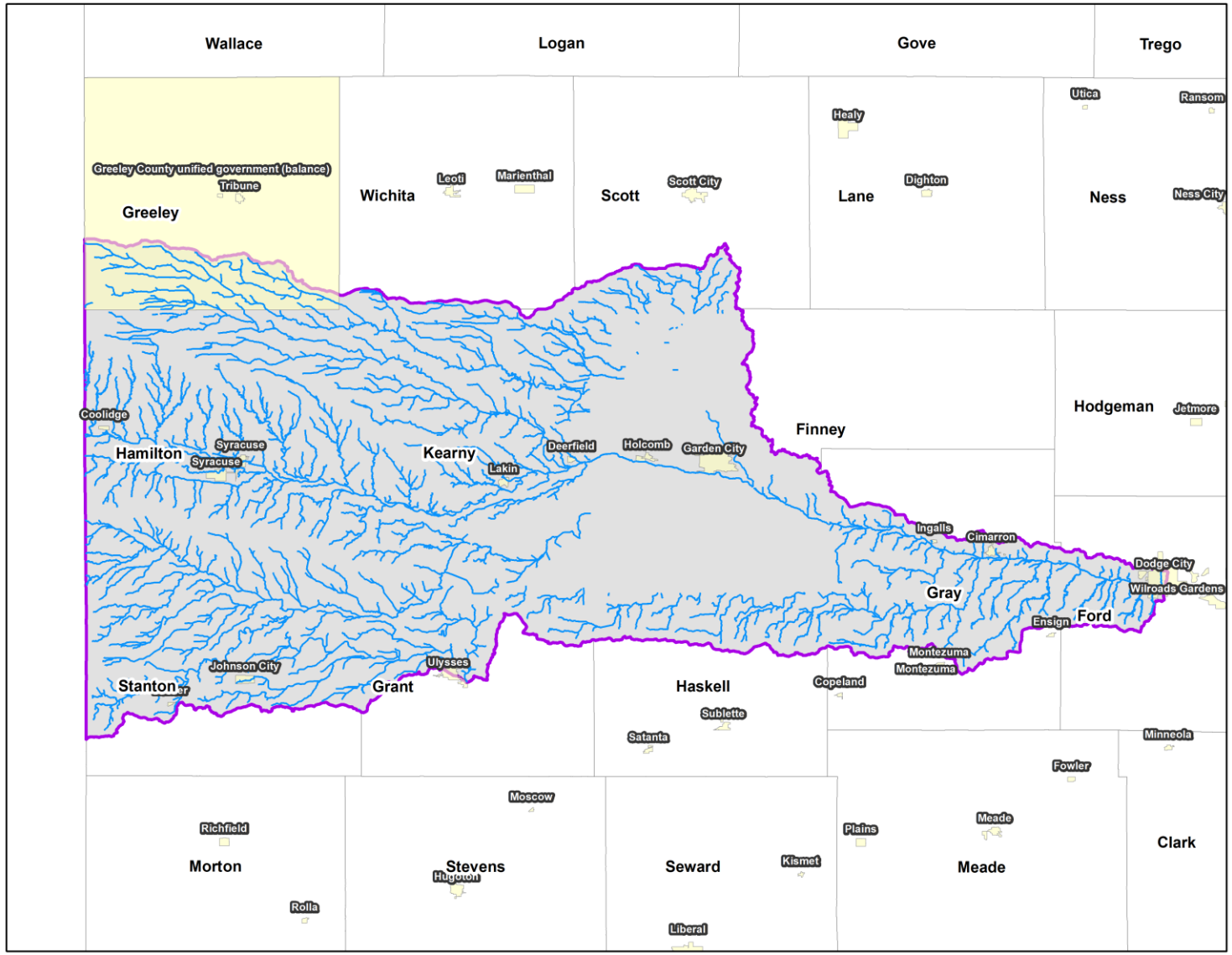
We will generate BLE floodplains for this area:



The BLUE lines show the streams we plan to analyze

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What Happens During Data Development

- We take additional information gathered and enhance the engineering analysis.
- We develop your regulatory draft floodplain maps.
  - Also known as your Flood Insurance Rate Map (FIRM)
- We develop a Flood Insurance Study.
  - This is a compilation of flood hazard data and analysis for streams, lakes, and hazard areas in your community.
- We also develop flood risk data tools for your community to use in its planning.

FREE DATA!!!

Next Steps and Your Role

Project Timeline

Kick-off Meeting and Initial Community Feedback:
[TODAY!]

Discovery Meeting:
[~ Fall 2022]

- *Provide feedback on mapping needs?*
- *What flood data do you have available?*
- *Revisit flood risk reduction steps you are considering and how we can help!*

Data Development Work:

- *Finney, Ford, Gray, Hamilton, and Kearny Counties (~2025)*
- *Other Counties TBD*

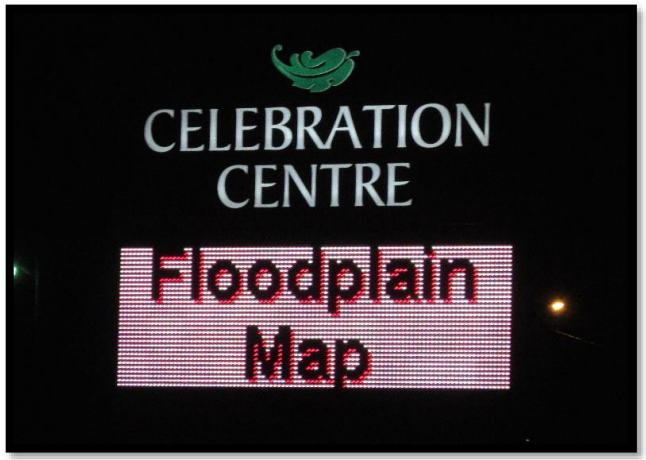
Project Timeline, continued (following Data Development)

Your **review and feedback** on the draft maps

Once **feedback is received,** there is a public review of the draft maps

Preliminary Map Products

Post-Preliminary Processing



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What Should You Do Next?

Initial Feedback on Flooding

- Provide locations of known flooding issues on the web map.
- If there are others in your community who you think we should talk to about historical flooding, please let us know.

Project Kickoff Survey

You will receive this in a follow-up email, please fill out and return.

Consider Flood Risk Reduction Projects

If you have any additional needs or concerns, please let us know! If possible, we'd like to help.

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Key Takeaways

Floodplain Mapping Projects take time

Your involvement in this process will result in better flood information for your community

While we are working in your community, we also want to help you with your work to reduce flood risk

DON'T HESITATE TO CALL, WE ARE HERE TO HELP

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We Will Keep You Informed:

Project updates will come by email

- When important milestones are reached
- When action is necessary (reminders)

Future Meetings:

- As Part of this BLE Project
  - Discovery
- As Part of Data Development Project *(Mapping Update)*
  - Flood Risk Review
  - Public Open House (for you and your residents)
  - Post-Preliminary Consultation Coordination Officer meeting (for community officials who need to know the regulatory adoption steps for the map)
  - Others, as needed

Resources

Online Project Information

Project Website

- Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- https://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects

Web Review Map

- Provide comments on areas impacted by past floods, community needs, etc.
- Review of BLE data, once available
- This link will not be public facing until the project has been through Data Development

Story Maps

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

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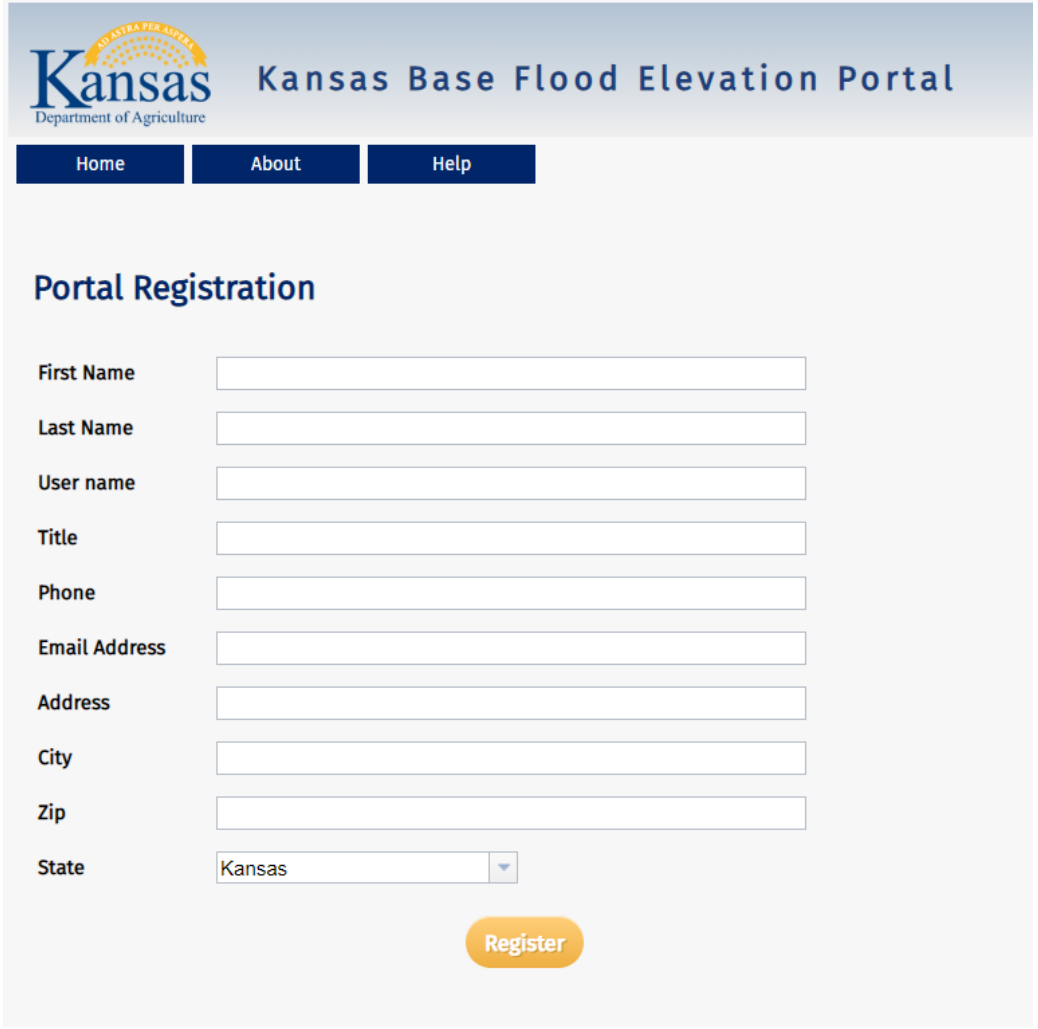
BFE Portal

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



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Regional Project Officer


Any Questions?

Interactive Map Review and Discussion

Web Map Link:
https://gis2.kda.ks.gov/gis/upper_ark/