Yell County Hazard Mitigation Plan

Period Approved
June 25, 2020 - June 24, 2025.

Prepared by
West Central Arkansas Planning and Development District
1000 Central Ave.
Hot Springs, AR 71902

Table of Contents

Adoption Resolution
County, Participating Jurisdictions and School Districts

Sample Resolution

RESOLUTION #

A RESOLUTION ADOPTING THE YELL COUNTY HAZARD MITIGATION PLAN FOR THE CITY/COUNTY/SCHOOL DISTRICT YELL COUNTY ARKANSAS.

WHEREAS, certain areas of Yell County are subject to periodic flooding and other natural and man-caused hazards with the potential to cause damages to people's properties with the area; and

WHEREAS, the City/County/School District desires to prepare and mitigate for such circumstances; and
WHEREAS, under the Disaster Mitigation Act of 2000, the United States Federal Emergency Management Agency (FEMA) required that local jurisdictions have in place a FEMA-approved Hazard Mitigation Action Plan as a condition of receipt of certain future Federal mitigation funding after November 1, 2004; and

WHEREAS, to assist cities and counties in meeting this requirement, Yell County, with the assistance of West Central Arkansas Planning and Development District, has initiated development of county wide, multi-jurisdiction Hazard Mitigation Plan the county and all jurisdictions in the county, specifically the cities and school districts;

NOW, THEREFORE, BE IT RESOLVED BY THE City/Quorum/Board of City/County/School District.

That the City/County/School District, Arkansas adopts those portions of the Plan relating to and protecting its jurisdictional area against all hazards (date) and

Appoints the Emergency Management Director to assure that the Hazard Mitigation Plan be reviewed at least annually and that any needed adjustment to the Hazard Mitigation Plan be developed and presented to the governing board for consideration; and

Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

APPROVED and ADOPTED on this _____ day of _____, 2019

APPROVED:

_____
Mayor/Judge/Superintendent

ATTEST:

_____
Secretary

SECTION 1
Planning Process

1.1 Plan Introduction

Hazards are part of the world around us. The occurrence of floods, tornadoes, winter storms, earthquakes, wildfires and other hazardous events are inevitable. These hazards are natural phenomena that we cannot control. These events can cause damage to the ecological environment; fire can destroy forests, high winds and tornadoes can uproot trees, earthquakes can alter the landscape, and floods can quickly reclaim natural floodplains. Despite their destructiveness, however these occurrences are part of the natural system. The natural environment is amazing recuperative from the forces of wind, rain, fire and earth, and can regenerate with resiliency, restoring habitat and ecosystems in time for the next generation of plant and animal life to begin anew.

It is when manmade environment intersects with these natural phenomena that disasters result. Disaster occur when human activity, such as buildings, infrastructure, agriculture, and other land uses take place in the path of the forces of nature. The manmade environment is not as indestructible or as recuperative as the natural one, and the occurrence of a natural hazard can result in damages and hardships for an entire community for many years following the event.

While we cannot prevent natural hazards, we do have some means on hand to reduce some of their adverse consequences. We have tools and techniques which, when put into effect in a timely fashion, allow us to avoid the worst-case scenario when a hazard does occur. By managing the characteristic of the existing and future human environment in a community before a hazardous event occurs, we can mitigate many of its negative impacts so that a disaster is less likely to result or will at least be of diminished magnitude.

Hazard mitigation is the cornerstone of emergency management. It is defined as any sustained action to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation encourages long tern reduction of hazard vulnerability. The goal of mitigation is to save lives and reduce property damage.

1.1.1 Disaster Mitigation Act of 2000

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 (DMA 2000) is the latest legislation to improve this planning process. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous Mitigation Planning section (409) and replacing it with a new Mitigation Planning section (322). This new section emphasizes the need for State, Tribal, and local entities to closely coordinate mitigation planning and implementation efforts. The new legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. As such, this Act establishes a pre-disaster hazard mitigation program (PDM) and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). It also requires that communities must have an approved hazard mitigation plan in order to receive Stafford Act assistance, excluding assistance provided pursuant to emergency provisions.

The goals of this Yell County Hazard Mitigation plan are to;

Goal 1: Reduce the potential for loss of life, injury and economic damage created by exposure to natural hazard for residents of Yell County due to natural disasters. Objectives are to:

Goal 2: Provide a framework and coordination to encourage all levels of government and public and private organizations to undertake mitigation to minimize potential disasters and to employ mitigation in the recovery following disasters. Objectives are to;

Goal 3: Seek grants for mitigation projects through the State and Federal funding. Objectives are to;

Goal 4: Protect existing properties from natural disasters. Objectives are to:

The Yell County Hazard Mitigation Plan is being developed to assess the ongoing natural hazard mitigation activities in Yell County, to evaluate additional mitigation measures that should be undertaken, and to outline a strategy for implementation of mitigation projects. This plan is multi-jurisdictional with a planning area that includes all of unincorporated Yell County and the municipalities within the County including the Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview. This plan also includes the School Districts located in Yell County; Danville, Dardanelle, Two Rivers, and Western Yell County.

Formal adoption and implementation of a hazard mitigation plan presents many benefits to Yell County and its residents. By identifying problems and possible solutions in advance of a disaster, Yell County and participating communities and school districts will be in a better position to obtain pre- and post-disaster funding. Specifically, the Disaster Mitigation Act of 2000 establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). It requires that states and communities have a FEMA approved hazard mitigation plan in place prior to receiving post-disaster HMGP funds. Adoption of this hazard mitigation strategy will also increase Yell County's eligibility for assistance from FEMA's Flood Mitigation Assistance (FMA) program. Yell County and participating communities will also gain additional credit points under FEMA's Community Rating System (CRS) program, which provides discounts on National Flood Insurance Program (NFIP) flood insurance premiums for residents of communities that voluntarily participate in this program. Most importantly, Yell County will be able to recover faster and more wisely from a disaster. Through planning and acting on local mitigation strategies, the city will reduce vulnerability to disasters and identify opportunities for mitigation. In addition, the communities may meet comprehensive planning and other planning requirements and achieve community goals.

Purpose and Authority

The purpose of the Yell County Hazard Mitigation Plan is to provide guidance for hazard mitigation activities in Yell County. The Yell County Office of Emergency Management has the responsibility to coordinate all local activities relating to hazard evaluation and mitigation and to prepare and submit to FEMA a Local Mitigation Plan following the criteria established in 44 CFR 201.4 and Section 322 of the Disaster Mitigation Act of 2000 (Public Law 106-390). The Disaster Mitigation Act of 2000 became law on October 30, 2000, and amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the "Stafford Act") (Public Law 93-288, as amended). Regulations for this activity can be found in Title 44 of the Code of Federal Regulations Part 206, Subpart M.

This plan meets requirements for a local mitigation plan under Interim Final Rule 44 CFR 201.4, published in the Federal Register by the Federal Emergency Management Agency (FEMA) on February 28, 2002. Meeting the requirements of the regulations cited above keeps Yell County qualified to obtain all disaster assistance including hazard mitigation grants available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended.

Yell County initiated the Hazard Mitigation planning process by securing a FEMA PDM grant with the assistance of WCAPDD to update the Plan. Yell County hired West Central Arkansas Planning and Development District, Inc. (WCAPDD) to author the plan. Yell County Office of Emergency Management and WCAPDD worked together to engage the county, cities, communities and school districts in the planning process.

1.1.2 Parts of the Plan

The Yell County Hazard Mitigation Plan is divided into sections to address FEMA requirements for a local multi-jurisdictional plan. These sections are;

1. Planning Process
2. Planning Area and Resources
3. Hazard Identification and Risk Assessment
4. Mitigation Strategy
5. Acronyms
6. Plan Adoption

This Hazard Mitigation Plan is multi-jurisdictional with a planning area that includes all of unincorporated Yell County and municipalities; Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview within the County including school districts; Danville, Dardanelle, Two Rivers, and Western Yell County.

All jurisdictions and school district listed above actively participated in the planning process from its inception. Each jurisdiction provided a representative to participate on the planning team or if a representative was unable to attend, they chose to be represented by the Yell County Office of Emergency Management. Planning team members actively participated in meetings, solicited input from members of their communities, and ensured that all jurisdiction information was reflected in the plan.

1.1.3 Involvement of Local Governments

Yell County's mitigation planning process was initiated in September 2017, when the County applied for a 2017 Pre Disaster Mitigation Assistance (PDM) Grant Through FEMA and ADEM, under Yell County Judge Mark Thone In September of 2018 Yell County was awarded the PDM grant and negotiated a subcontract with West Central Arkansas Planning and Development District to facilitate their mitigation planning efforts. West Central Arkansas Planning and Development District served as facilitator and Jeff Gilkey, Director of the Yell County OEM, led the planning effort.

Once all participating cities and school districts for which the Yell County OEM is responsible formally agreed to participate, an initial planning team comprised of representatives from Yell County and participating jurisdiction was organized. This initial team was instructed to solicit interested persons from their community to participate on the planning team. This solicitation led to the addition of several additional planning team members. The planning team members include representatives from county government, local city governments, public works officials, emergency management officials, fire districts, and school districts. All participating jurisdictions actively participated in the planning process through soliciting input from their communities and participation in meetings. If a city or school district could not attend a meeting, all minutes and materials were mailed out to the jurisdiction and contacted on an individual basis as needed. The Yell County Mitigation Planning Team also discussed mitigation actions, projects, and past hazard occurrences with WCAPDD during conference calls.

Multiple planning events were scheduled throughout the planning process. Training events began the planning process. The West Central Arkansas Planning and Development District also utilized technical assistance provided by the Arkansas Department of Emergency Management by receiving training at workshops provided by ADEM and FEMA. Guidelines for the mitigation plan were discussed as well as training for entering data and how to locate and research the data needed for the mitigation plan. It was stressed to have public involvement and to work together with cities, schools, and county.

The first planning meeting was held on January 23, 2019 that included the initial planning team. Meetings were held with Danville, Dardanelle, Two Rivers and Western Yell County School Districts and City officials to allow for the multi-jurisdictional planning process. These meetings provided the general public from Yell County and cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, Arkansas Department of Health, Arkansas Tech University, Yell County Special Services, as well as LEPC/Citizens Corp/Hazard Mitigation Planning Team members, input at the beginning, first draft, and final stages of the planning process. Planning meetings were held with the planning team members at various stages of the planning process. A number of additional officials at both the state and local government level were contacted throughout the planning process for specific information and technical expertise. The planning events included meetings with school districts, cities, LEPC members, and the general public. Conference phone calls were held with city, county, and school officials that could not attend scheduled meetings to discuss the current planning process. The public was given the opportunity to comment what disasters had affected them in the past and what disasters most concern them through the ***Natural Hazard Mitigation Questionnaire*** and planning meetings. Public Comment determined what natural hazards were identified in the Yell County Hazard Mitigation Plan.

Natural Hazard Mitigation Questionnaires were distributed via social media and various cities and school websites and a total of 101 were completed. The natural hazards that concerned the general public were; drought, floods, tornadoes, thunderstorm winds, lightning and hail, and winter storms. The information from these questionnaires was given to the planning members, and mitigation actions were developed from these natural hazards.

1.1.4 Neighboring Community Involvement

During the Mitigation Planning Process for Yell County, neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development were informed of the meetings and invited personally by Yell County OEM to attend planning meetings. Representatives from the Arkansas Department of Emergency Management Tim Gehring and Jennifer Oakley, Yell County Sheriff's Office attended several meetings. The Arkansas Department of Health as well as Perry and Montgomery County were invited to attend but were unable however provided input on past disasters and threats that may affect the overall area. The Yell County OEM Jeff Gilkey was brought into the discussion of prioritizing hazards and mitigation projects for Yell County. The knowledge and experience of other emergency managers was very beneficial to the Yell County Plan. Since both counties have mutual aid agreements with Yell County, these were also reviewed and discussed in the planning process.

In summary, the planning process consisted of the following items:

- County appointed a planning committee consisting of mayors and city personnel, school personnel, fire department members, emergency workers, planning and development district employees, and LEPC/Citizens Corp/Hazard Mitigation Planning Team Members.

- County engaged West Central Arkansas Planning and Development District (WCAPDD), the regional planning organization, to provide staff support in conducting the planning process and preparing the plan.

- Meetings were held with committee members to understand and agree on planning processes and steps required, including organizing resources, assess hazards, develop a mitigation plan, and implement the plan and mentor progress.

- West Central Arkansas Planning and Development District staff attended workshops presented by FEMA and ADEM on the preparation of the mitigation plan.

- West Central Arkansas Planning and Development District staff also had numerous subsequent discussions about the planning process with ADEM staff. The WCAPDD staff also discussed planning process issues with others in the state that were involved in the preparation of other hazard mitigation plans.

The Planning Committee utilized the following technical documents;

- Arkansas Hazard Mitigation Plan as a guidance tool in the development of the mitigation plan.
- Yell County Land Use Plan will be used to prevent land-use conflicts during developing mitigation actions.
- Yell County Emergency Operations Plan will be used to better understand how Yell County responds to emergencies and disasters while providing for the safety and welfare of its citizens. Plan will provide information about critical facilities in the county.
- WCAPDD Comprehensive Economic Development Strategy will be used to review the plans Disaster and Resiliency procedures from natural disasters to help during the mitigation actions process.
- Yell County Floodplain Ordinance #2011-3, to maintain compliance of the NFIP ordinance during mitigation actions.
- Yell County Radiological Emergency Plan, to review how the county plans to (1) ensure the health and safety of citizens living around commercial nuclear power plants would be adequately protected in the event of a nuclear power plant accident and (2) inform and educate the public about radiological emergency preparedness.
- Garland, Perry and Montgomery County Hazard Mitigation Plans were used to review surrounding hazards that may pose a threat to the area.

October 3, 2018. Yell County OEM Jeff Gilkey Time Gehring Arkansas Department of Emergency Management, and Cody Shreve West Central Arkansas Planning and Development District met at the Yell County Office of Emergency

Management. The purpose of the Hazard Mitigation Plans was discussed, plans were made to set up regular meetings, and how to get the public involved in the planning process.

First planning Meeting was held January 23, 2019 . Those in attendance were Todd Spencer, School Resource Officer Two Rivers School District, John Thompson, Superintendent Dardanelle school district, Jennifer Oakley Arkansas Department of Emergency Management (ADEM), Phil Moudy Danville Mayor, Cody Shreve WCAPDD, Jeff Gilkey Yell County Office of Emergency Management, and Mark Thone Yell County Judge. Those that were unable to attend were contacted individually to get the necessary information.

Other Meetings due to the rural nature of the county each city and school was contacted on an individual basis to provide the necessary information needed for the plan. Each city and school provided a list of critical assets, previous disasters, and pertinent information for each area. Yell County and the municipalities within the County including the Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview and School Districts Danville, Dardanelle, Two Rivers, and Western Yell County all actively participated in the planning process.

1.1.5 Public Review

After the completion of planning meetings the draft plan was provided for the public viewing for comment before submission to the Arkansas Department of Emergency Management. A Notice was posted on the county's website http://yellcounty.net and WCAPDD website wcapdd.org on July 7, 2019for public comment.

Zero written comments from the public were received. Planning members were made aware of the requirement that the Yell County Hazard Mitigation Plan must be submitted to the Arkansas Department of Emergency Management for review prior to the State submitting plans to FEMA.

1.1.6 Plan Developers

Planning Team-

Jurisdiction	Name of Participation/Involvement
Yell County, unincorporated areas	County Judge Mark Thone, Yell County OEM/Floodplain Manager Jeff Gilkey CFM, Intern OEM Maverick Dunn, Yell County Sheriff Bill Gilkey, Yell County 911 Charlie Smith, Arkansas Department of Health Sara Daniel & John Graves, Yell County Fire Control Rick Dz, Yell County EMS Sidney Ward, and Arkansas Tech University J Smith, attended planning meetings, provided historical data, completed assessment forms, participated in conference calls with WCAPDD, and plan participants, received minutes and flyers to post for public information. Jeff Gilkey met with city members (Belleville, Corinth, Havana and Ola) who were unable to attend regular planning meeting and discussed the importance of mitigation planning and worked with them to decide what mitigation actions were needed in their cities.
City of Danville	Mayor Phillip Moudy was able to attend planning meetings. He attended meetings, and provide planning team with historical and information on critical facilities. He presented information to the city and kept them updated on the mitigation plan.
City of Dardanelle	Mayor Jimmy Witt and City Clerk Frances Cross represented the City of Dardanelle by attending all planning meetings through phone calls and emails and providing historical information. They discussed with there residents the importance of the mitigation plan, and asked for their support in selecting mitigation actions for the city. The City provided public outreach through the city website.
Arkansas Department of Emergency Management	Arkansas Department of Emergency Management Tim Gehring attended the first planning meeting and offered his guidance to the county and cities in any way he was needed.

Dardanelle School District	Superintendent John Thompson attended the planning meetings and spoke to the School Board about the mitigation plans, and returned with their mitigation actions. Dardanelle provided historical data for the plan as well as other information relating to Dardanelle School District and previous events. The school invited the public to participate in the palling process via there school website and Facebook page.
City of Belleville	Mayor Steven Baxter was unable to attend the planning meetings due to full time employment elsewhere, so Jeff Gilkey OEM met with the Mayor and discussed the mitigation plan and the Mayor worked with the city council to choose their mitigation actions. The Mayor provided information to WCAPDD by phone.
Two Rivers School District	School resource office Todd Spencer attended all the planning meetings and took information back to the school. WCAPDD Cody Shreve, meet with the superintendent Mike Dean and school staff to discuss the importance of the mitigation actions to their school. The school invited the public to participate in the palling process via there school website and Facebook page.
City of Corinth	Mayor Jim Pickens was unable to attend the planning meetings. Jeff Gilkey OEM worked directly with the city on their mitigation actions.
City of Plainview	Doug Forrest represented the City of Plainview in the planning process. He was unable to attend the planning meetings, but gathered historical information and discussed the mitigation plan Jeff Gilkey. He assisted in compiling the mitigation actions for the city.

City of Havana	Mayor Rick Bryant was unable to attend the planning meetings, so OEM Jeff Gilkey met with the mayor and discussed the mitigation plan; the mayor provided the mitigation actions for Havana.
City of Ola	Mayor Jeff Black was unable to attend the planning meetings due to full time employment elsewhere, so OEM Jeff Gilkey met with members of the city to discuss the importance of the mitigation plan and gathered their mitigation actions. Mayor Black provided mitigation information to WCAPDD Cody Shreve and County OEM Jeff Gilkey.
Danville School District	Supt. Grant was unable to attend the planning meetings, but participated in telephone conferences with Jeff Gilkey and Cody Shreve and discussed historical events and future mitigation actions.
West Central Arkansas Planning and Development	Cody Shreve, Program Manager with WCAPDD, served as the facilitator in the development of the Yell County Hazard Mitigation Plan. She met and held telephone conferences with school districts, cities, and county members to discuss the mitigation plan process and the HMGP and PDM grant programs.
Western Yell County School District	Supt. Joe Staton was unable to attend planning meetings but participated in discussions of the development of the mitigation plan with Jeff Gilkey, OEM and WCAPDD Cody Shreve.

Point of Contacts

Yell County Judge Mark Thone P. O. Box 219 Danville, AR 72833 Phone: (479) 495-4860 cojudge@centurytel.net	City of Belleville Mayor Steven Baxter P.O. Box 238 Belleville, AR 72824 Phone: 479-493-2326 belleville@arkwest.com	City of Corinth Mayor Jim Pickens P.O. Box 368 Danville, AR 72833 Phone 479-495-1454
City of Danville Mayor Phillip Moudy P.O. Box 69 Danville, AR 72833	City of Dardanelle Mayor Jimmy Witt P.O. Box 360 Dardanelle, AR 72834	City of Havana Mayor Rick Bryant P.O. Box 7 Havana, AR 72842

Phone: 479-495-2013 danville@arkwest.com	Phone: 479-229-4500 cityclerk@dardanelle.com	Phone: 479-476-2436 cityofhavana@arkwest.com
City of Ola Mayor Jeff Black P.O. Box 68 Ola, AR 72853 Phone: 479-489-5131 olacitybb@arkwest.com	City of Plainview Mayor Doug Forrest P.O. Box 117 Plainview, AR 72857 Phone: 479-272-2018 pviewsfund@arkwest.com	Danville School District Supt. Gregg Grant P.O. Box 939 Danville, AR 72833 Phone 479-495-4810
Dardanelle School District Supt. John Thompson 209 Cedar Street Dardanelle, AR 72834 Phone: 479-229-4111	Two Rivers School District Supt. Mike Dean 177727 E. State Hwy 28 Ola, AR 72852 Phone: 479-272-3113	Western Yell Co. School District Supt. Joe Staton 1 Wolverine Drive Havana, AR 72842 Phone 479-476-4116

1.2 Plan Maintenance Process

1.2.1 Monitoring, Evaluation and Updating the Plan

Although FEMA regulations require a plan update within five years, Yell County has developed a method to ensure that monitoring, evaluation, and updating of the Yell County Hazard Mitigation Plan occurs annually or as needed. The plan will be submitted to FEMA within five-years for review. The County will form a Hazard Mitigation Plan Evaluation Sub-Committee of the existing Yell County Local Emergency Planning Committee (LEPC). The LEPC consists of members from fire service, health officials, emergency management, law enforcement, community groups, transportation, hospital personnel, school administration and emergency medical personnel, elected officials, and owners and operators of covered facilities. The Director of the Yell County Office of Emergency Management will be the initial Chair of the sub-committee or Planning Team Leader. The Planning Team Leader will contact the planning team committee, set up meeting dates, and ensure that each community will maintain a representative on the team.

The Planning Team Leader will ensure that each jurisdiction's planning team members are providing all necessary updates to the plan by keeping a spreadsheet with each element discussed, including, the planning process, the incorporation process, evaluation method, updating method, and continued public participation. This spreadsheet will be reviewed annually, to ensure all aspects of the plan are being monitored accordingly. If a planning team member is unable to attend a meeting and/or has not provided monitoring reports/updated information, the OEM will follow up with the team member via emails, or by telephone, until the necessary information is provided.

The Planning team will keep the community involved by posting any changes and public meetings held on the website and in the local newspaper. The team will ensure all meeting minutes are kept up and posted for review of the planning team as well as public. Community/public involvement will be monitored to see if there is an increase or decrease in public participation. If it is deemed that the current means for public involvement are inadequate, the committee will determine new actions going forward and incorporate the new methods in subsequent updates.

During the update period representatives of the Hazard Mitigation team will verify that information such as point of contact information for the jurisdictions and entities that are a part of this plan is still correct. Also, as events occur within the jurisdictions that are covered by this plan it will be recorded in the appropriate sections throughout. If the planning team feels as if a new hazard is faced by the county and its jurisdictions, then this should be added and addressed in the plan. In the event Yell County receives a new presidential declaration this information will be recorded in the appropriate sections of the plan. As mitigation actions are completed then this should be updated in the appropriate section as well.

The responsible party for overseeing and assuring plan updates is the Yell County Office of Emergency Management. At this time, the maintenance procedures for the Mitigation Plan will be conducted at the LEPC meeting, which are held quarterly. Each community's representative will be responsible for monitoring and evaluating the progress of the

mitigation strategies and potential natural hazards. The team members will monitor the plan by providing a mitigation planning update at each quarterly meeting.

During the last LEPC meeting of each year, the sub-committee will meet to review and evaluate each goal and objective as well as hazards and other info to determine their relevance to changing situations in Yell County, as well as changes in State or Federal policy, and to ensure that they are addressing current and expected conditions. The Sub-committee will also review and evaluate the risk assessment portion of the plan to determine if this information should be updated or modified. The parties or agencies responsible for the various implementation actions (identified in Section 4) will report on the status of their projects and will evaluate which implementation processes worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised.

The Yell County Office of Emergency Management will then have three months to update and make changes to the plan before submitting it to the Sub-Committee members and the State Hazard Mitigation Officer. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination. Comments and recommendations offered by Sub-Committee members and the State Hazard Mitigation Officer will be incorporated into the plan update.

In addition, the Yell County Hazard Mitigation Plan will be integrated into other plans. Integrating hazard mitigation into the local comprehensive plan thereby establishes resilience as an overarching value of a community and provides the opportunity to continuously manage development in a way that does not lead to increased hazard vulnerability.

Land Use and Development Plans will guide future growth and development away from areas with known hazards, or to ensure design standards for new or improved construction take potential hazards into account. Land use policies can build community resilience by taking information on location, frequency and severity of hazards unto consideration and setting forth recommendations that influence development in a way that does not increase risks to life and property.

Transportation Plans can build community resilience by adopting policies that direct growth away from known hazard areas. Also, by ensuring that transportation systems and other critical infrastructure are designed to withstand the effect of known hazards, so they still function in the event of an emergency or disaster.

Housing Plans can help strengthen community resilience by ensuring that the location and design of new or improved housing complies not only with existing building codes, but with potential hazards. Opportunities to strengthen or replace structures unidentified as vulnerable to hazard can be promoted through existing maintenance or rehabilitation programs, and particularly through policies regarding non-conforming, substantially damaged, or substantially improved properties.

Economic Development Plans can promote commercial or industrial expansion in area that are not vulnerable to damage or disruption from hazard and by making community resilience a key feature in attracting, expanding and retaining businesses and industry.

Public Facilities and Infrastructure Plans policies can be adopted to ensure critical facilities such as police and fire stations, as well as key infrastructure such as water and wastewater treatment plants, are protected from the effects of hazards. This provides opportunities to establish goals and policies in support of mitigation projects such as stormwater drainage improvements or the public acquisition of hazard areas for open space.

Natural Resource Protection Plans have policies designed to preserve or enhance environmental areas of concern, such as wetlands, riparian corridors, and floodplains, often include the added benefit of avoiding or minimizing development in hazard areas. These types of policies build community resilience by protecting lives and property and maintaining natural and beneficial functions of systems that act as buffers against hazardous events.

Historic Properties and Cultural Resources Plans are designed to protect and preserve historic and cultural sites, buildings, and other resources and can be linked with mitigation strategies to prevent damage and losses from hazardous events.

The Hazard Mitigation Plan will take into account any changes in these plans and incorporate the information accordingly in its next update.

The Planning Committee will make every attempt to ensure the public will be able to directly comment on, and provide feedback about the Plan by posting the agenda and submitting meeting notice to the local media through newspaper articles, county website and postings in public locations. This process will inform the county citizens on any changes or revisions of the Yell County Hazard Mitigation Plan.

Since future plans and government regulations might need to be adopted into the Hazard Mitigation Plan, Yell County Quorum Court ,City Counsels of; Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview and school districts of; Danville, Dardanelle, Two Rivers, and Western Yell County will be informed of any necessary changes to the plan by the Team Leader, to be adopted into the Plan by resolution. The Arkansas Department of Emergency Management will be contacted as necessary for professional and technical advice as needed.

1.2.2. Incorporation into Existing Planning Mechanisms

Yell County and plan participants currently use state laws pertaining to compliance with the National Flood Insurance Program as well as state fire codes, to encourage compliance with its hazard mitigation programs. These existing mechanisms have hazard mitigation strategies integrated into them. Yell County, as every other county in the State, has a current Emergency Operations Plan. The Hazard Mitigation Plan will become an annex of the EOP for future submissions. The Yell County Hazard Mitigation Plan will be available for public view on the West Central Arkansas Planning and Development District's website www.wcapdd.org and the county's website www.yellcounty.net for any entity or citizen who wishes to view or make a copy of it. Copies will also be made available at public libraries, the Yell County Courthouse in both Danville and Dardanelle, and each participating jurisdiction's city hall. The cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and School Districts of Danville, Dardanelle, Two Rivers and Western Yell County will be adopting the approved Hazard Mitigation Plan in their existing plans that are relevant to Hazard Mitigation. Any participant without previous plans in place will be encouraged to develop zoning plans and other land ordinance plans to incorporate mitigation strategies. Participants incorporating the Yell County Hazard Mitigation Plan pertain to them. After these discussions, each incorporating mechanism will follow their local laws or guidelines necessary for implementation through open forum public meetings. Each incorporating party will monitor the progress of any incorporated mitigation strategies and report the success or failure to the Emergency Operations Council for inclusion in its annual report. After each update of the Yell County Hazard Mitigation Plan, each incorporating participant will be informed of the changes so they can reflect these changes in their plans also.

More specifically, the Yell County Hazard Mitigation Plan may be incorporated into the State of Arkansas Hazard Mitigation Plan future updates. The risk assessment and mitigation strategies may be incorporated into the State Hazard Mitigation Plan during their updating process every five years. Yell County will be incorporating the Yell County Hazard Mitigation Plan into the Yell County Emergency Operations Plan and county land use ordinances and/or plans by following the laws set forth by the county government. Incorporating the plan into other plans will be done by vote at the regular quorum court meetings and passed by resolution.

1.2.3 Continuous Public Involvement

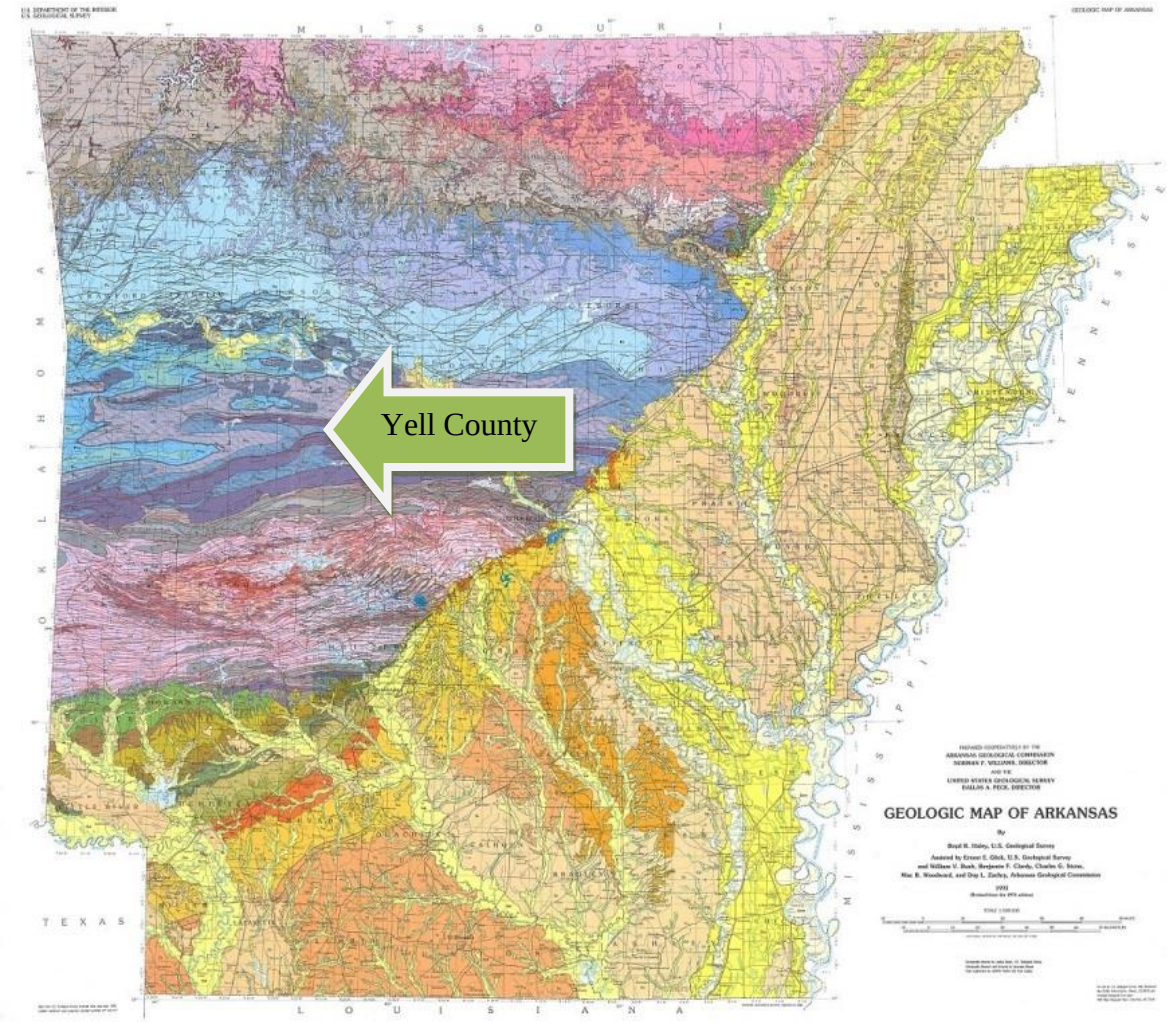
Yell County is dedicated to involving the public directly in the continual reshaping and updating of the Yell County Hazard Mitigation Plan. The Hazard Mitigation Plan Evaluation Sub-Committee members are responsible for the annual monitoring, evaluation, and update of the plan. Although they represent the public to some extent, the public will be able to directly comment on and provide feedback about the plan.

Copies of the FEMA approved Yell County Hazard Mitigation Plan will be available at www.yellcounty.net and www.wcapdd.org . Contained in the plan are the address, phone number, and e-mail of the Director of the Yell County Office of Emergency Management, the primary point of contact for the plan.

A public announcement inviting all interested parties will be made prior to each quarterly LEPC meeting, including the December LEPC meeting during which the Hazard Mitigation Planning Sub-Committee reviews and evaluates the

plan in its entirety. This meeting will provide the public a forum for which the general public can express concerns, opinions, or ideas about the plan. The Yell County Office of Emergency Management and the Yell County LEPC will publicize and host this meeting. Following the meeting, the evaluation committee will review the comments and make changes to the plan, as appropriate.

SECTION 2
Planning Area and Resources



2.1 General Geography

Yell County is in the west central part of Arkansas. It is irregular in shape and extends 38 miles from north to south and 45 miles from east to west. The county is bordered on the north by Logan and Pope Counties, on the east by Conway and Perry Counties, on the south by Garland and Montgomery Counties, and on the west by Logan and Scott Counties. The total area of the county is 607,744 acres, or 950 square miles, which includes 12,367 acres of large bodies of water.

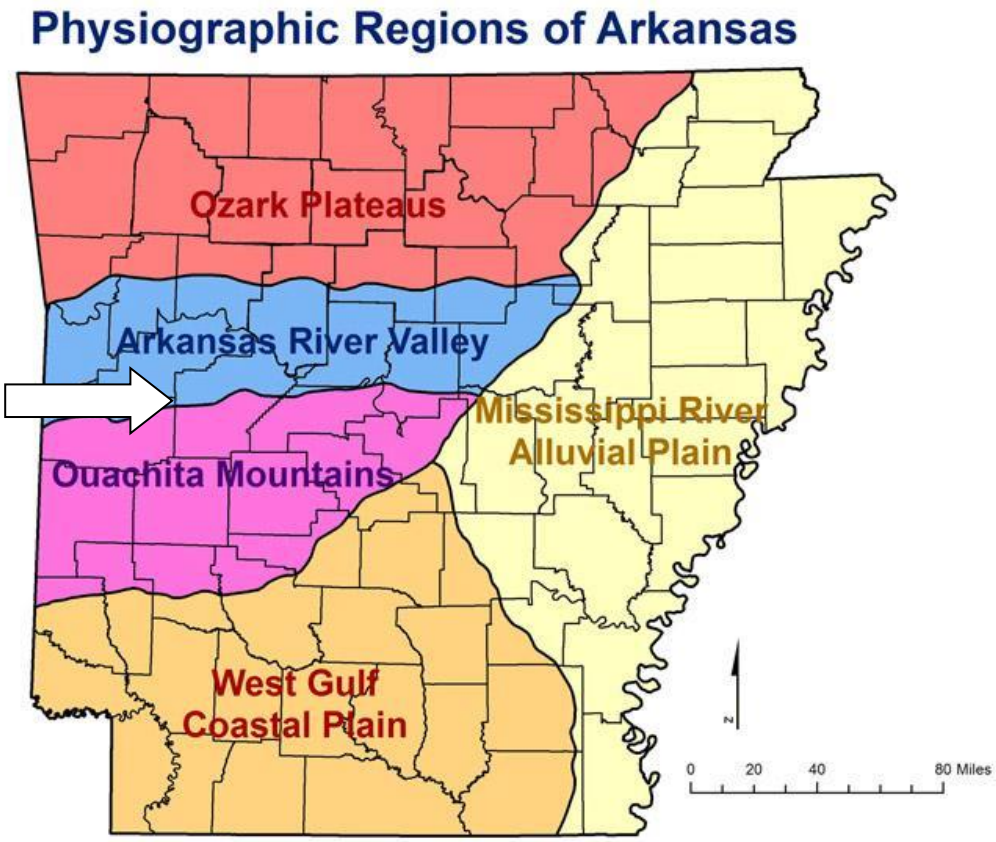
Physiography and Drainage

The Arkansas River flows eastward and forms part of the northern boundary of Yell County. Several old filled in oxbow lake on the floodplain of the Arkansas River are evidence that the river has meandered from west to east. The other main drainage ways are Chickalah Creek, Dutch Creek, Fouche LaFave River, and Petit Jean River.

The flow of the Arkansas River is controlled by large flood control impoundment in its upstream watershed. A series of lake and dams for navigable pools and the river is open through the year to barge traffic. The Arkansas River

provides opportunities for fishing, boating, and waterfowl hunting. It yields sand in quantities large enough to be profitably dredged. With the exception of about 46,000 acres in the Ouachita River Watershed, the stream watersheds in Yell County eventually drain into this river.

Topographically, Yell County is divided into two Mayor Land Resource Areas, the Arkansas Valley and Ridges and the Ouachita Mountains. The areas range from level bottomlands to very steep hills and mountains.



Climate

In winter, the average temperature is 42 degrees F, and the average daily minimum temperature is 31 degrees. The lowest temperature on record, which occurred at Dardanelle on February 2, 1951, is -14 degrees. In summer, the average temperature is 80 degrees, and the average daily maximum temperature is 91 degrees. The highest recorded temperature, which occurred on July 13, 1954, is 110 degrees.

2.2 General Land Use/Analyzing Development Trends

Yell County is approximately 593,850 acres. Forest land accounts for 412,992 acres, or 73.7 percent of Yell County. About 59 percent (243,665 acres) is in public ownership, 14 percent (57,819 acres) in industrial ownership, and 27 percent (111,508 acres) in private ownership.

The major agriculture sources are rice, soybeans, livestock and timber. The number of farms is 829 with an average size of 219 acres. Land in farms is 181,155 acres, cropland harvested 55,965 acres, timber 428,043 acres.

About 55 percent of the county is mountainous and hilly, and mountains and hills are scattered throughout the county. The elevation ranges from about 400 feet at the base of the hills and mountains to 2,439 feet at the top of Petit Jean Mountain in the western part of the county. The soils are most of the mountainous and hilly areas are too steep for

intensive use. They are used mainly as woodland or for native pasture. Some of the less sloping soils are suitable for improved pasture, and some of the soils in narrow valleys are suitable for truck crops (vegetables and fruit).

About 45 percent of the county is level to gently sloping hilltops and mountaintops, valley fill, and alluvial sediment. The elevation ranges from about 280 feet in the eastern part of the county to about 600 feet atop the valley ridges. Except for the intensively farmed soils on bottomlands along the Arkansas River, and the less intensively farmed soils along the Petit Jean and Fourche LaFave Rivers, the soils in the level to gently sloping areas are used mainly for forage crops.

Agriculture in Yell County:

Average size of farms: 219 acres
Average value of agricultural products sold per farm: $136,516
Average value of crops sold per acre for harvested cropland: $70.70
The value of nursery, greenhouse, floriculture, and sod as a percentage of the total market value of agricultural products sold: 0.12%
The value of livestock, poultry, and their products as a percentage of the total market value of agricultural products sold: 96.50%
Average total farm production expenses per farm: $96,612
Harvested cropland as a percentage of land in farms: 30.89%
Irrigated harvested cropland as a percentage of land in farms: 8.82%
Average market value of all machinery and equipment per farm: $55,224
The percentage of farms operated by a family or individual: 93.49%
Average age of principal farm operators: 55 years
Average number of cattle and calves per 100 acres of all land in farms: 19.65
Milk cows as a percentage of all cattle and calves: 0.86%
Corn for grain: 3405 harvested acres
All wheat for grain: 2516 harvested acres
Soybeans for beans: 8417 harvested acres
Vegetables: 7 harvested acres
Land in orchards: 19 acres

2019 Plan Update:

Since the last update there has not been any significant changes in development. There have been no major industries closed or opened that would affect the counties ability to recover from a disaster. During the writing of this plan the area was impacted by major flooding however at this time we are still awaiting the results of the flooding and damage. Once these results are known they will be update as appropriate throughout this plan. Since the last plan there has been no changes in the priorities of the county, cities, and school districts impacted by this plan.

Yell County, AR

County Seat: Danville/Dardanelle | County Seat Population: 2,420/4,560 | Founded: 1840 | Land Area (sq. miles): 929.98

Source: www.encyclopediaofarkansas.net

HOUSING

Median Value	$100,100
Homeowner Vacancy Rate	3.5
Rental Vacancy Rate	4.5
Occupied Housing Units	76.9%
Occupied Housing Units with No Vehicle Available	5.0%

Source: U.S. Census Bureau, 2012–2016 American Community Survey 5-Year Estimates

ECONOMY

Median Household Income	$39,323
Individuals Below Poverty Level	17.5%
Families Below Poverty Level	13.5%
Per Capita Personal Income	$30,471
Households Receiving Food Stamps/SNAP	13.1%
Unemployment Rate	4.0%

Source: U.S. Census Bureau, 2012–2016 American Community Survey 5-Year Estimate;

Per Capita Personal Income Source: Bureau of Economic Analysis, released November 16, 2017;

Unemployment Rate Source: Bureau of Labor Statistics, LAUS

TRANSPORTATION

Average Commute Time (minutes)	20.7
Means of Transportation to Work	
Drove alone	81.2%
Carpooled	10.4%
Public transportation (excluding taxicab)	0.3%
Walked	2.3%
Bicycle	1.8%
Taxicab, motorcycle, or other means	0.1%
Worked at home	3.9%

Source: U.S. Census Bureau, 2012–2016 American Community Survey 5-Year Estimates

EDUCATION

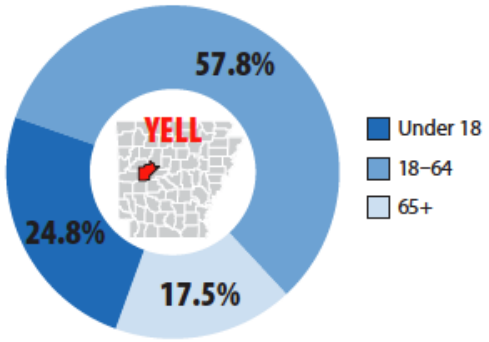
High School Graduate or Higher	77.9%
Bachelor's Degree or Higher	14.4%

Source: U.S. Census Bureau, 2012–2016 American Community Survey 5-Year Estimates

POPULATION

2010 Census	22,185
2017 Estimate	21,523
2010-2017 Change	-3.0%
Total Net Migration	-858
International Migration	174
Domestic Migration	-1,032
Female	49.9%
Male	50.1%
Minority	25.0%
Median Age	40.1
65+ years	3,756
Under 18 years	5,329

Source: U.S. Census Bureau, Population Division, Vintage 2017 Population Estimates

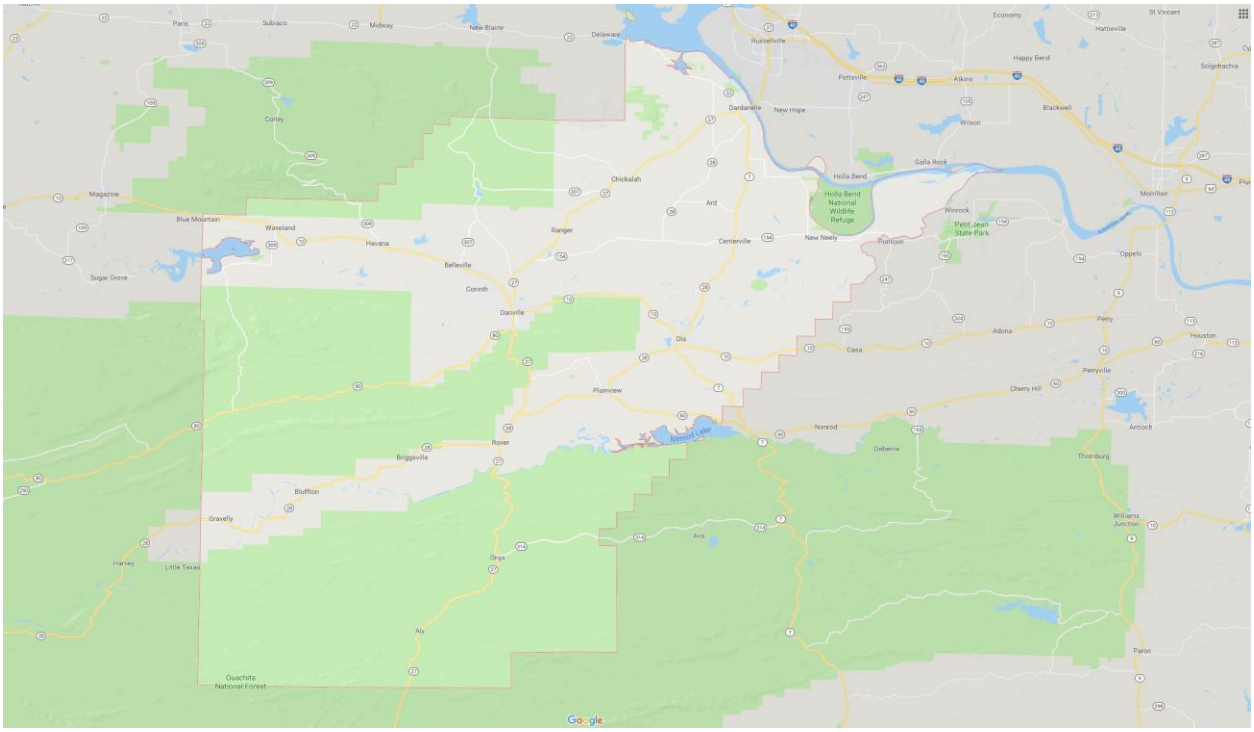


LARGEST INDUSTRIES

	2017 Jobs	2021 Jobs	2017–2021 % Change	Avg. Earnings Per Job
Manufacturing	2,456	2,441	-1%	$37,987
Government	1,393	1,374	-1%	$46,900
Agriculture, Forestry, Fishing and Hunting	1,010	948	-6%	$35,953
Health Care and Social Assistance	913	1,009	11%	$30,767
Retail Trade	731	772	6%	$21,449
Construction	507	526	4%	$31,960
Administrative and Support and Waste Management and Remediation Services	393	430	9%	$22,178
Other Services (except Public Administration)	379	390	3%	$18,469
Accommodation and Food Services	334	341	2%	$13,836
Transportation and Warehousing	295	322	9%	$48,761

Source: EMSI Q4 2018 Data Set

2.2.1 NFIP Participation and Capability Assessment



Yell County is located in the State of Arkansas. Yell County is Arkansas's 41st county, formed on the 5th of December 1840 According to the 2007-2011 American Community Survey 5- Year Estimates the population was 21,995, with a total of 9,731 housing units. The county has two county seats, Dardanelle and Danville.

National Flood Insurance Program (NFIP)

The Yell County Office of Emergency Management (YCOEM) oversees the floodplain program for Yell County Arkansas. The YCOEM assists citizens of Yell County with filling out documents for the NFIP and educating the citizens about the NFIP program. If a person wishes to build in a floodplain, there is a permit that must be completed for Yell County then the YCOEM will monitor the construction process to insure compliance. The vast majority of work done by YCOEM is assisting citizens in completing letters of map amendments and continuing education for the director of Yell County's flood insurance program.

Insurance Summary-Yell County is a member of the National Flood Insurance Program, Community Identification Number 050469. The Initial FHBM was identified 11/15/77, the Initial FIRM was identified 03/04/02, the current effective map date is 03/04/02, there are 10 NFIP policies in Yell County, the total premium and coverage is $1,133,500.00. There have been no claims for the county. There are approximately 413 structures exposed to flood risk within the county.

Staff Resources-Yell County has a Certified NFIP Coordinator. The floodplain management is an auxiliary function. Yell County has not had any barriers running an effective NFIP program.

Compliance History- Yell County is in good standing with the NFIP, and there are no outstanding compliance issues. Yell County intends to maintain compliance with the NFIP by following all regulations in the County's Ordinance establishing a flood damage prevention program for the county. The NFIP Coordinator will continue floodplain education. When Yell County 911 receives notification that a new residence needs a physical address, Yell County CFM is immediately contacted to determine if the structure is located in a floodplain.

Yell County Capability Assessment

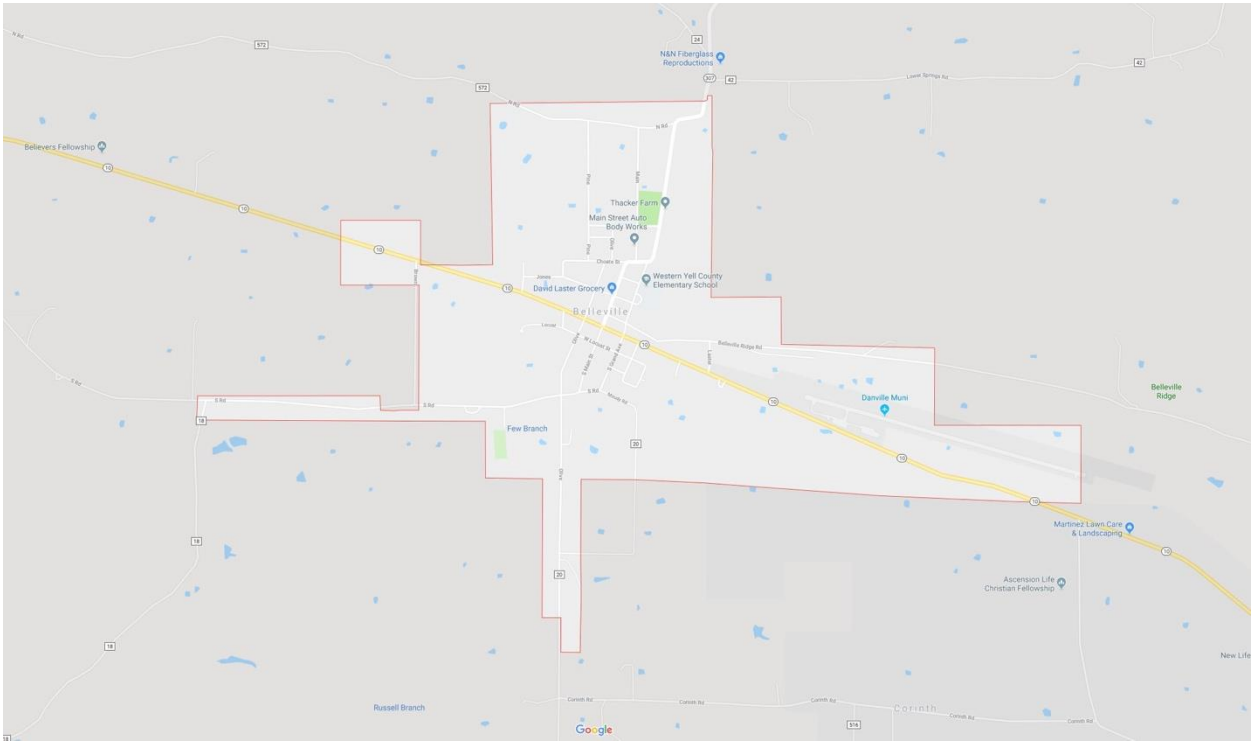
Electric Utilities- Entergy
Telephone Utilities- Century Tel and Arkwest
Gas Utilities- Center Point Entergy
Water Systems Utilities- Dardanelle Water System, Danville Water System, Plainview Water System, Ola Water System, Belleville Water System, Havana Water System, and Northeast Yell County Water Association, Inc.
DSL Digital Cable Television- Arkwest Communications,
High Speed DSL Internet- Arkwest Communications and Century Tel
Cellular telephone service is provided by several wireless carriers with towers located in Danville.

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: Yes			
Flood Insurance Claims: No			

Yell County could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

City of Belleville-

Belleville is an incorporated place located in Yell County at latitude 35.093 and longitude -93.449. The elevation is 364 feet. Belleville appears on the *Danville* U.S. Geological Survey Map. FIPS Code 05-04960, GNIS Feature ID 0076294. Belleville has 1.90 square miles of land area and has no water area. As of 2010, the total Belleville population is 441, which has grown 18.87% since 2000.



National Flood Insurance Program (NFIP)

Belleville has been a member of the National Flood Insurance Program since 04/18/1975, their CID# 050384. The Mayor oversees the floodplain program for the City of Belleville, Arkansas. Belleville participates in the NFIP by regulating their flood damage prevention program following the guidance in the city's floodplain ordinance, and plans are to continue to participating by remaining updated on all changes through the Arkansas Floodplain Management Association.

Insurance Summary-There is 2 structures that are near the floodplain located on Highway 10 and Locust in Belleville. There have not been any flooding events in Belleville. One flash flood event is listed on the NCDC, but these structures were not affected.

Staff Resources- The floodplain management is an auxiliary function. There is only a small portion of Belleville located near the floodplain and there has been no interest in building there. If an issue arises that the city has a problem solving they seek assistance from the Arkansas Floodplain Management Association.

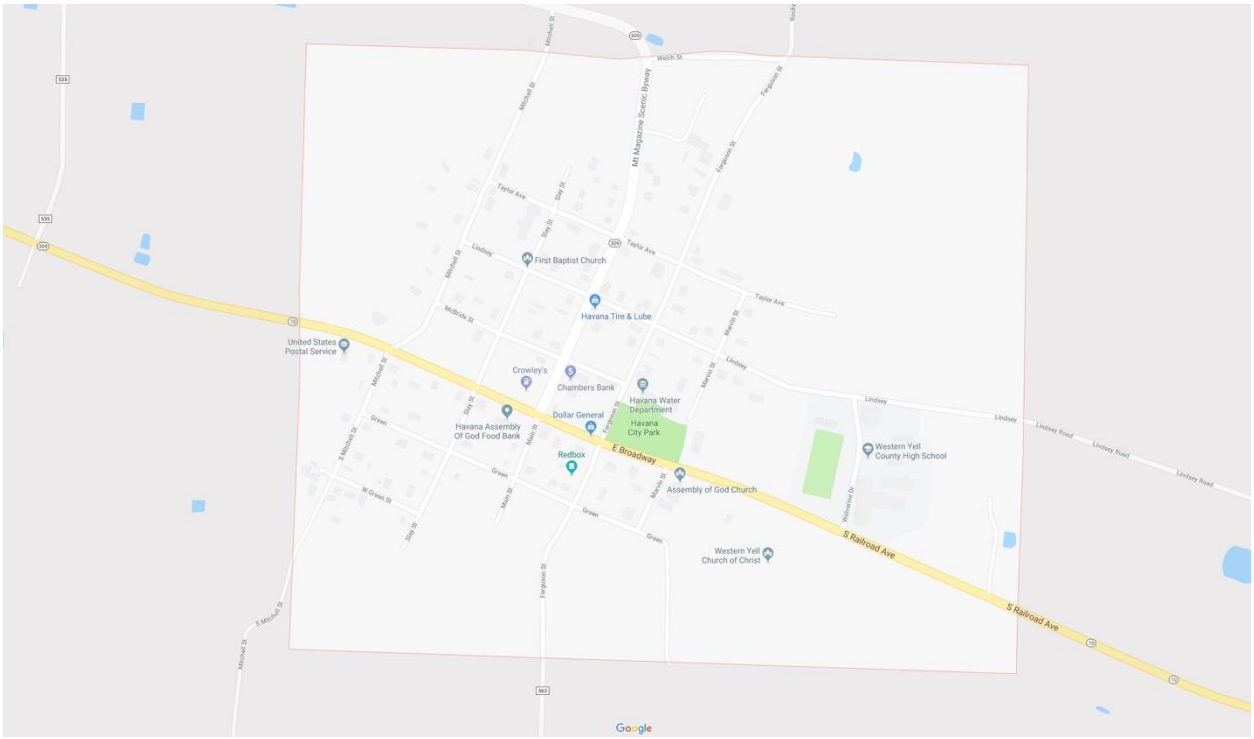
Compliance History- The City of Belleville is in good standing with the NFIP, there are no outstanding compliance issues or violations. Belleville intends to maintain compliance with the NFIP by ensuring that all constructing, locating, substantially altering or changing the use of any structure or land after the effective date of their ordinance requires full compliance with the previsions of the city's floodplain ordinance.

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: No			
Flood Insurance Claims: No			
Electric Utilities: CenterPoint Energy			
Water Utilities: Belleville Water and Sewage			
Wastewater Treatment: Belleville Water and Sewage			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Bellville could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

City of Havana-

Havana is located at 35°6′40″N 93°31′45″W35.11111°N 93.52917°W (35.111021, -93.529064). FIPS Code 05-30790, GNS Feature ID 0071938. Havana has 0.55 square miles of land area and has no water area. As of 2010, the total Havana population is 375, which has decreased 4.34% since 2000.



National Flood Insurance Program (NFIP)

Havana is no longer participates in the National Flood Insurance Program, Community Identification Number 050234. They withdrew several years before Yell County became a member of the NFIP. They did not find the program beneficial to their residents. At this time, there is no plan in place to rejoin the NFIP.

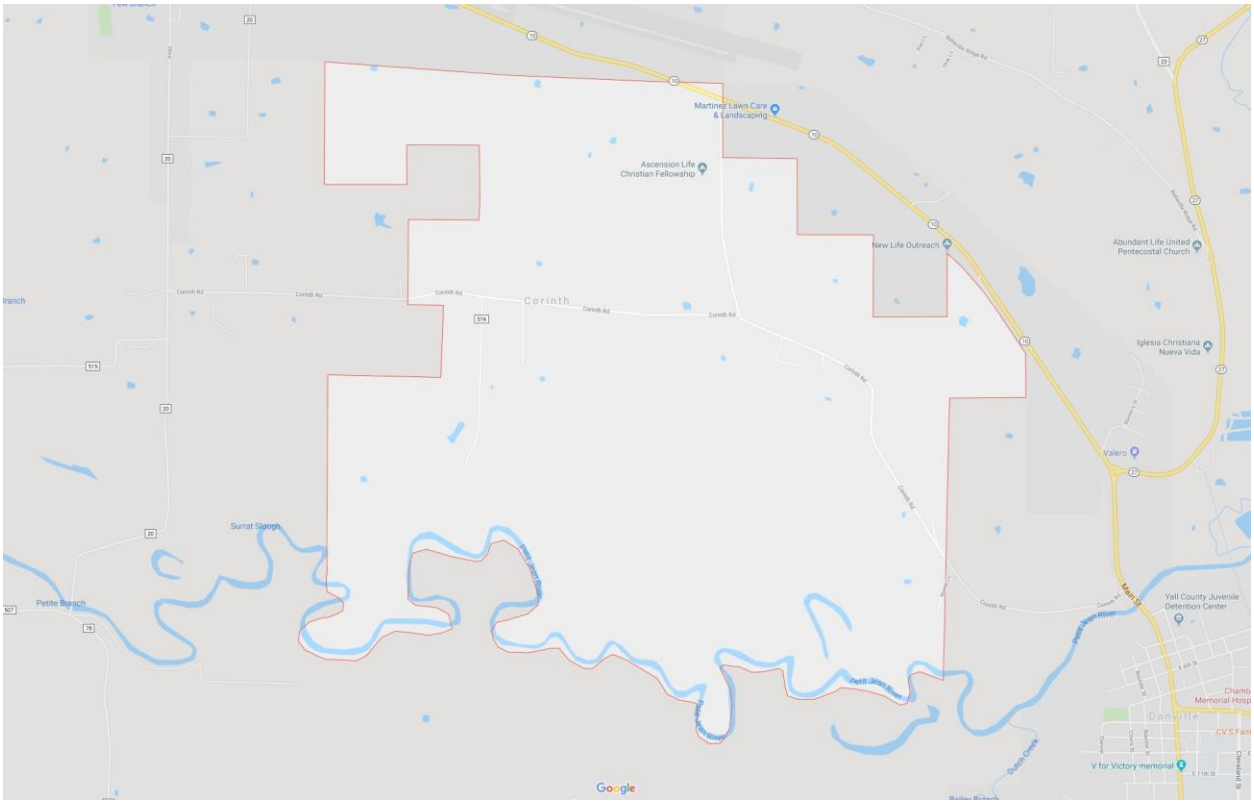
Havana Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	No
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: No			
Flood Insurance Claims: No			
Electric Utilities: Entergy Corporation of Arkansas			
Water Utilities: Havana Water and Sewage			
Wastewater Treatment: Havana Water and Sewage			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Havana could increase capabilities by hiring additional staff, re-joining the NFIP program, adopting stronger ordinances, and by sending staff for annual/additional trainings.

City of Corinth

Corinth is an incorporated town located in Yell County at latitude 35.073 and longitude -93.429. The elevation is 351 feet. Corinth appears on the *Danville* U.S. Geological Survey Map. FIPS Code 05-15310, GNIS Feature ID 0071230. Corinth has 3.15 square miles of land area and 0.10 square miles of water area. As of 2010, the total Corinth population is 70, which has grown 7.69% since 2000.



National Flood Insurance Program (NFIP)

The City of Corinth is not a member of the NFIP, nor are there any plans at this time to join due to limited staffing resources necessary to maintain a successful NFIP program. Falls under the county since being and unincorporated area.

Corinth Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	No
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: No			
Flood Insurance Claims: No			
Electric Utilities: Entergy Corporations of Arkansas			
Water Utilities: Northwest Yell County Water Association, Inc.			
Wastewater Treatment:			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Havana could increase capabilities by hiring additional staff, joining the NFIP program, adopting stronger ordinances, and by sending staff for annual/additional trainings.

Western Yell County School District NCES District ID: 0500041, State District ID: 7509000 Physical location 1 Wolverine Drive, Havana, AR 72842.

Western Yell County School District is public school district based in the rural, distant community of Havana, Arkansas. The school district provides early childhood, elementary and secondary education from prekindergarten through grade 12. The district encompasses 154.47 square miles (400.1 km^2) of land of western Yell County communities to include Havana, Belleville, and Corinth. It is smallest of four public school districts in Yell County with two facilities and serving approximately 500 students per year.

Western Yell County School District was formed in 1985 by the consolidation of the former Belleville School District and Havana School District.

Capabilities:
Emergency Operations Plan-Yes
Active Shooter Plan-Yes
Fire Drill-Yes
Tornado Drill-Yes

Western Yell County School District has a grant writer on staff. Grants are assigned to the appropriate party within the school to be written.

The district has one budget with subcategories.

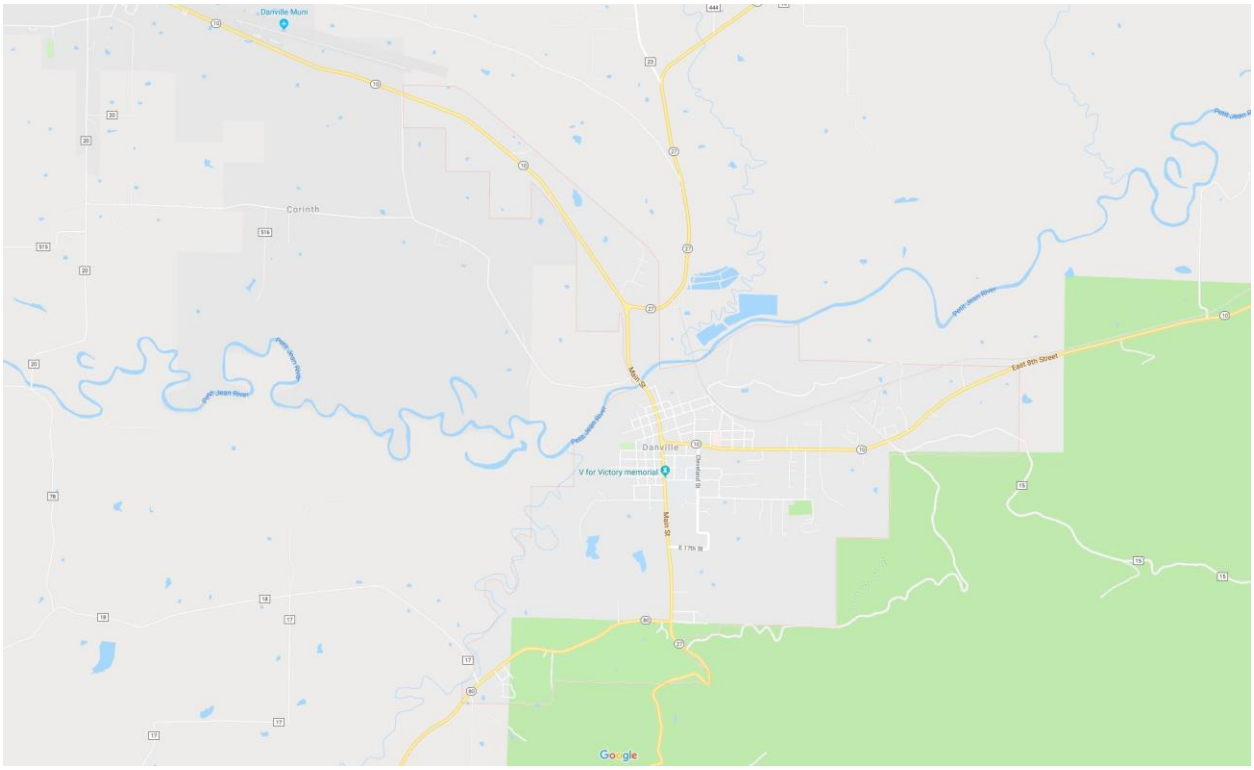
The school district could improve upon their capabilities by hiring additional safety/resource officers and sending those staff members to seek additional training in emergency management.

National Flood Insurance Program (NFIP)

The Western Yell County School District is not required to be a member of the NFIP, but they are located in Yell County and Belleville who are members.

City of Danville

Danville is located at 35°3′13″N 93°23′30″W35.05361°N 93.39167°W (35.053572, -93.391623). Danville is situated between two US National Forests, the Ozark St. Francis National Forest in the North and the Ouachita National Forest. Danville has 4.23 square miles of land area and 0.05 square miles of water area. As of 2010, the total Danville population is 2,409, which has grown 0.71% since 2000. Danville's main industry is poultry farming and processing. Danville has a population of 2,392 in a total area of 4.3 square miles (11.1 km²), of which 4.2 square miles (11.0 km²) is land and 0.1 square mile (0.2 km²) (1.40%) is water. FIPS Code 05-17320, GNIS Feature ID 0081853.



National Flood Insurance Program (NFIP) Danville is a member of the National Flood Insurance Program, Community Identification Number 050318.

Danville participates in the NFIP by assisting the residences by assisting with the filling out documents for the NFIP and educating citizens about the NFIP program. Permits are issued for those wishing to build in the floodplain, then the floodplain manager monitors the construction process to insure compliance. The city plan on continuing to participate through continuing floodplain education, and staying in compliance with NFIP.

Insurance Summary- There have been no NFIP claims paid to the city.

Staff Resources- Danville does not have a Certified NFIP Coordinator; the City Mayor oversees the floodplain management, which is an auxiliary function. If resources are needed that the city cannot provide, they seek assistance from the County's floodplain manager.

The NFIP administrative services include floodplain maps, permit reviews and inspections.

Compliance History- Danville is in good standing with the NFIP, and there are no outstanding compliance issues. The most recent Community Assistance Visit (CAV) or Community Assistance Contact was in 2012. Danville intends to maintain compliance with the NFIP by continuing ensure all constructing, locating, substantially altering or changing the use of any structure or land after the effective date of the city's floodplain ordinance.

Danville Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: Yes			
Flood Insurance Claims: No			
Electric Utilities: Entergy Corporation of Arkansas			
Water Utilities: City of Danville Water Department (479) 229-3992			
Wastewater Treatment: City of Danville Water Department			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Danville could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

Danville School District NCES District ID: 0504890, State District ID: 7503000, Physical location East 11th and Boston, Danville, AR.

Danville School District is a public school district based in Danville, Arkansas. The district encompasses 143.63 square miles (372.0 km^2) of land and serves early childhood, elementary and secondary education to numerous Yell County communities, including Danville, Belleville, Ola, and Corinth.

Capabilities:
Emergency Operations Plan-Yes
Active Shooter Plan-Yes
Fire Drill-Yes
Tornado Drill-Yes
Danville School District has a grant writer on staff. Grants are assigned to the appropriate party within the school to be written.

The district has one budget with subcategories.

The school district could improve upon their capabilities by having hiring a safety/operations officer.

National Flood Insurance Program (NFIP)

The Danville School District is not required to be a member of the NFIP, but they are located in Yell County and the City of Danville who are members.

City of Dardanelle-

Dardanelle is located at 35°13′21″N 93°9′37″W35.2225°N 93.16028°W (35.222539, -93.160408)[2]. nd. Elevation 331 ft. FIPS Code 05-17380, GNIS Feature ID 0079131. As of 2010, the total population of Dardanelle is 4,745, which is 12.23% more than it was in 2000.

National Flood Insurance Program (NFIP)

The City of Dardanelle is a member of the National Flood Insurance Program, Community Identification Number 050233. The floodplain manager for the city oversees the floodplain program for Dardanelle.

Dardanelle participates in the NFIP by assisting residents filling out documents for the NFIP and educating the citizens about the NFIP program. Issuing permits for landowners wanting to build in the floodplain, monitoring construction process to insure compliance. The floodplain manager attends all continuing floodplain education.

Insurance Summary- There is 55 structures in Dardanelle exposed to flood risk within the community. There have been no NFIP claims paid in the City. There are no areas of flood risk with limited NFIP policy coverage.

Staff Resources- The floodplain management is an auxiliary function. The administrative services in Dardanelle are permit review with inspection, and provide assistance to area residents. There are no engineers on staff. The City does not have any barriers to running an effective NFIP program.

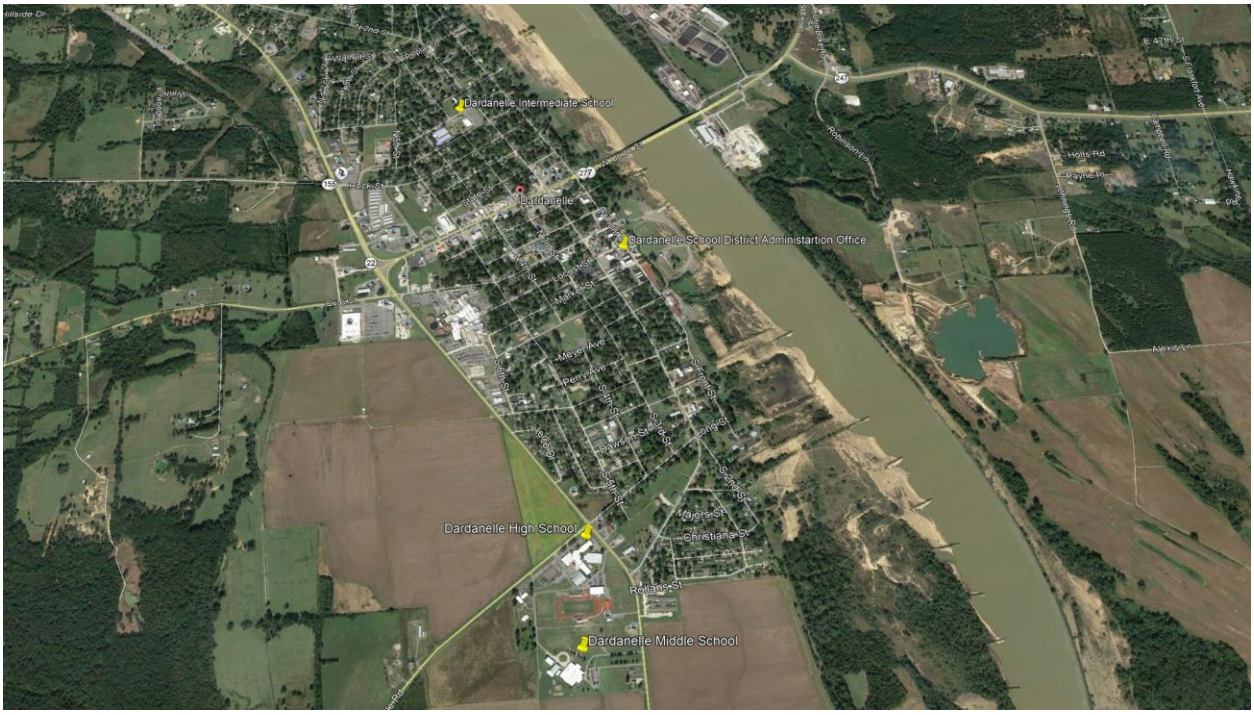
Compliance History-The City of Dardanelle is in good standing with the NFIP, and there are no outstanding compliance issues. The most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC) was approximately 2011-2012. Dardanelle intends to maintain compliance with the NFIP by overseeing construction, locating, substantially altering or changing the use of any structure or land after the effective date of the city's floodplain ordinance.

Dardanelle Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	Yes
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: Yes			
Flood Insurance Claims: No			
Electric Utilities: Entergy Corporation of Arkansas			
Water Utilities: City of Dardanelle Water Department (479) 229-3992			
Wastewater Treatment: City of Dardanelle Water Department			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Dardanelle could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

Dardanelle School District NCES District ID: 0504930. State ID: 750400. Dardanelle Elementary is located 2306 Hwy 7 North, Dardanelle High School 1079 Hwy 28 North, Dardanelle Middle School 2032 Hwy 7S, and the Dardanelle Primary 900 N 4th Street.



Dardanelle School District is a public school district in Dardanelle, Arkansas, United States. The school district provides comprehensive education to residents of northern Yell County and surrounding communities in southern Pope County in the Arkansas River Valley area.

Capabilities:
Emergency Operations Plan-Yes
Active Shooter Plan-Yes
Fire Drill-Yes
Tornado Drill-Yes
Dardanelle School District has a grant writer on staff.

The district has one budget with subcategories.

The school district could improve upon their capabilities by sending appropriate staff to training for safety and emergency management operations.

National Flood Insurance Program (NFIP)

The Dardanelle School District is not required to be a member of the NFIP, but is located inside and outside the Dardanelle city limits, and a large portion of the communities of Chickalah and Sulphur Springs which are in the unincorporated area of Yell County.

City of Ola

Ola is located at 35°1′54″N 93°13′17″W35.03167°N 93.22139°W (35.031748, -93.221309). FIPS 05-51560, GNIS Feature ID 0081884. Ola has 1.77 square miles of land area and 0.13 square miles of water area. As of 2010, the total Ola population is 1,281, which has grown 6.40% since 2000.

National Flood Insurance Program (NFIP)

Ola is a member of the National Flood Insurance Program, Community Identification Number 050357. The Mayor oversees the floodplain program for Ola Arkansas.

Ola participates in the NFIP by assisting residents to complete documents for the NFIP and educating citizens about the NFIP program. Permits are issued if a landowner wants to build in a floodplain, the floodplain manager monitor the construction process to insure compliance. The floodplain manager (mayor) will continue with floodplain education and complying with the city flood program ordinance.

Insurance Summary- There has been repetitive residential flood losses in and around East Valley Street in Ola. There are approximately 27 preexisting structures exposed to flood risk. No new structures are being built in this area.

Staff Resources- Ola does not has a Certified NFIP Coordinator. The floodplain management is an auxiliary function. Ola has not had any barriers running an effective NFIP program. If resources are needed that the city does not have, they seek assistance from the County.

Compliance History- Ola is in good standing with the NFIP, and there are no outstanding compliance issues. Ola intends to maintain compliance with the NFIP by following their ordinance by monitoring on any construction, location, substantially altering or changing the use of any structure or land.

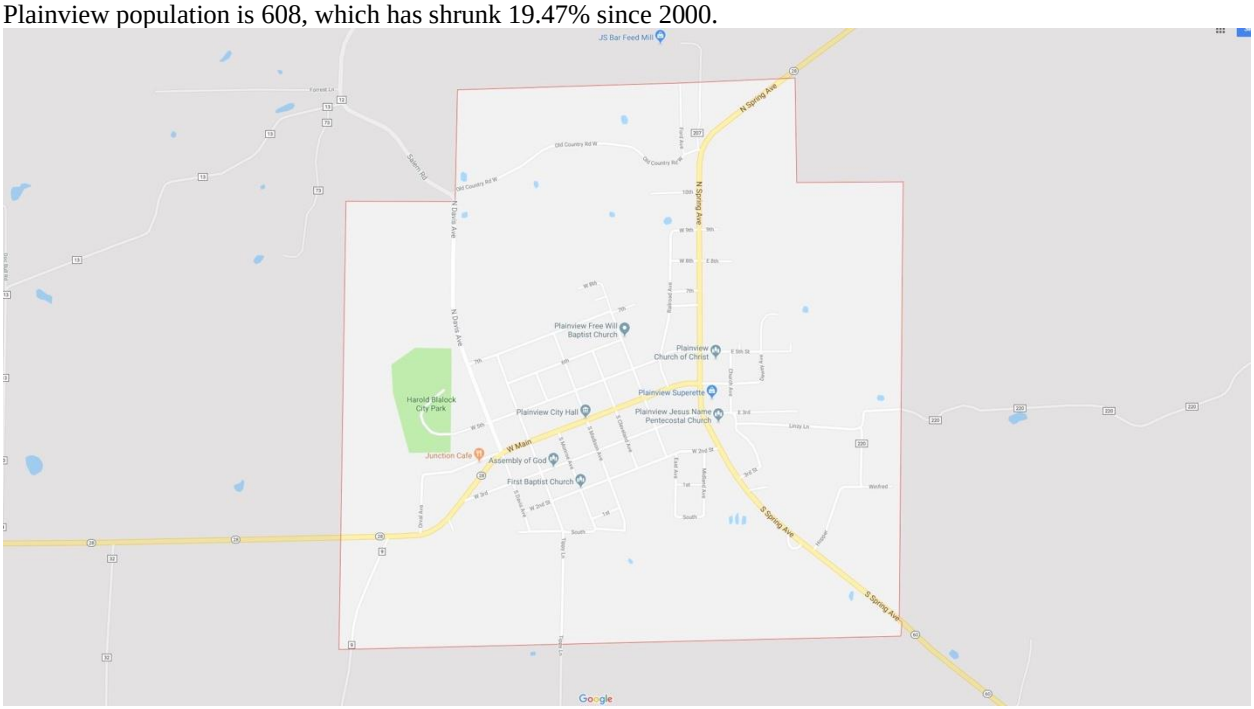
Ola Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: No			
Flood Insurance Claims: Yes			
Electric Utilities: Entergy Corporation of Arkansas			
Water Utilities: City of Ola			
Wastewater Treatment: City of Ola			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Ola could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

City of Plainview

Plainview is located at 34°59′22″N 93°17′52″W34.98944°N 93.29778°W (34.989554, -93.297826). FIPS 05-51560, GNS Feature ID 0078027. Plainview has 1.44 square miles of land area and has no water area. As of 2010, the total Plainview population is 608, which has shrunk 19.47% since 2000.



National Flood Insurance Program (NFIP)

The Yell County Office of Emergency Management (YCOEM) recently became the floodplain manager for the City of Plainview, Arkansas, when their previous floodplain manager relocated. The YCOEM assists citizens of Plainview with filling out documents for the NFIP and educating the citizens about the NFIP program. If a person wishes to build in a floodplain, there is a permit that must be completed for Plainview then the YCOEM will monitor the construction process to insure compliance. The vast majority of work done by YCOEM is assisting citizens in completing letters of map amendments and continuing education for the director of Plainview's flood insurance program.

Insurance Summary- Plainview is a member of the National Flood Insurance Program, Community Identification Number 050363. It is unknown how many NFIP policies are in Plainview, or the total premium and coverage. The

number of claims for the city is unknown. There are approximately 21 structures exposed to flood risk within the city limit of Plainview.

Staff Resources-Plainview's floodplain manager is the Yell County Office of Emergency Management (YCOEM) which has a Certified NFIP Coordinator. The floodplain management is an auxiliary function. Plainview has not had any barriers running an effective NFIP program.

Compliance History- Plainview is in good standing with the NFIP, and there are no outstanding compliance issues. Plainview intends to maintain compliance with the NFIP by monitoring construction, location, and substantially altering or changing the use of any structure or land.

Plainview Capability Assessment

Storm Water Management	No	Erosion Management	No
Stream Management	No	Floodplain Management	Yes
Zoning Management	No	Building Codes	No
Subdivision Management	No	Land Use Plan	No
Elevation Certificates: No			
Flood Insurance Claims: No			
Electric Utilities: Entergy Corporation of Arkansas			
Water Utilities: Plainview Water Plant (479) 272-4127			
Wastewater Treatment: Plainview Water Plant			
Natural Gas: Reliant Arkla Gas			
Telephone Services: Arkwest Communications			

The City of Plainview could increase capabilities by hiring additional staff, adopting stronger ordinances, and by sending staff for annual/additional trainings.

Two Rivers School District NCES District ID: 0500079, State District ID: 7510000. The physical locations of the school campuses of Ola Elementary in the City of Ola, Plainview-Rover is in Plainview and the Two Rivers High School is 17727 Hwy 28 East, Ola. Two Rivers School District is a public school district in Yell County, Arkansas. Two Rivers consists of three schools

including Plainview–Rover, Ola, and Fourche Valley. The Two Rivers High School and school district serves 650 square miles (1,700 km^2) of rural communities including Ola, Plainview, Rover, and Casa. In 2010-11 the school district served more than 900 students.

In 2010, construction of the 111 acres (45 ha) campus was completed on the 132,800 square feet (12,340 m^2) facility for Two Rivers High School, which includes a multipurpose building for large gatherings and sports such as basketball and volleyball; a 450-seat auditorium and the Two Rivers High School Band room doubling as a "safe room" for 850 to 900 people for use in case of severe weather.

Capabilities:
Emergency Operations Plan-Yes
Active Shooter Plan-Yes
Fire Drill-Yes
Tornado Drill-Yes
Two Rivers School District has a grant writer on staff.

The district has one budget with subcategories.

The school district could improve upon their capabilities by sending safety/resource officer to additional trainings on emergency management and safety training.

The district was formed in July 2004 as a result of the consolidation of four former school districts:

- Fourche Valley School District
- Ola School District
- Perry–Casa School District
- Plainview–Rover School District

National Flood Insurance Program (NFIP)

Two Rivers School District is not required to be a member of the NFIP, but is located inside and outside Ola city limits, inside the Plainview city limits, and a large portion of the unincorporated areas of Yell County listed below;

Aly- is an unincorporated community in Yell County, Arkansas and is located on Arkansas Highway 27 in the south central portion of the county.

Bluffton is an unincorporated community in Yell County, Arkansas, United States. Bluffton is located on Arkansas Highway 28 18 miles (29 km) west-southwest of Plainview. Bluffton has a post office with ZIP code 72827. GNIS Feature ID 70742

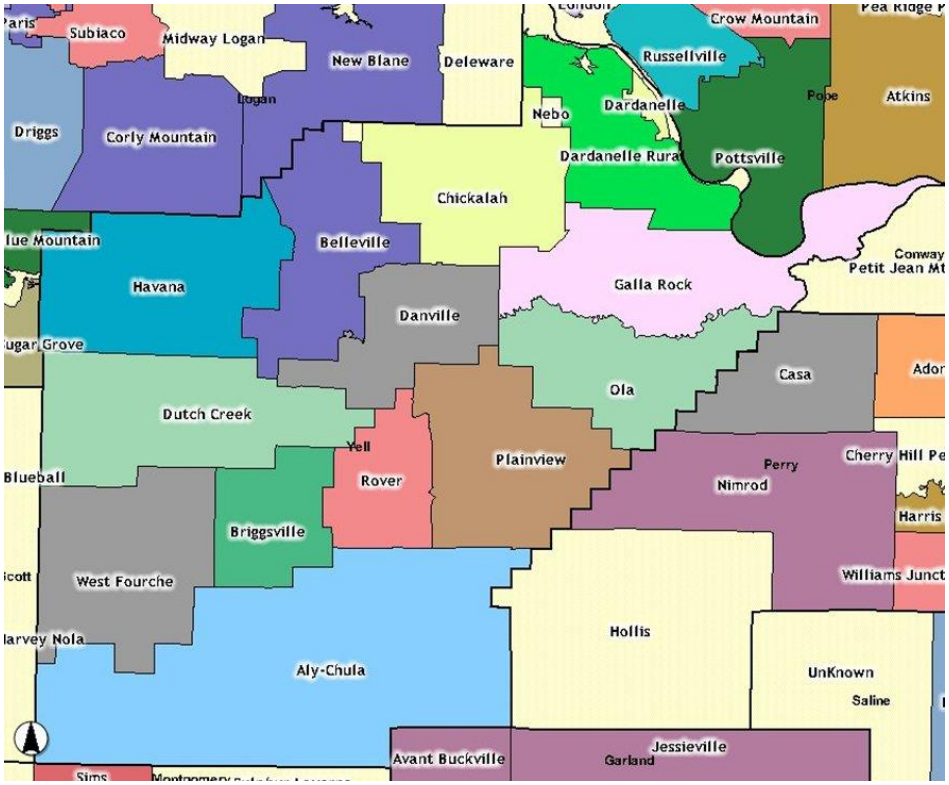
Briggsville is an unincorporated community in Yell County, Arkansas, United States, 34.56'02"N, 93.29'40"W, located on Arkansas Highway 28 12 miles (19 km) west-southwest of Plainview. Briggsville has a post office with ZIP code 72828. GNIS Feature ID 81846.

Centerville is an unincorporated community in Yell County, Arkansas, United States. Centerville is located at the junction of Arkansas Highway 7 and Arkansas Highway 154 6.5 miles (10 km) north-northeast of Ola. Centerville has a post office with ZIP code 72829. GNIS Feature ID 57535. Firewise Community Number 00076.

Gravelly is an unincorporated community in Yell County, Arkansas, and is located on Arkansas Highway 28 23 miles (37 km) west-southwest of Plainview. Gravelly has a post office with ZIP code 72838. GNIS Feature ID 77059.

Rover is an unincorporated community in Yell County, Arkansas, United States. Rover is located on Arkansas Highway 28 6.5 miles (10 km) west-southwest of Plainview. Rover has a post office with ZIP code 72860. GNIS Feature ID 73424.

2.2.2 Fire Districts



Fire Districts belonging to the Fire Wise Community are;

Centerville Fire Department FWC/USA#00076,

Danville Fire District 2004 FWC/USA ID# 00077, ISO rating 5

Dutch Creek Fire District 2004 FWC/USA ID#00078,

Plainview Volunteer Fire District 2004 FWC/USA ID#00080,

Other Fire Department in Yell County;

Aly-Chula Volunteer Fire Department
Belleville Rural Fire Department
Bluffton Fire Department
Briggsville Fire Department
Chickalah Rural Fire Department
Dardanelle Fire Department
Dutch Creek Fire Department
Gala Rock Rural Fire Department
Havana Fire Department
Mt. Nebo Fire Department
Ola Fire Department
Rover Fire Department
West Fourche Volunteer Fire Department

2.2.3 Forestry and Agriculture

The Arkansas Game and Fish Commission manage the Nimrod Wildlife Management Area, 3,634 acres near Danville, and the Petit Jean Management Area, 14,534 acres near Ola.

Part of the Ouachita National Forest (187,007 acres) and the Ozark National Forest (32,440 acres) are in Yell County. These National forests are managed cooperatively be the US Forest Service and the Arkansas Game and Fish Commission to provide habitat for wildlife.

2.2.4 Residential Development

Land is available for small and medium size industrial development. The city is well equipped to handle water, electrical and natural gas needs of prospective businesses. A labor force is currently available. Housing in the Danville Area is extremely affordable with the average price of a three bedroom home being in the mid $80k range.

2.2.5 Transportation

Railroad's:
Danville industry is served by the Little Rock and Western Railway providing service from its terminating point in Danville east to Little Rock. In Little Rock, the Union Pacific Railroad rail road has major locomotive upkeep facilities and access to its major nationwide routes.

Major Highways and Adjacency to Major Highways:
State Highways 27, 10 and 80 all meet in Danville. State Highway 10 is a heavily traveled east/west route between Little Rock and Fort Smith. Highway 10 is currently part of a major statewide highway improvement project that includes resurfacing and widening which was completed in the spring of 2003. 30 miles north of Danville via state highway 27 is US Interstate 40, a major coast-to-coast transportation route. 11 miles east of Danville via state highway 10 is Scenic State Highway 7, considered one the nation's most scenic. State highway 27 south of Danville is a designated Arkansas scenic highway as is State Highway 309 over Mt. Magazine beginning in the town of Havana 9 miles west of Danville.

Navigable Waterways:
The McClelland-Kerr Arkansas River navigation project is located 20 miles north of Danville and is served by the Port of Dardanelle.

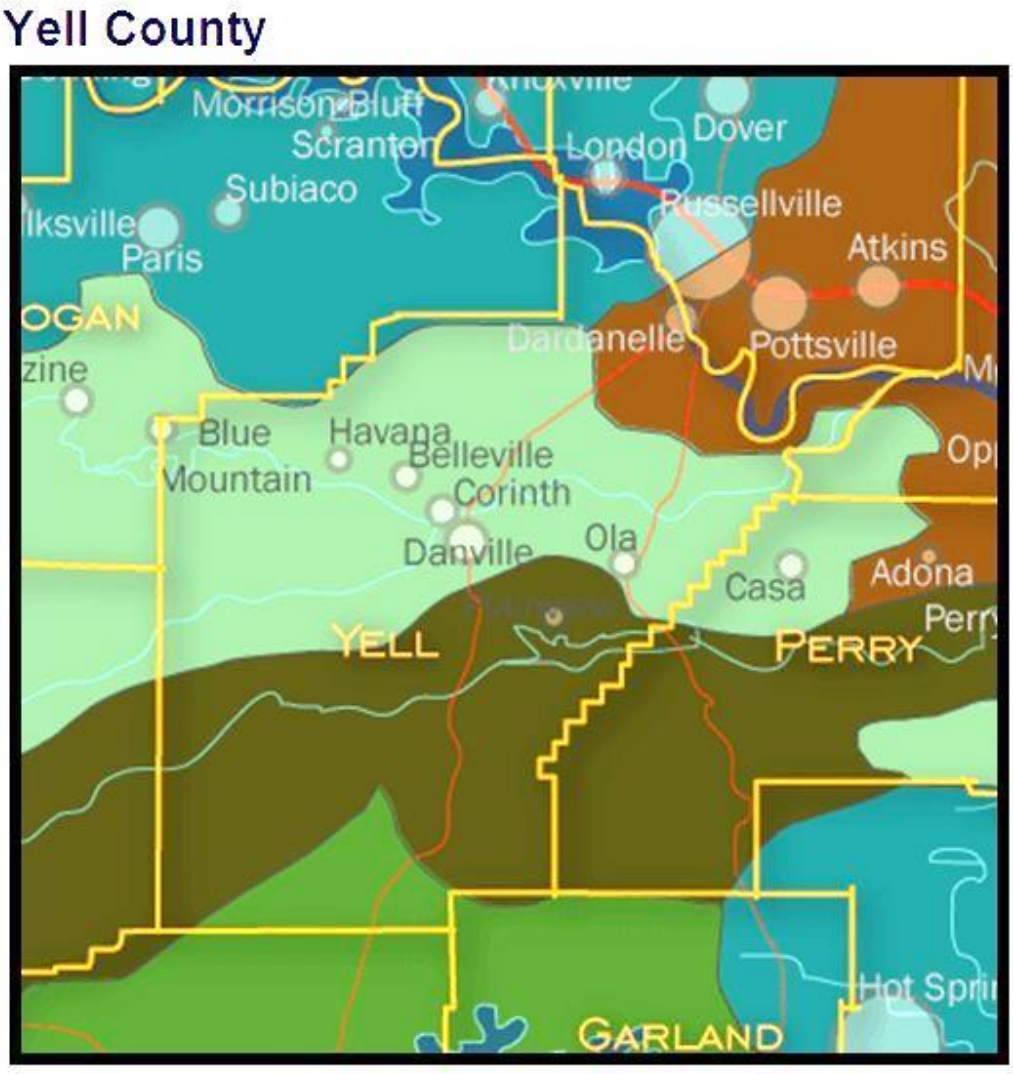
Airport:
Danville's airport is a 5,300-foot long, 75 foot wide fully lighted asphalt strip completed and upgraded in the last 10 years. The facility has aviation fuel pumps available 24 hours daily (access requires a local call). Lighting is controlled by standard onboard radio activation device. Continuing efforts are being made to improve the Airport to meet more diverse aeronautical needs.

2.2.6 Surface Water

Almost 3,000 ponds covering an estimated 1,500 acres are in Yell County. These ponds are used mainly for stock and wildlife watering and for sport fishing. Part of three U.S. Army Corps of Engineers reservoirs, Blue Mountain Lake, Dardanelle Reservoir, and Nimrod Lake, cover 6,079 acres of the county. These reservoirs and Spring Lake which is a national forest impoundment of about 83 acres provide sport fishing.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are controlled by dams, levees, or other water control structures.

2.2.7 **Wetlands**



Watersheds in Yell County
(select from map above or list below)

- Dardanelle Reservoir
- Fourche La Fave
- Lake Conway- Point Remove
- Ouachita Headwaters
- Petit Jean

Yell County Capability Assessment

Jurisdiction	Planning and Regulatory Capabilities														
	Comprehensive Master Plan	Capital Improvements Plan	Economic Development Plan	Local Emergency	Continuity of Operations Plan	Transportation Plan	Stormwater Management Plan	Community Wildfire Management Plan	Fire Department ISO	Zoning Ordinance	Subdivision	Floodplain Ordinance	Building Codes	Acquisition of land for open space	BCEGS Score
Yell County	X		X	X	X	X	X		X	X		X	X	X	
Belleville	X		X	X					X			X		X	
Corinth	X		X	X					X			X		X	
Danville	X		X	X	X	X	X		X	X		X		X	
Dardanelle	X		X	X	X	X	X		X	X		X		X	
Havana	X		X	X					X			X		X	
Ola			X	X					X			X		X	
Plainview			X	X					X			X		X	
Danville School District		X		X	X										
Dardanelle School District		X		X	X										
Two Rivers School District		X		X	X										
Western Yell County School District		X		X	X										

Jurisdiction	Administrative and Technical Capabilities										
	Yell County Local Emergency Planning Committee	Planning Commission	Mutual Aid Agreements	Maintenance Programs to Reduce Risk	Floodplain Administrator	Emergency Manager	Community Planner / Grant Writers	GIS / HAZUS	Warning Systems	Civil Engineer	Hazard Data and Information
Yell County	X		X	X	X	X	X	X	X	X	X
Belleville	X		X	X	X	X					X
Corinth	X		X	X	X	X					X
Danville	X		X	X	X	X			X		X
Dardanelle	X		X	X		X			X		X
Havana	X		X	X		X					X
Ola	X		X			X					X
Plainview	X		X			X					X
Danville School District	X		X			X	X		X		X
Dardanelle School District	X		X			X	X		X		X
Two Rivers School District	X		X			X	X		X		X

Western Yell County School District	X		X			X	X		X		X

Jurisdiction	Financial Capabilities						
	Fees for water, sewer, gas, or electric services	Capital improvements project funding	Community Development Block Grant	Federal Funding Programs	State Funding Programs	Impact fees for new development	Authority to levy taxes for specific purposes
Yell County	X	X		X	X	X	X
Belleville		X		X	X		X
Corinth		X		X	X		X
Danville	X	X		X	X	X	X
Dardanelle	X	X		X	X	X	X
Havana		X		X	X		X
Ola		X		X	X		X
Plainview		X		X	X		X
Danville School District		X		X	X		X
Dardanelle School District		X		X	X		X
Two Rivers School District		X		X	X		X
Western Yell County School District		X		X	X		X

Jurisdiction	Education and Outreach Capabilities					
	Non-Profit Organizations focused on environmental protection, emergency preparedness, or access and functional needs populations	Ongoing Public Education Program or information program	Natural Disaster or safety related school programs	Firewise Communities Certification	Public-private partnership initiatives addressing disaster related issues	Storm Read Certification
Yell County	X	X	X		X	X
Belleville		X	X			
Corinth		X	X			
Danville		X	X		X	
Dardanelle		X	X		X	
Havana		X	X			
Ola		X	X			

Plainview		X	X			
Danville School District		X	X			
Dardanelle School District		X	X			
Two Rivers School District		X	X			
Western Yell County School District		X	X			

SECTION 3

Hazard Identification and Risk Assessment

3.1 Hazard Identification and Prioritization

Hazard identification, the process of identifying hazard that threatens a given area, is the first step in the risk assessment process. Yell County has identified several natural hazards that, because they pose a threat to the county and its residents, have warranted a complete profile in this hazard mitigation plan.

The following hazards were identified from historical information provided by planning team members, newspapers, review of plans and reports, internet research, the State Mitigation Plan, and FEMA publication "Multi-Hazard-Identification and Risk Assessment", and information provided by FEMA and ADEM.

Hazards	Hazard Events
Dam/Levee Failure	There are no reports of any dam or levee failure in Yell County, but will be addressed because of the possibility of occurrence.
Drought	There have been 19 drought events between 1950 - 2018
Earthquake	There have been no reports of earthquakes within 25 miles of Yell County, and will not be address in this plan
Extreme Heat	There are 2 reports of extreme heat events in Yell County between 1950 – 2018.
Expansive Soils	There are no reports of expansive soils in Yell County, based on the U.S. Geological Survey publication "Swelling Clays Map of the Conterminous United States and will not be addressed in this plan.
Flood	There have been 31 flash flooding events and 49 flood events reported in Yell County between 1950 - 2018 These floods have resulted in 2 deaths, $5.274M in property damage and $525K in crop damage.
Hail Storm	There have been 145 hail events report between 1950 - 2018in Yell County. There was $1.846M in property damages but no reports of deaths, injuries.
Lightning	There have been 4 lightning events reported between 1950 - 2018. There have been 1 death and 4 injuries which occurred in two separate events, and a total of $1K in property damage.
Thunderstorm Winds	There have been a reported 224 Thunderstorm and 8 Strong Wind events between 1950 - 2018 with 3.136M in property damage.
Tornado	There were 30 tornados reported between 1950 - 2018, $3.688 in property damages and 8 injuries.
Wildfire	There have been a reported 203 wildland fires between 2002 and 2011 burning a total of 1,898 acres, plus in July 2012, 1,400 acres were burned.
Winter Storms	There has been a reported 5 heavy snow events and 7 Ice Storm events between 1950 – 2018 resulting in $10.375M in property damages.

Presidential Disaster Declarations in Yell County

Disaster	Proclamation Award	Description and Date of Incident	County Award
EE 80-12 4/8/1980	$125,000	4/7/1980- Devastating tornadoes and severe storms have caused extensive damages to private and public property and further resulted in many personal injuries. By Act 511 of 1973 established the sum of $125,000 in the Disaster Assistance Fund to provide disaster relief to the affected counties.	0.00

12/03/1982	$200,000	12/2/1982- Severe storms Dec. 2-3, 1982, resulting in the loss of lives, personal injuries, destruction of homes and businesses and other losses. President declared 42 counties for disaster assistance. (Amendments to orig. state proclamation were made throughout 1982, in 1983 and 1984). By Act 511 of 1973, as amended, do hereby declare a state of emergency exists and do hereby establish the sum of $200,000 in the Disaster Assistance Fund to provide disaster relief to those counties affected. Several counties were later added by the way of Addendum (Memorandums from the Governor's Office).	$0.00
03/02/1989	$300,000	Destructive and heavy rains occurring Feb. 13-20, 1989 caused great damage to public facilities in several counties.	$0.00
DR 98-01 01/09/1998	$ 0	Severe Storms, flooding occurring Jan. 4-8, 1998, caused great damage to public and private facilities	$0.00
DR 00-21 12/27/2000		Severe winter weather that began Dec. 21, 2000 has continues to cause great damage to private property and public facilities	$0.00
DR 01-01 1/4/2001	$1,325,000	12/12/2000- Severe winter weather that began Dec. 12, 2000 has continued to cause great damage to private property and public facilities. By Act 511 of 1973, as amended, do hereby amend Proclamation DR 00-18/00-19 to include the following counties; do hereby authorize funds from the Emergency Response Fund in the amount of $75,000, the Individual Assistance Fund $250,000 and $1,000,000 from the Governor's Disaster Fund. Hereby invoke executive powers under Section 8, Act 511 of 1973. Presidential Disaster Declaration on Dec. 29, 2000.	$0.00
DR 01-02	$0	Severe winter weather began on Dec. 12th and continuing, caused great damage to private property and public facilities.	
DR 01-05 2/5/2001	$400,000	12/12/2000-Severe winter weather that began Dec. 12, 2000 has continued to cause great damage to private property and public facilities. By Act 511 of 1973, as amended, do hereby amend Proclamation DR 01-01; do hereby authorize funds from the Emergency Response Fund in the amount of $50,000, and the Individual Assistance Fund $350,000 from the Governor's Disaster Fund. Hereby invoke executive powers under Section 8, Act 511 of 1973. Presidential Disaster Declaration on Dec. 29, 2000. (See Proclamation's DR 00-18 and its amendments DR 00-19, 00-21, 01-02).	$0.00
DR 01-07 2/28/2001	$200,000	12/12/2000-Severe winter weather that began Dec. 12, 2000 has continued to cause great damage to private property and public facilities. By Act 511 of 1973, as amended, do hereby amend Proclamation DR 01-01; do hereby authorize funds from the Individual Assistance Fund in the amount of $200,000 from the Governor's Disaster Fund. Hereby invoke executive powers under Section 8, Act 511 of 1973. Presidential Disaster Declaration on Dec. 29, 2000. (See Proclamation's DR 00-18 and its amendments DR 00-19, 00-21, 01-02, 01-05).	$0.00
DR 01-11 3/26/2001	$200,000.00	Severe winter weather that began Dec. 12, 2000 has continued to cause great damage to private property and public facilities. By Act 511 of 1973, as amended, do hereby amend Proclamation DR 01-01; do hereby authorize funds from the Individual Assistance Fund in the amount of $200,000 from the Governor's Disaster Fund. Hereby invoke executive powers under Section 8, Act 511 of 1973. Presidential Disaster Declaration on Dec. 29, 2000. (See Proclamation's DR 00-18 and its amendments DR 00-19, 00-21, 01-02, 01-05, 01-07).	$0.00
DR 03-33 9/25/2003	$500,000.00	Severe winter weather that began Dec. 12, 2000 has continued to cause great damage to private property and public facilities. By Act 511 of 1973, as amended, do hereby amend Proclamation DR 00-18 and its amendments (DR 00-19, 00-21, 01-01, 01-02 & 01-05), to include an additional $500,000 under the Public Assistance program. This money will be used to pay the State share of funding under FEMA 1354-DR-AR.	$0.00
1751 4/26/08		Severe Storms, Tornadoes, and Flooding, started	
3301 01/28/2009		Severe Winter Storm	
1975 05/02/2011		Severe Storms, Tornadoes, And Associated Flooding	

3.2 Vulnerable Structures/Facilities in Yell County

The Yell County Tax Assessor's Office has listed all public, private, critical facilities, schools and utility service assets categorically by the School District in which it is located.

Fixed assets are determined by the community and include structures, facilities, systems, capabilities, and or activities that have value to the community.

The following table shows assets within each School District and the dollar value of utilities, homes, automobiles, business assets and other property. It also lists the number of critical facilities, mobile homes, masonry and masonry/frame homes and long term care facilities.

Yell County Assets	Belleville In & Out of City Limits	Havana Inside City Limits	Dardanelle In & Out of City Limits	Danville In & Out of City Limits	Ola In & Out of City Limits	Plainview Inside City Limits	Total
School Dist.	Western Yell Co	Western Yell Co	Dardanelle	Danville	Two Rivers	Two Rivers	
Hospital			1	1			2
Dispatch Centers			1	2			3
Law Enforcement			1	2	1	1	4
Schools	1	2	1	1	1		6
Utilities Value	$13,465,950	$742,750	18,050,500	19,793,375	18,510,425	$903,075	$71,466,075
Fire Stations	2	1	4	2	1	7	17
City Halls	1	1	1	1	1	1	5
Courthouse			1	1			2
Mobile Homes	243	31	472	204	577	60	1587
Masonry Homes	192	20	1183	437	351	42	2225
Masonry/Frame Homes	52	9	221	70	112	21	485
Frame	491	81	1509	552	1075	157	3865
Building Value of Homes	$12,352,940	$1,158,540	$59,634,980	$22,899,560	$24,739,580	$2,602,130	$123,387,730
Automobiles	$17,140,975	$1,776,425	$63,132,725	$24,077,150	$31,413,600	$3,667,975	$141,208,850
Other	$242,650	$0.0	$139,950	$219,300	$390,200	$3,500	$995,660
Business Assets	$14,064,075	$163,650	$31,425,875	$18,735,400	$24,063,625	$378,350	$88,470,975
Long Term Care Facilities/Nursing Homes			1	1	1		3

3.3 Vulnerability and Risk Assessment by Hazard

The Yell County Hazard Mitigation Plan includes a description or profile, location, and extent of all natural hazards that can affect each jurisdiction. (44 CFR 201.6(c)(2)(i) and 44 CFR 201.6(c)(2)(iii).

Description describes the natural hazard that can affect the jurisdictions in the planning area.

Location (Geographic Area Affected) is where geographic areas in the planning area that are affected by the hazard, and when possible maps were used to illustrate the location. But for some hazards, such as tornados, the plan stated that the entire planning area is equally at risk to that hazard.

Previous Occurrences of hazard events for each jurisdiction (44 CFR 201.6 (c)(2)(i) have been addressed.

Probability of Future Events means the likelihood of the hazard occurring in the future and may be defined in terms of general descriptors, historical frequencies, and statistical probabilities. Statistical probabilities often refer to events of a specific size or strength. Hazard likelihood can also be compared using general descriptions or rankings. For the purpose of this plan we will use the general descriptors to describe the likelihood of hazard events based on historical frequency.

- Note: Probability was determined by using Poisson Distribution P(k)=(ʎ^k) (e^-ʎ)/k!
    - ʎ=average number of times the event happens in the past over the whole time period
    - k= average number of times the event happens in one year
    - e=2.71828
    - k!=the Factorial of k. (exp. 1*2*3*4*….*8)

A description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction (44 CFR 201.6 (c)(2)(ii) was included in the Yell County Hazard Mitigation Plan.

Impact – is the consequence or effect of the hazard on the community and its assets. Impacts will be described by referencing historical disaster impacts and/or an estimate of potential future losses, such as percent damage of total exposure.

Vulnerability of Estimating Potential Loss- identifies structures, systems, populations or other community assets as defined by the community that are susceptible to damage and loss from hazard events. It is a list of key issues or problem statements that clearly describes the community's greatest vulnerabilities and that will be address in the mitigation strategy.

Repetitive Loss Properties and Severe Repetitive Loss Properties- addresses NFIP insured structures describing the types (residential, commercial, institutional, etc.) and estimates the number of repetitive loss properties located in the identified flood hazard areas. (44 CFR 201.6(c)(2)(ii)

3.4 Methodology used in Estimating Potential Loss

The methodology used in this plan for the potential loss estimate was developed by using past hazard events data from The National Climatic Data Center (NCDC) Storm Events Database.

If we were unable to obtain information of a certain type past hazard event, we did not estimate a potential loss due to the lack of information.

3.5 Natural Hazards Affecting Yell County

This mitigation plan addresses the natural hazards that can affect Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and the School Districts of Danville, Dardanelle, Two Rivers and Western Yell County.

The Hazards which have affected Yell County in the past or could possibly affect Yell County in the near future are; Dam Failure, Drought, Extreme Heat, Flooding, Lightning, Thunderstorms (Lightening, Hail and High Winds),

Tornadoes, Wildfire and Winterstorms. Not addressed in this plan are Earthquake, Expansive Soils and Landslides events because they have not been a risk in the past to Yell County.

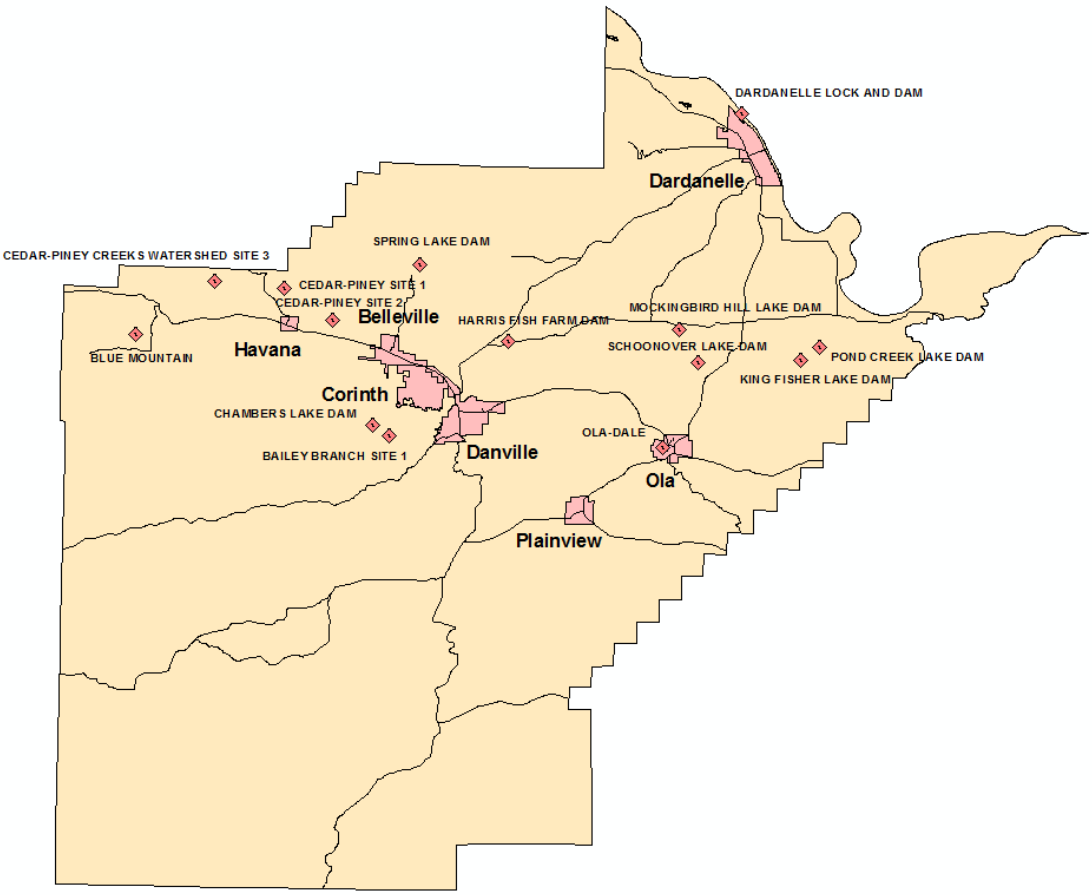
3.5.1. Dam Failure

3.5.1.1 Description of Dam Failure

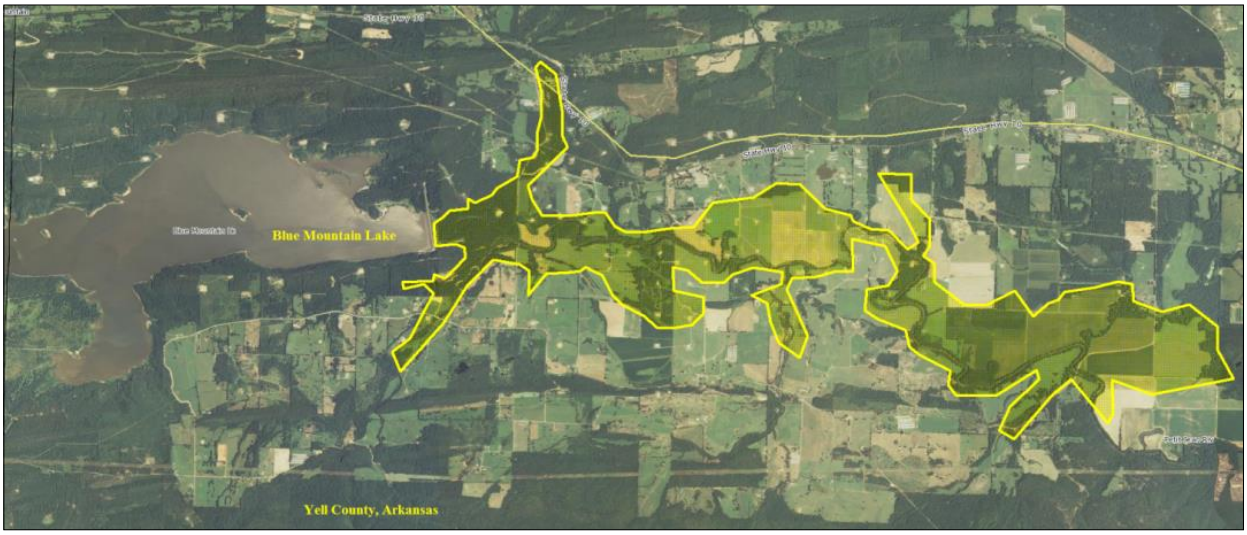
A dam failure is the collapse, breach, or other failure resulting in downstream flooding. A dam impounds water in the upstream area, referred to as the reservoir. The amount of water impounded is measured in acre-feet. An acre-foot is the volume of water that covers an acre of land to a depth of one foot. As a function of upstream topography, even a very small dam may impound or detain many acre-feet of water. Two factors influence the potential severity of a full or partial dam failure: the amount of water impounded, and the density, type, and value of development and infrastructure located downstream.

3.5.1.2 Location of Dams in Yell County

The following map shows the location of incorporated areas and dams.



Blue Mountain Lake Dam Lat 35.10417 Long -93.64944 NPDP ID : AR00157- High Risk



Blue Mountain Lake Dam is owned by the U.S. Army Corps of Engineers and located between Mount Magazine (Logan County) and the Ouachita Mountain range west of Havana, no residential housing or livestock is located near this site. Blue Mountain is a part of a comprehensive plan for flood control and development of the water resources in the Petit Jean River and lower Arkansas River Valleys. The dam was constructed in 1947, has a dam height of 115 feet and is 2800 feet long and is an earthen dam.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- Arkansas Natural Resource Commission considers the dam to have a 'High' hazard risk; Loss of Life, Excessive (Extensive public, industrial, commercial, or agricultural development); over $500,000.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

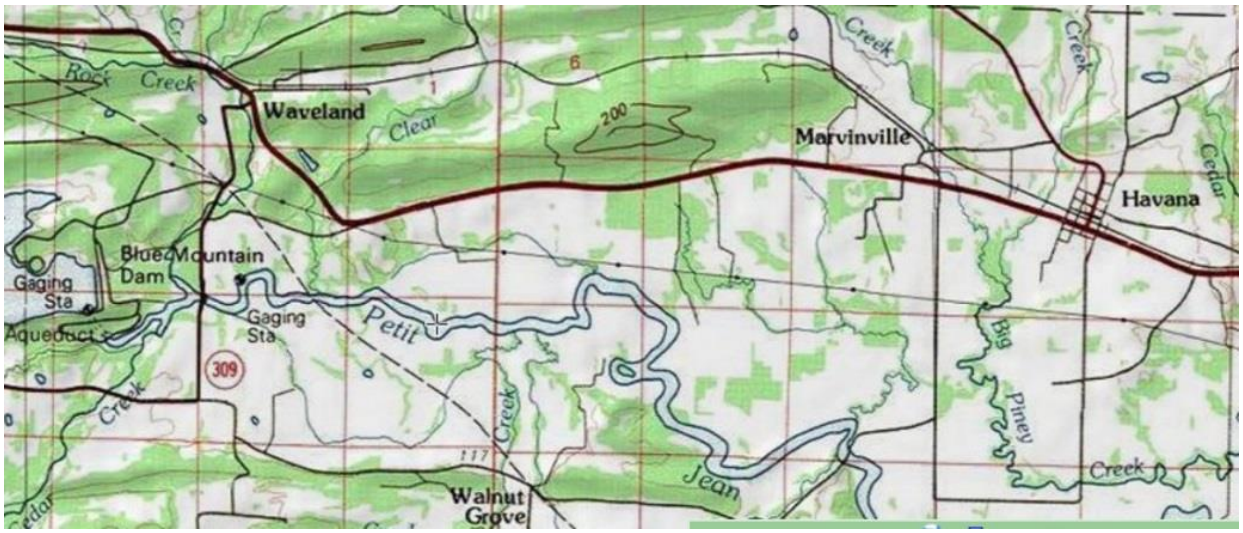
Impact of Dam Failure- Blue Mountain Lake Dam is considered a high risk, where failure or mis-operation will probably cause loss of human life and economic damage would be excessive. The dam is located on a U.S. Army Corp of Engineer Lake with approximately 50 miles of shoreline, located between Mount Magazine and Ouachita Mountain range, and is used for flood control, recreation, fish and wildlife protection purposes

In the event of a possible dam failure, the approximate inundation area is outlined in yellow. At normal levels it has a surface area of 4.5 square miles. The elevation of the dam is 410 feet above MSL or 125 meters. Recreational areas surround the lake would be impacted.-Loss of human life is based upon presence of habitable structures.

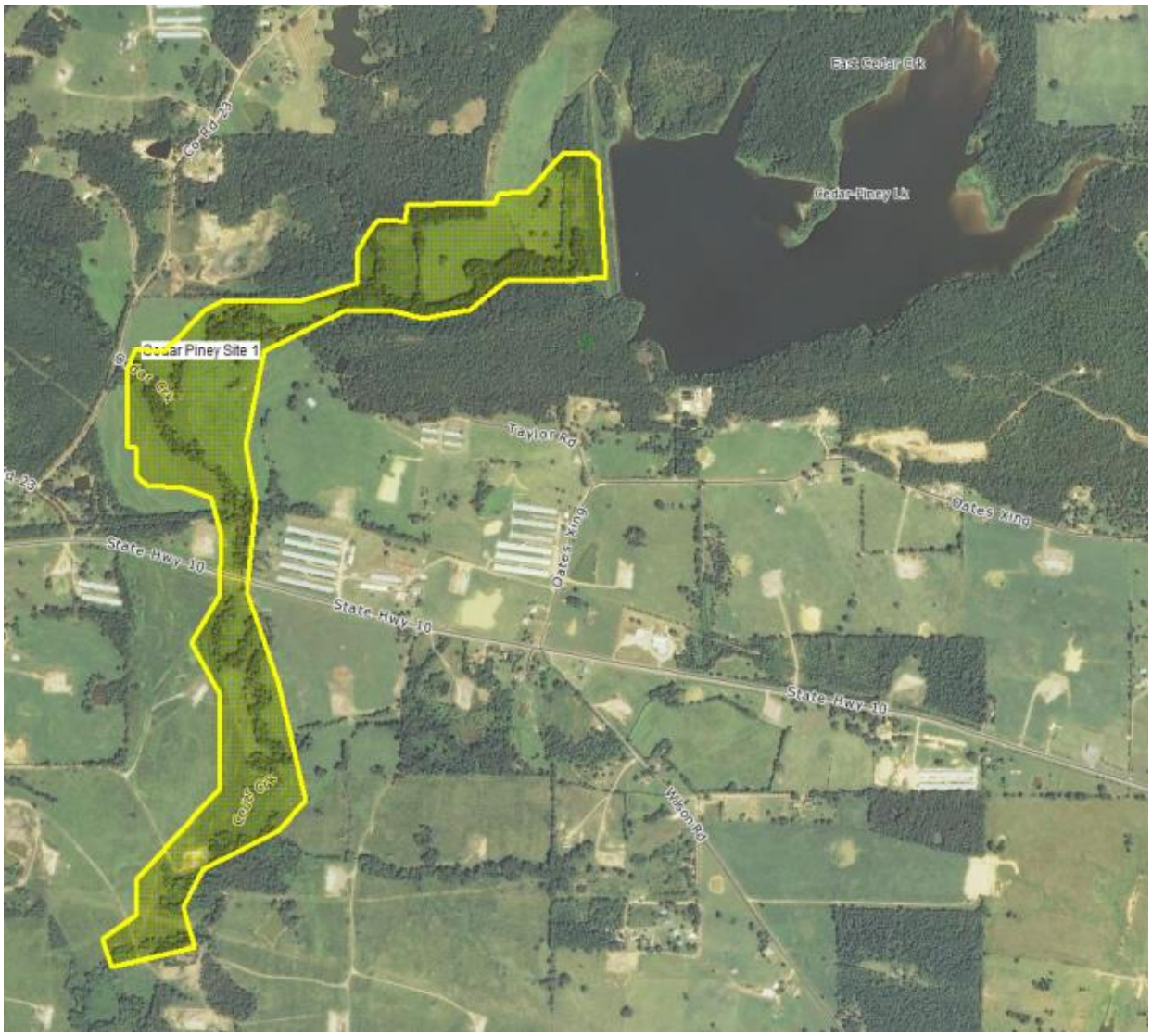
Vulnerability of Estimating Potential Loss- Loss of life and injuries are possible, damage to transportation systems, possible disruption of services, losses to Corp of Engineer property, and major environmental damage.

Multi-Jurisdictional Risk Assessment-Blue Mountain Lake Dam has a maximum capacity of 258,000 acre feet. Failure would impact the Northeastern portion of the unincorporated area of Yell County. Waveland Community, which is located in the unincorporated area, located 4.3 miles east northeast. Also affected would be flooding of County road 540 and Arkansas State Highways 27, 28, 309 and 10. Pasture

land and Petit Jean Wildlife Management Area would be inundated. Loss of live and injuries and disruptions to utility services would be expected.



Cities of Havana, Corinth, Belleville, Danville, Dardanelle and Plainview would not be affected by the failure of Blue Mountain Lake Dam. School Districts Danville, Dardanelle and Two Rivers should not see any effects of the possible dam failure. The campus of Western Yell County should not be affected but the bus routes will see some damages, making roads impassable.



Cedar-Piney Site 1 is owned by City of Danville. The dam was constructed in 1973, a gravity dam with earth construction. The dam height is 64 feet with a length of 2313 and impounds 170 acres. The drain area is 14 acres or 0.2 square miles. Havana is the nearest city (approximately 2 miles due East) that would be affected by failure of the dam.

Maximum discharge is 25,477 cubic feet per second. Its capacity is 11,000 acre feet. Normal storage is 2,400 acre feet.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- ANRC rates the dam as 'High' hazard risk; Loss of Life, Excessive (Extensive public, industrial, commercial, or agricultural development); over $500,000. NOTE: Loss of human life is based upon presence of habitable structures. One structure and 5 people will be impacted by the release due to dam failure.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over

a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure- Cedar-Piney Creeks Watershed Site1 Dam is considered a high risk, where failure or mis-operation will probably cause loss of human life and economic damage would be excessive. In the event of a possible dam failure a view of the inundation area is outlined in yellow. The dam is located on Little Piney Creek in Yell County, Arkansas and is used for flood control purposes. Construction was completed in 1994. Its normal surface area is 17 acres. It is owned by Yell County Soil and Water Conservation District. There is no residential housing or penned livestock in this area that would be affected in the event of dam failure.

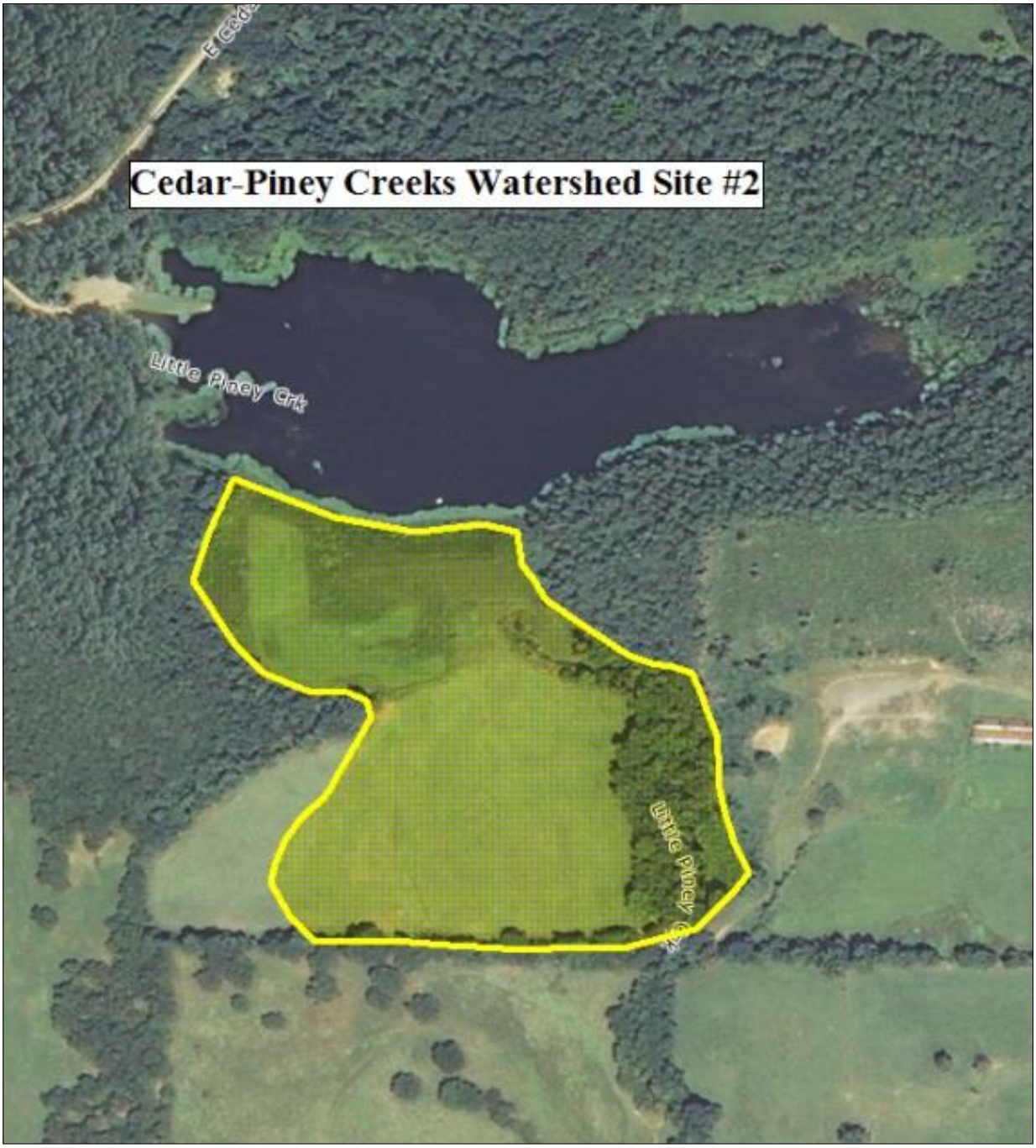
Vulnerability of Estimating Potential Loss- Loss of life and injuries can be expected, disruption of services, losses transportation systems, and major environmental damage.

Multi-Jurisdictional Risk Assessment

Failure to the Cedar Piney Lake Dams could result in injury and loss of life if failure is due to mis –operation of the dam in the Northeastern portion of Yell County. Disruption of utility services, losses to transportation systems and major environmental damage would occur in the unincorporated areas of the county and Havana, Belleville and Corinth. Unincorporated areas would be affected but there is little density housing or penned livestock. The closest incorporated city is Belleville which is located 3.4 miles from the dam.

Bus routes would possibly wash out in Western Yell County School District by flood waters, but the school campus should not be affected. Cities of Danville, Dardanelle, Plainview and Ola should not be affected. School Districts of Danville, Dardanelle, or Two Rivers should not feel any affects of Cedar Piney Lake Dam Site 1

Cedar-piney Site 2, also known as Yell Co. S&WCD Site 02 is of earthen construction. Its height is 56.5 feet with a length of 900 feet. Maximum discharge is 16512 cubic feet per second. Its capacity is 3388 acre feet. Normal storage is 145 acre feet. It drains an area of 3.4 square miles.



Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- ANRC rates the dam as 'High' hazard risk; Loss of Life, Excessive (Extensive public, industrial, commercial, or agricultural development); over $500,000.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over

a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure- Cedar-Piney Creeks Watershed Site 2 Dam is considered a high risk, where failure or mis-operation will probably cause loss of human life and economic damage would be excessive. In the event of a possible dam failure a view of the inundation area is outlined in yellow. The dam is located on Little Piney Creek in Yell County, Arkansas and is used for flood control purposes. Construction was completed in 1994. Its normal surface area is 17 acres. It is owned by Yell County Soil and Water Conservation District. There is no residential housing or penned livestock in this area that would be affected in the event of dam failure.

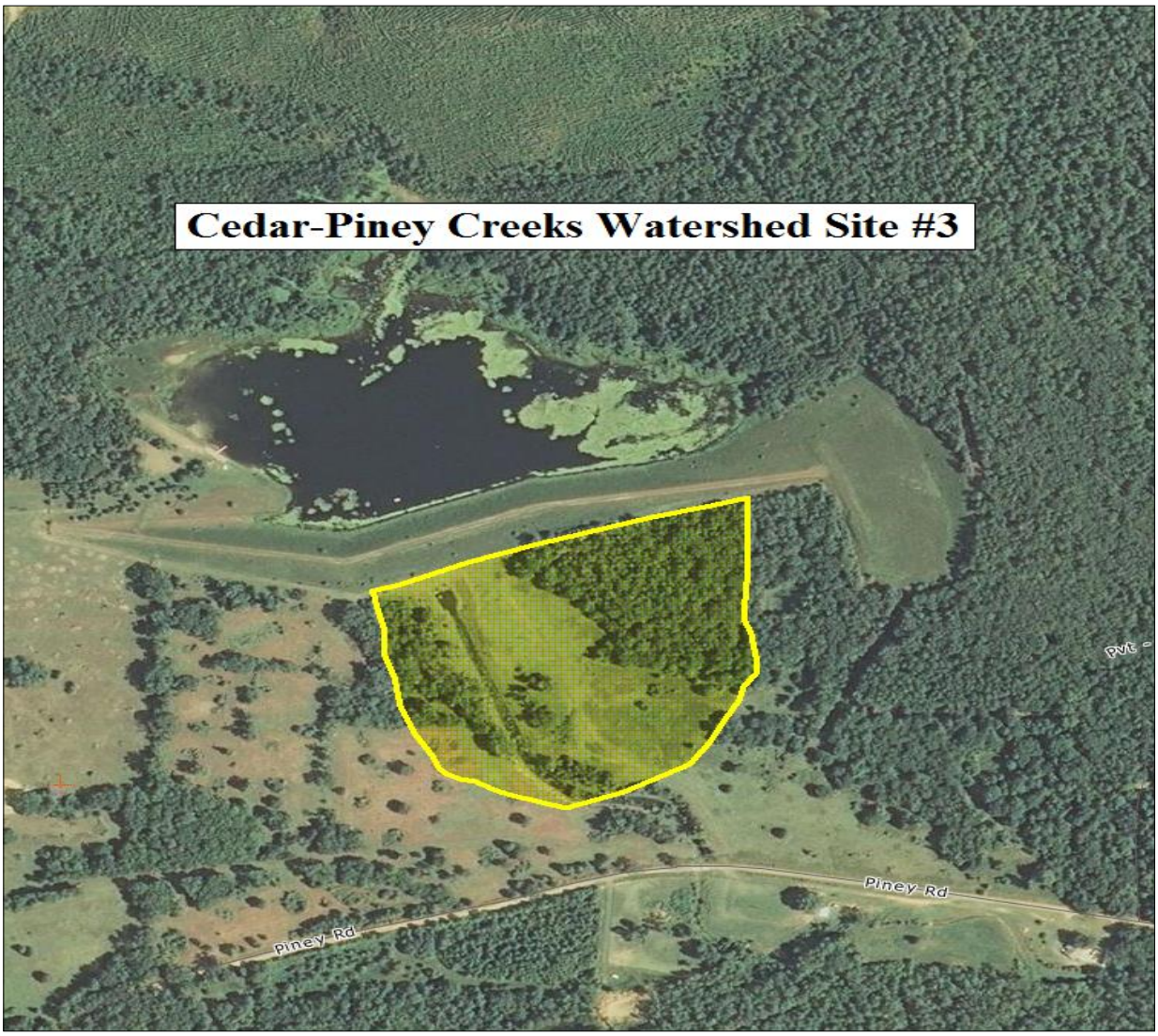
Vulnerability of Estimating Potential Loss- Loss of life and injuries can be expected, disruption of services, losses transportation systems, and major environmental damage. NOTE: Loss of human life is based upon presence of habitable structures.

Multi-Jurisdictional Risk Assessment

Failure to the Cedar Piney Lake Dam Site 2 could result in injury and loss of life if failure is due to misoperation of the dam in the Northeastern portion of Yell County. Disruption of utility services, losses to transportation systems and major environmental damage would occur in the unincorporated areas of the county and Havana, Belleville and Corinth. Unincorporated areas would be affected but there is little density housing or penned livestock. The closest incorporated city is Belleville which is located 3.4 miles from the dam.

Bus routes would possibly wash out in Western Yell County School District by flood waters, but the school campus should not be affected. Cities of Danville, Dardanelle, Plainview and Ola should not be affected. School Districts of Danville, Dardanelle, or Two Rivers should not feel any affects of Cedar Piney Lake Dam Site 2.

Cedar-piney Creeks Watershed Site 3 is of earthen construction owned by the Yell County Soil and Water Conservation District. The elevation is 100 feet above MSL or 122 meters, height of 55 feet with a length of 2,275 feet. Maximum discharge is 10,060 cubic feet per second. Its capacity is 1,296 acre feet. Normal storage is 109 acre feet. It drains an area of 2 square miles.



The major damage to the surrounding area would be to pasturelands, fields and livestock near the water. There aren't any residential housing located at the base of the dam. But death and injury to people and livestock could occur in the event of a sudden unexpected dam failure.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- ANRC rates the dam as 'High' hazard risk; Loss of Life, Excessive (Extensive public, industrial, commercial, or agricultural development); over $500,000.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over

a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure- Cedar-Piney Creeks Watershed Site 3 Dam is considered a high risk, where failure or misoperation will probably cause loss of human life and economic damage would be excessive. In the event of a possible dam failure a view of the inundation area is outlined in yellow. The dam is located on Little Piney Creek in Yell County, Arkansas and is used for flood control purposes. Construction was completed in 1994. Its normal surface area is 17 acres. It is owned by Yell County Soil and Water Conservation District. There is no residential housing or penned livestock in this area that would be affected in the event of dam failure.

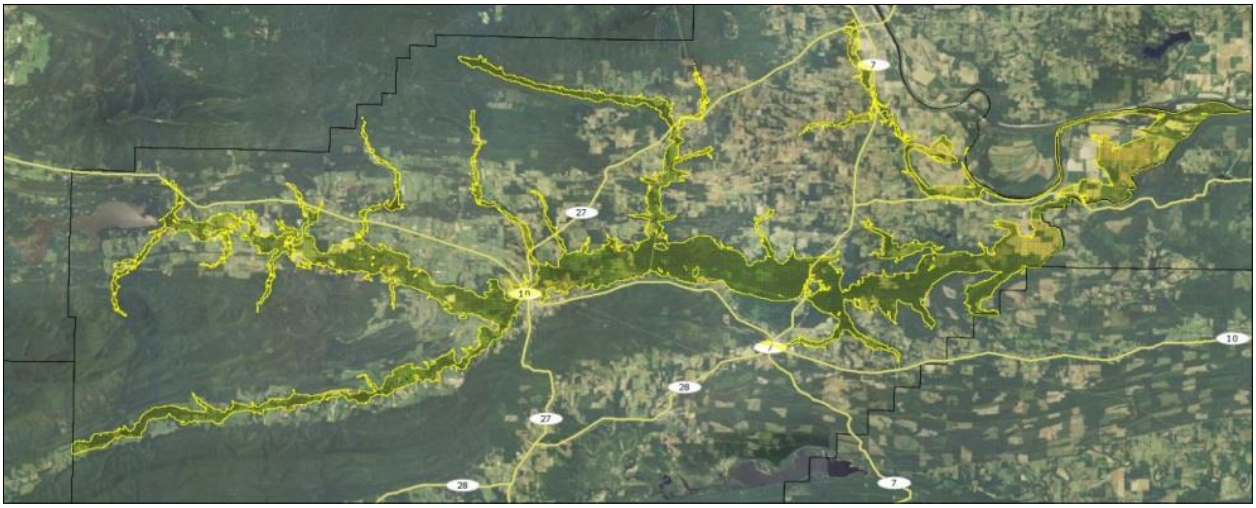
Vulnerability of Estimating Potential Loss- Loss of life and injuries can be expected, disruption of services, losses transportation systems, and major environmental damage. NOTE: Loss of human life is based upon presence of habitable structures.

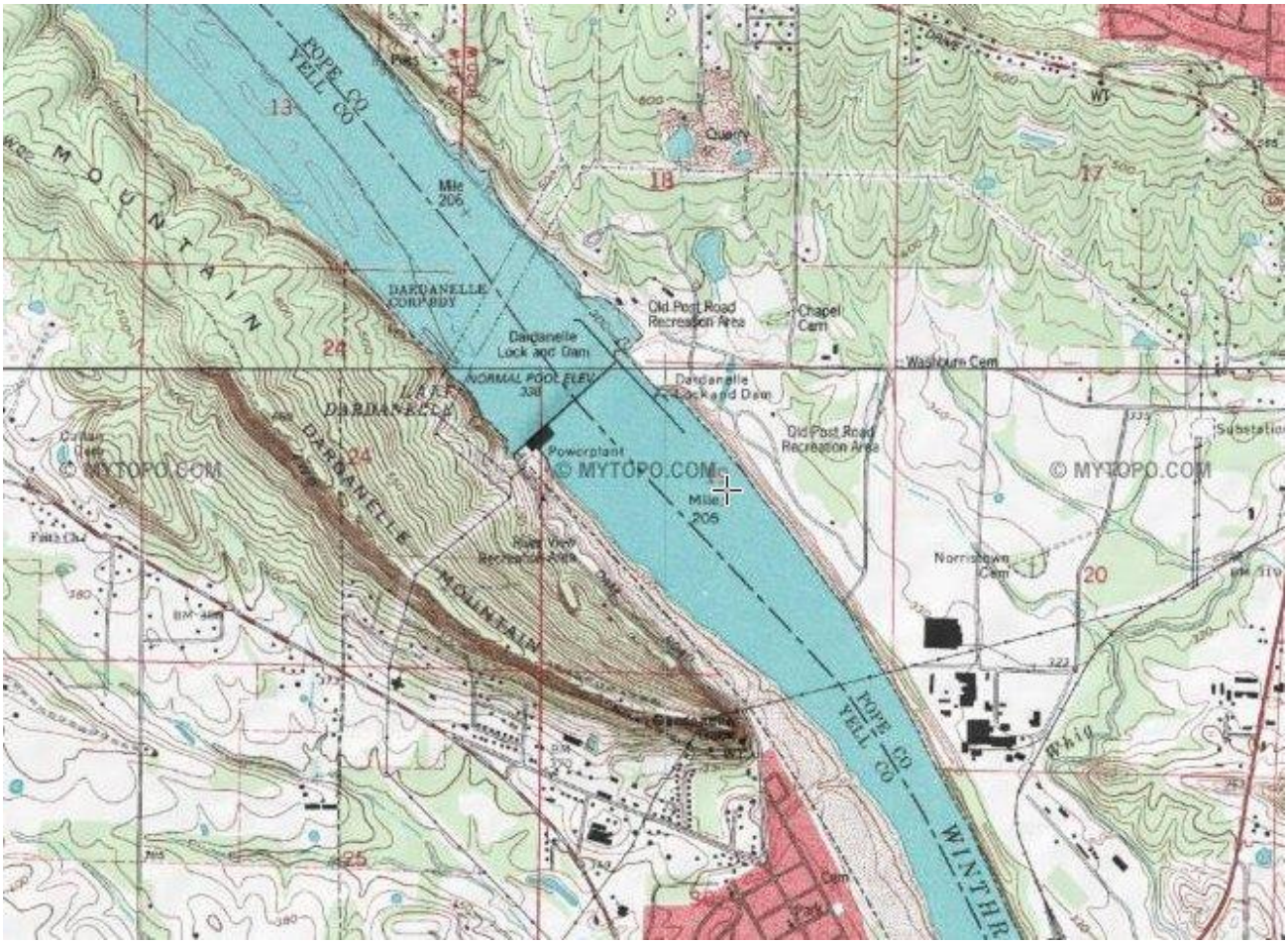
Multi-Jurisdictional Risk Assessment

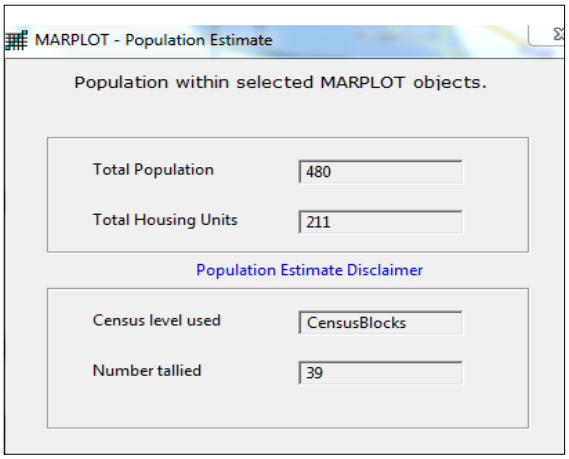
Failure to the Cedar Piney Lake Dam Site 3 could result in injury and loss of life if failure is due to misoperation of the dam in the Northeastern portion of Yell County. Disruption of utility services, losses to transportation systems and major environmental damage would occur in the unincorporated areas of the county and Havana, Belleville and Corinth. Unincorporated areas would be affected but there is little density housing or penned livestock. The closest incorporated city is Belleville which is located 3.4 miles from the dam.

Bus routes would possibly wash out in Western Yell County School District by flood waters, but the school campus should not be affected. Cities of Danville, Dardanelle, Plainview and Ola should not be affected. School Districts of Danville, Dardanelle, or Two Rivers should not feel any affects of Cedar Piney Lake Dam Site 3.

Dardanelle Lock & Dam Lat: 35.24861 Long -93.17083NPDP ID: AR00162 Significant Risk







The Dardanelle Lock and Dam is a significant risk dam, in the event of a possible dam failure the inundation area is outlined in yellow. The inundation area consists of a Lake Dardanelle State Park on both sides of the dam. It is a large hydroelectric dam with a lock for allowing boat passage. The dam spans the Arkansas River near Dardanelle AR. The dam elevation is 338 feet above MSL or 103 meters, with a volume of 81,800 with a max and NID storage capacity of 486,200, the normal capacity is 420,900, covering 40,000 acres of land. This dam is federally owned and the Federal Regulatory Agency for this dam is the Corp of Engineers.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure ANRC rates the dam as a 'Significant' hazard risk. No Loss of Life, Appreciable (Significant structures, industrial, or commercial development, or cropland); $100,000 to $500,000.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure The Dardanelle Lock and Dam is considered a significant risk, where failure or mis-operation will probably cause loss of human life and economic damage would be excessive. In the event of dam failure the approximate inundation area is outlined in yellow. The major damage to the surrounding area would be to Lake Dardanelle State Park which is located on both sides of the dam, no visitors would be allowed if the Corp of Engineers had any threat to the dam.

Vulnerability of Estimating Potential Loss- Loss of life and in juries can be expected, disruption of services, losses transportation systems, and major environmental damage. The dam may affect the cities of Dardanelle, Ola, Danville which are due south of the dam. It is estimated that the flood area may affect 480 people and 221 houses.

Multi-Jurisdictional Risk Assessment Using the classification data provided by the Arkansas Natural Resources does not expect loss of life if this dam were to fail but structures, industrial, or commercial development, or cropland would be affected.

The mitigation planning team wants to profile the danger to surrounding areas since the original dam classification. Dardanelle Lock and Dam is located in the Northwestern tip of Yell County. Lake Dardanelle State Park is located on both sides of the dam. The Dardanelle Primary School is 1.9 miles, Dardanelle Elementary 3.8 miles, River Valley Medical 1.8 miles, Dardanelle Senior Citizens Center 2.1 miles, Dardanelle City Hall 2.4 miles, and Tyson Foods 2.8 miles from the Dardanelle Lock and Dam, all would be affected by dam failure. Loss of life would be possible and probable. Transportation routes on Highways 10, 27 and 7 would also be affected by dam failure. Dardanelle School District Bus routes would be affected inside and outside the city limits of Dardanelle. Areas inside the City of Dardanelle and areas in the unincorporated areas would experience utility failures.

Cities of Belleville, Corinth, Danville, Plainview or Ola nor the School District of Western Yell County, Danville or Two Rivers would not be affected in the event of the dam failure of Dardanelle Lock and Dam.

Lake Ola Dale Dam Lat: 35.03167 Long: -92.23333NPDP ID: AR00767 High Risk

Ola-Dale Lake is owned by the City of Ola. Ola-dale is of earthen construction, a gravity dam, elevation is 361 feet above MSL or 110 meters with a height of 36.3 feet with a length of 400 feet. Maximum discharge is 7300 cubic feet per second. Its capacity is 1500 acre feet. Normal storage is 800 acre feet. It drains an area of 6.9 square miles.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- The ANRC considers this dam to be a 'high' hazard risk. Loss of Life, Excessive (Extensive public, industrial, commercial, or agricultural development); over $500,000

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure- Ola-Dale Dam is considered a high risk, where failure or mis-operation will probably cause loss of human life and economic damage would be excessive. In the event of possible dam failure the approximate inundations area is outlined in yellow. The dam is located on Keeland Creek in Yell County, Arkansas and is used for drinking water and recreation purposes. At normal levels it has a surface area of 85 acres. The inundation area covers cemeteries and residential housing which could be impacted east of the lake is the City of Ola. An estimated fifty- six homes and 145 people will be impacted by a dam failure.

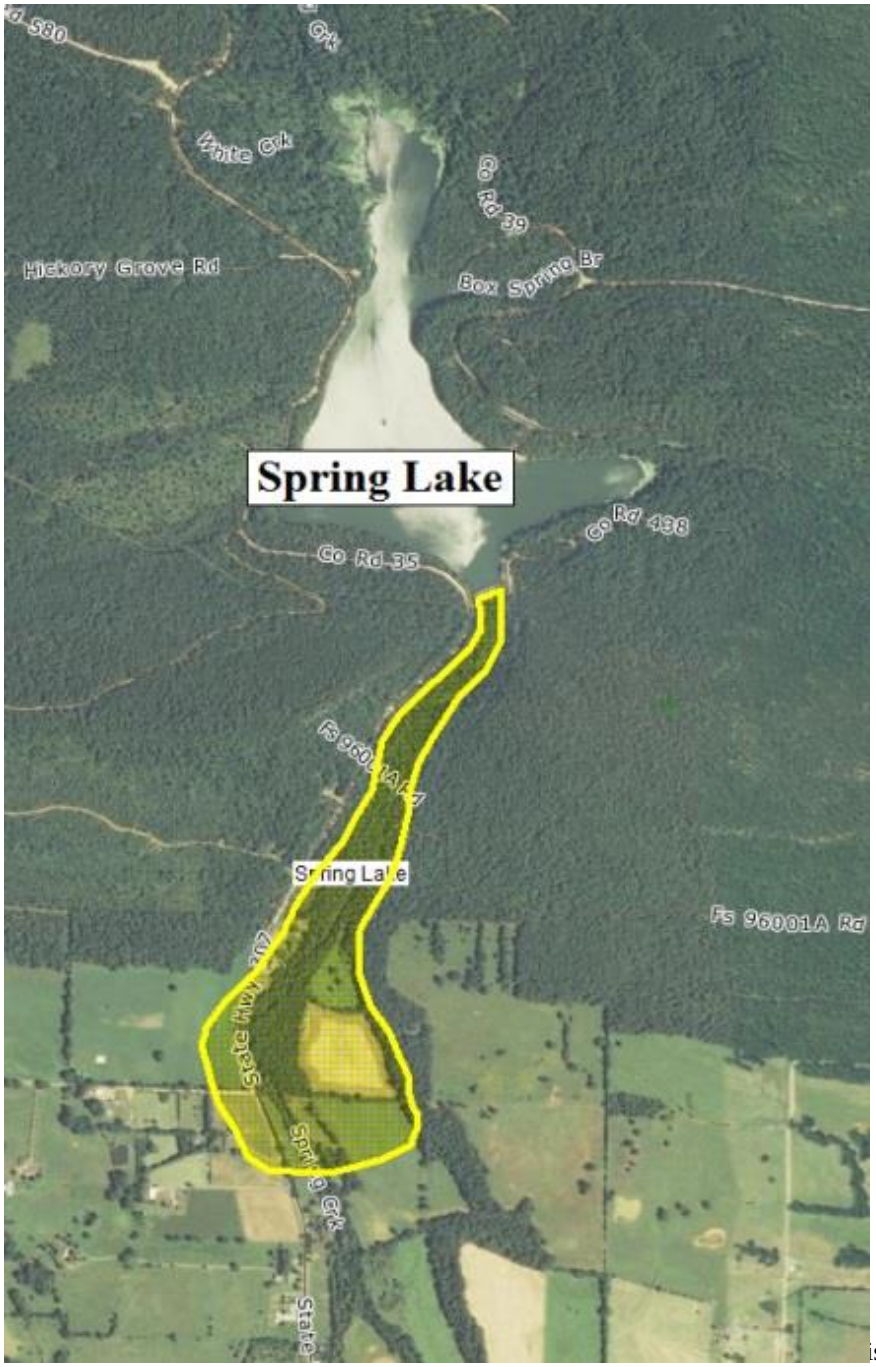
Vulnerability of Estimating Potential Loss- Loss of life and injuries can be expected, disruption of services, losses transportation systems, and major environmental damage. . NOTE: Loss of human life is based upon presence of habitable structures. The lake covers approximately 90 acres.

Multi-Jurisdictional Risk Assessment- The Failure of Lake Ola Dale Dam would cause loss of life and economic damage that would be excessive. There would be damages to nearby cemeteries, schools, residential housing in and around 1st , 2nd, 3rd, 4th, 5th, 6th and 7th Harkley Streets and Fourche Ave in the City of Ola. There would be a disruption of utility services, losses to transportation and environmental damages. Areas of Arkansas State Highways 10, 27 and 7 are located in the inundated areas.

Two Rivers School District campuses will not be affected but routes inside City limits and Highways 10, 27 and 7 are located in the inundated areas.

The Cities of Belleville, Corinth, Havana, Dardanelle, Danville or Plainview nor the School Districts of Danville, Dardanelle, or Western Yell County will not be affected by Lake Ola Dale Dam if there was a failure.

Spring Lake Dam NPDP ID: AR00754 Significant Risk



Spring Lake Dam is owned by the U.S. Forest Service, its primary and only purpose is recreation. There isn't any residential housing located near the dam. The dam was constructed in 1939, a gravity dam with arch construction.

Previous Occurrences- There is no previous failures for this dam.

Probability of Future Failure- ANRC rates the dam as a 'significant' hazard risk. No Loss of Life, Appreciable (Significant structures, industrial, or commercial development, or cropland); $100,000 to $500,000.

Since there have been no occurrences of dam failures in Yell County in the past the probability of occurrence is unknown. This is due to the fact that when using the Poisson Distribution equation it relies on past occurrences over a period of time to assign a numerical probability in regards to what the probability of failure may be. This equation

was used to assign probability to all hazards throughout this plan. A mitigation action will be implemented to address this data deficiency.

Impact of Dam Failure- Spring Lake Dam is considered a significant risk, which no loss of life and minimal economic and environmental loss is expected in the event of dam failure. Losses are principally limited to the owner's property. In the event of dam failure the approximate inundation area is outlined in yellow. Due to the elevation of the lake and dam the water would pool around the lake.

The major damage to the surrounding area would be to timber property owned by the U.S. Forest Service There aren't any residential housing located at the base of dam. But death and injury to people and wildlife could occur in the event of a sudden unexpected dam failure.

Vulnerability of Estimating Potential Loss- No loss of life expected no disruption of services, losses only to U.S. Forest Service timber plantation land, and minimal environmental damage to the unincorporated area of Yell County. No homes or people are impacted by dam failure.

Multi-Jurisdictional Risk Assessment- Spring Lake Dam is located in the North Central Area of Yell County. In the event of the failure of Spring Lake Dam it is estimated that there would be no loss of life, but appreciable significant structures, industrial, or commercial development, and cropland would be affected along the floodway. The nearest incorporated city is Belleville located 8.4 miles from the dam. Transportation damages would be along Highway 27 and 10 plus county roads. Loss Estimate would be approximately $100,000 to $500,000. There would be damages to the bus routes of Danville School Districts along the county roads and Highway 27 and 10.

There would be no damages to the Cities of Corinth, Havana, Danville, Dardanelle, Plainview or Ola, nor the campuses of the School Districts of Western Yell County, Danville, Dardanelle or Two Rivers.

3.5.1.3 Extent, Magnitude or Severity of Dam Failure

At this time, there have been no studies to determine the extent of dam failure in Yell County. The need to conduct flood inundation studies for high and significant risk hazard dams will be addressed in this plan as a mitigation action. This was a previous action in the last plan but was unable to be completed due to lack of funding that is required to conduct dam failure inundation studies.

3.5.2 Drought

3.7.2.1 Description of Drought

A drought is a period of unusually persistent dry weather that persists long enough to cause serious deficiencies in water supply (surface or underground). Droughts are slow onset hazard, but over time they can severely affect crops, municipal water supplies, recreation resources and wildlife. If drought conditions extend over a number of years, the direct and indirect economic impacts can be significant. High temperatures, high winds, and low humidity can worsen drought conditions and also make areas more susceptible to wildfire. In addition, human actions and demands for water resources can accelerate drought-related impacts.

3.5.2.2 Location of Drought Events

All areas of Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, plus School Districts of Danville, Dardanelle, Two Rivers and Western Yell County, are equally likely to experience severe drought, there is no defined geographic hazard boundary.

3.5.2.3 Extent, Magnitude or Severity of Drought

Periods of droughts can have significant environmental, agricultural, health, economic and social consequences. The effect varies according to vulnerability. Drought can also reduce water quality, because lower water flows reduce dilution of pollutants and increase contamination of remaining water sources. Common consequences of drought include:

- Diminished crop growth or yield productions
- Lack of water for households
- Lack of water for livestock
- Lack of water for irrigation
- Habitat damage, affecting both terrestrial and aquatic wildlife
- Drought provides too little water to support food crops.
- Malnutrition, dehydration and related diseases
- Shortages of water for industrial users
- Social unrest
- Wildfires are more common during times of drought
- Death of vulnerable population such as elderly and young people

All areas of Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, plus School Districts of Danville, Dardanelle, Two Rivers and Western Yell County, are equally likely to experience severe drought D2 but may experience exceptional drought or D4 droughts as well, there is no defined geographic hazard boundary.

Drought Severity Classification								
		RANGES						
Category	Description	Possible Impacts	Palmer Drought Index	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Percent of Normal Precip	Standardized Precipitation Index (SPI)	Satellite Vegetation Health Index
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.	-1.0 to -1.9	21-30	21-30	<75% for 3 months	-0.5 to -0.7	36-45
D1	Moderate Drought	Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested	-2.0 to -2.9	11-20	11-20	<70% for 3 months	-0.8 to -1.2	26-35
D2	Severe Drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed	-3.0 to -3.9	6-10	6-10	<65% for 6 months	-1.3 to -1.5	16-25
D3	Extreme Drought	Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions	-4.0 to -4.9	3-5	3-5	<60% for 6 months	-1.6 to -1.9	6-15
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies	-5.0 or less	0-2	0-2	<65% for 12 months	-2.0 or less	1-5

3.5.2.4 Previous Drought Occurrences

There have been 19 countywide drought events in Yell County 1950-2018.

3.5.2.5 Probability of Future Drought Events

There is a 15% chance that the county and participating jurisdictions will experience a drought in any given year.

3.5.2.7 Impact of Drought

Drought produces impacts that affect the social, environmental, and economical standard of living. Some direct impacts of drought are reduced crop, rangeland, and forest productivity; reduced water levees; increased fire hazard; increased livestock and wildlife death rates; and damage to wildlife and fish habitat. A reduction in crop productivity usually results in less income for farmers, retailers, and increased prices for food.

Environmental losses are caused by damages to plant and animal species. Wildlife habitat and air and water quality are usually damaged due to a lack of water and an increase in forest and range fires, insect infestations, plan disease and wind erosion. Most of the effects of drought are short-term, and as the drought comes to an end many problems are solved.

3.5.2.9 Vulnerability and Estimating Potential Loss

There is no evidence that drought has any kind of potential loss on building structures. It primarily affects agriculture, livestock, water supply, and timber plantations. The most vulnerable population is those with health conditions, elderly, and homeless.

Agriculture and forestry are the main sources of income in Yell County. The 181,155 acres uses in farming, cropland of 55,965 acres, and timber covering 428,043 acres would be the hardest which could affect 8,710 jobs. Agriculture and farm revenue create an estimated $411M which could be affected by drought.

3.5.2.10 Multi-Jurisdictional Risk Assessment

Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County are all equally subject to drought, there is no defined geographic hazard boundary. Damages from drought are generally economic. Assets at risk would include open land that could become vulnerable to the wildfire hazard due to extended periods of low rain and high heat. Water supply resources would be affected and the vulnerable populations such as the farmers.

Public Health would be affected through lack of water supply, unsafe water in ponds and creeks, and airborne dust. Those affected most would be the homeless, children, those with health conditions and elderly. Thus the threat is countywide, multi-jurisdictional.

Yell County has almost 3,000 ponds covering 1,500 acres in Yell County used for livestock, wildlife and sport fishing would be affected. Three US Corps of Engineer reservoirs (Blue Mountain Lake, Dardanelle Reservoir and Nimrod Lake) cover 6,079 acres, a water resource for the general public.

The Nimrod Wildlife Management Area of 3,634 acres near Danville and the Petit Jean Management Area 14,534 near Ola. Drought causes damaging results to the environment, wildlife and fish habitat.

Drought would affect Water Transportation in Yell County. The Arkansas River navigation project is located 20 miles north of Danville and is served by the Port of Dardanelle.

Drought would affect the 412,992 acres of timber plantations in Yell County, 187,007 acres belonging to the Ouachita National Forest and 32,400 acres to the Ozark National Forest. Drought condition leaves the forest land vulnerable to wildfire due to extended periods of low rain and high heat, and increases the infestation of insects.

Drought would affect the main agriculture eatable crops in Yell County, which is rice and soybeans. Pastures for cattle grazing, cover 15.9% of Yell County, would be affected.

Public Safety would be affected across the county, cities and school districts, from the threat of fire, and contaminated water.

3.5.3 Extreme Heat

3.5.3.1Description of Extreme Heat

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground.

3.5.3.2 Locations Affected by Extreme Heat

There is no defined geographic hazard boundary for extreme heat. Extreme heat generally affects people rather than property. All areas within Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County are equally likely to experience an extreme heat event.

3.5.3.3 Extent, Magnitude or Severity of Extreme Heat Events

Because Yell County is affected seasonally by extreme summer heat, the extent scales provide a mean for better targeting mitigation actions to protect lives. It is important to know that fatigue, sunstroke, and heat stoke are possible even when the temperatures are not at their peak high. Using past events Yell County could experience extreme heat with temperatures as high as 113.

Heat kills by taxing the human body beyond its abilities. In a normal year, about 175 Americans succumb to the demands of summer heat. In the 40-year period from 1936 through 1975, nearly 20,000 people were killed in the United States by the effects of heat and solar radiation. In the disastrous heat wave of 1980, more than 1,250 people died.

Yell County has experienced normal historical temperatures the high of 92.9 – 93.5 degrees during the months of July and August countywide. These temperatures can product fatigue, sunstroke, heat cramps and heat exhaustion from prolonged exposure and/or physical activity.

On the afternoon of August 3, 2011, the high temperature at Dardanelle climbed to 113 degrees, tying the record for the hottest temperature ever recorded in the city. A reading of 113 was also recorded on August 10, 1936. Depending on the humidity on extreme heat events residents of Yell County can experience sunstrokes and heat stokes are more likely than any other time.

All areas of Yell County can expect an occasional higher temperature in August than normal. The magnitude or intensity of an extreme heat event is measured according to temperature in relation to the percentage of humidity. According to the National Oceanic Atmosphere Administration (NOAA) this relationship is referred to as the “Heat Index” which is shown below. The Heat Index measures how hot it feels outside when humidity is combined with high temperatures.

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

IMPORTANT: Since heat index values were devised for shady, light wind conditions, **exposure to full sunshine can increase heat index values by up to 15°F.** Also, **strong winds**, particularly with very hot, dry air, can be extremely hazardous.

The Heat Index Chart shaded zone above 105°F (orange or red) shows a level that may cause increasingly severe heat disorders with continued exposure or physical activity.

The colored zones indicate varying symptoms or disorders that could occur depending on the magnitude or intensity of the event.

	Caution- is the first level of intensity where fatigue due to heat exposure is possible
	Extreme Caution- indicates that sunstroke, muscle cramps or heat exhaustion are possible
	Danger- indicates that sunstroke, muscle cramps or heat exhaustion are likely
	Extreme Danger- indicates that heat stroke is likely

Based on the latest research findings, the National Weather Service has devised the "Heat Index" (HI), (sometimes referred to as the "apparent temperature"). The HI, given in degrees F, is an accurate measure of how hot it really feels when relative humidity (RH) is added to the actual air temperature.

To find the HI, look at the Heat Index Chart. As an example, if the air temperature is 95°F (found on the top of the table) and the RH is 55% (found at the left side of the table), the HI-or how hot it really feels-is 110°F. This is at the intersection of the 95° row and the 55% column.

IMPORTANT: Since HI values were devised for shady, light wind conditions, EXPOSURE TO FULL SUNSHINE CAN INCREASE HI VALUES BY UP TO 15°F. Also, STRONG WINDS, PARTICULARLY WITH VERY HOT, DRY AIR, CAN BE EXTREMELY HAZARDOUS.

Heat Index/Heat Disorders: Possible heat disorders for people in higher risk groups.

Heat Index of 130° OR Higher: HEATSTROKE/SUNSTROKE HIGHLY HIGHER LIKELY WITH CONTINUED EXPOSURE,

Heat Index of 105°- 130°: SUNSTROKE, HEAT CRAMPS OR HEAT EXHAUSTION LIKELY, AND HEATSTROKE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY.

Heat Index of 90°- 105°: SUNSTROKE, HEAT CRAMPS AND HEAT EXHAUSTION POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY.

Heat Index of 80° - 90°: FATIGUE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY

Note on the HI chart the shaded zone above 105°F. This corresponds to a level of HI that may cause increasingly severe heat disorders with continued exposure and/or physical activity.

The "Heat Index vs. Heat Disorder" table (next to the HI chart) relates ranges of HI with specific disorders, particularly for people in higher risk groups.

Condition	Symptoms
Sunburn	Skin redness and pain, possible swelling, blisters, fever, headaches
Heat Cramps	Painful spasms, usually in leg and abdominal muscles; heavy sweating
Heat Exhaustion	Heavy sweating but skin may be cool, pale, or flushed. Weak pulse. Normal body temperature is possible, but temperature will likely rise. Fainting or dizziness, nausea, vomiting, exhaustion, and headaches are possible.
Heat Stroke (a severe medical emergency)	High body temperature (105+); hot, red, dry skin; rapid, weak pulse; and rapid shallow breathing. Victim will probably not sweat unless victim was sweating from recent strenuous activity. Possible unconsciousness.

3.5.5.4 Previous Occurrences

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K
YELL (ZONE)	YELL (ZONE)	AR	08/02/2010	03:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
YELL (ZONE)	YELL (ZONE)	AR	08/02/2011	11:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

8/2/2010- Hot, humid weather prevailed in early August as high pressure aloft settled over Arkansas. Most reporting stations saw high temperatures rise to 100 degrees or greater, with a few highs reaching 106 to 108 degrees. The only exceptions were some of the higher elevations. Heat indices climbed to 105 to 110 degrees across the north, with a few places seeing heat indices close to 115. Over central and southern Arkansas, heat indices in the 112 to 117 range were common, and a few spots recorded heat indices near 120. A cold front pushed into Arkansas on the 5th and 6th, bringing scattered to numerous thunderstorms and putting a temporary end to the heat wave.

8/2/2011-On the afternoon of August 3rd, the high temperature at Dardanelle climbed to 113 degrees, tying the record for the hottest temperature ever recorded in the city. A reading of 113 was also recorded on August 10, 1936. The reading of 113 also tied the record for the month of August, with 113 first being observed on August 10, 1936. Since temperatures at Dardanelle are recorded for the 24-hour period from 7 AM to 7 AM, the 113 degree temperature will appear on the official record for August 4th.

3.5.3.5 Probability of Future Extreme Heat Events

The probability of future extreme heat events in any given year is 2%.

3.5.3.6 Impact of Extreme Heat

Heat is the number one weather-related killer in the United States, resulting in hundreds of fatalities each year. In fact, on average, excessive heat claims more lives each year than floods, lightning, tornadoes and hurricanes combined.

Fatalities can result from extreme heat. Building structures are not affected by extreme heat. It primarily affects elderly, children, homeless, agriculture, livestock, wildlife, water supply and timber plantations.

3.5.3.7 Vulnerability and Estimating Potential Loss by Jurisdiction to Extreme Heat

An extreme heat event will extend throughout the unincorporated areas of Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview plus the school districts of Danville, Dardanelle, Two Rivers and Western Yell County.

It affects people of all ages, primarily the elderly, children and homeless. All agriculture crops, livestock, water supply and timber plantations are vulnerable to extreme heat. No area can be said to be immune from, or any more or less vulnerable to extreme heat.

Heat exhaustion usually affects people who are working or exercising in a hot environment. Those at risk for heat exhaustion include:

Infants and young children are at risk because their temperature regulation mechanisms are not fully developed. They also are dependent upon others for water and appropriate clothing. In Yell County 7.1% of the county's population is under the age of 5 years.

The elderly are similarly at risk because of underlying medical conditions that limit the ability to sweat including poor circulation, skin changes, and chronic medication usage. In Yell County 17.8% of the county's populations is over the age of 62 years.

Socioeconomic issues increase the risk of heat exhaustion if access to air conditioning is limited. During heat waves, large cities often open cooling centers to help minimize the risk of large numbers of people succumbing to heat-related illness. Certain medications may impair the ability of the body to sweat.

3.5.3.8 Multi-Jurisdictional Risk Assessment

Based on historical records for Yell County, the region's location is within one of the country's highest exposures to an extreme heat index. All unincorporated areas of Yell County and the cities of Belleville, Danville, Dardanelle, Havana, Ola, Plainview and school districts of Danville, Dardanelle, Two Rivers and Western Yell County will sometime in the near future face extreme heat. Extreme heat is equally dangerous to all jurisdictions, and school districts throughout the county. Extreme heat will not affect one area of Yell County more than another.

3.5.4 Flooding

3.5.4.1Description of Flooding

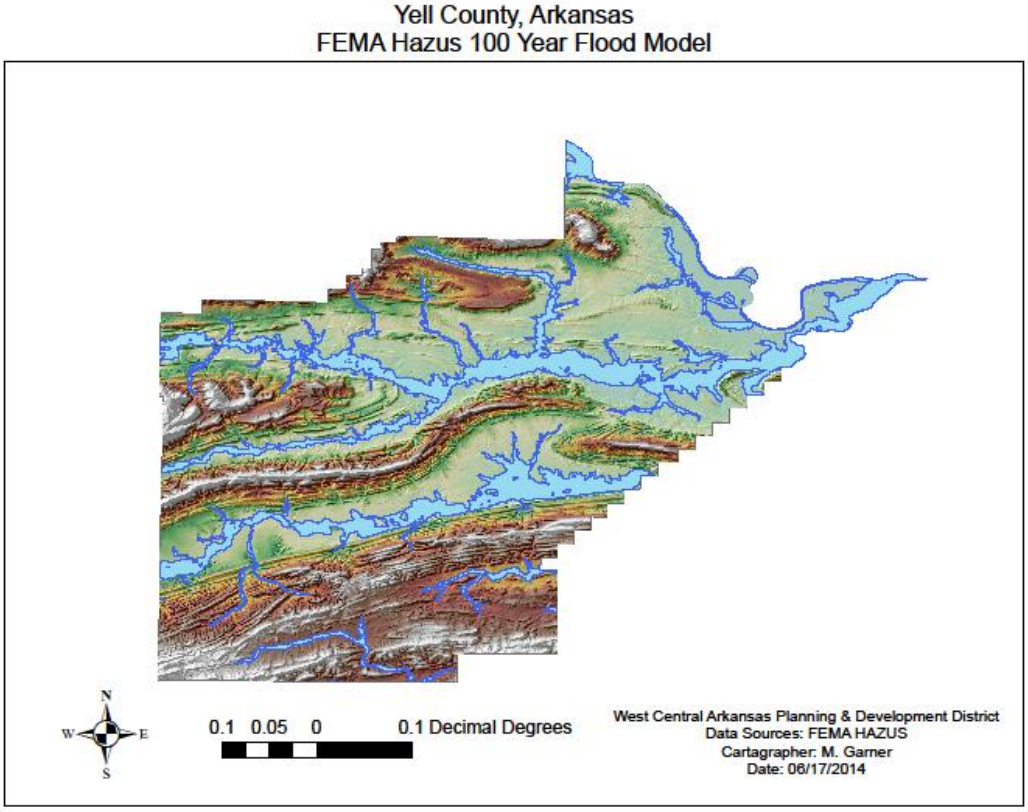
A flood is the partial or complete inundation of normally dry land. The various types of flooding include riverine flooding, and shallow flooding in Yell County. Common impacts of flooding include damage to personal property, buildings, and infrastructure; bridge and road closures; service disruptions; and injuries or even fatalities.

3.5.4.2 Location of Flooding Events

All parts of Yell County are subject to flash flooding. The Hazard Mitigation Planning Team has reviewed Yell County's Flood Insurance Rate Maps (FIRMs) and worked with the County Floodplain Administrator to compile a profile of the flooding hazard within the County. Research on flooding history in the county included newspaper

accounts of major floods, data collected by the National Climatic Data Center and the National Flood Insurance Program, and interviews with individual county residents. Though the county's floodplain maps were developed in 20012, the county's FIRMs did provide a fairly accurate picture of areas and structures most vulnerable to flooding.

Yell County joined the NFIP in 2011, and based on the May 31, 2011 data on Repetitive Loss Properties in Arkansas Yell County, the City of Ola is the only jurisdiction that had a reported flood damages to residential housing.



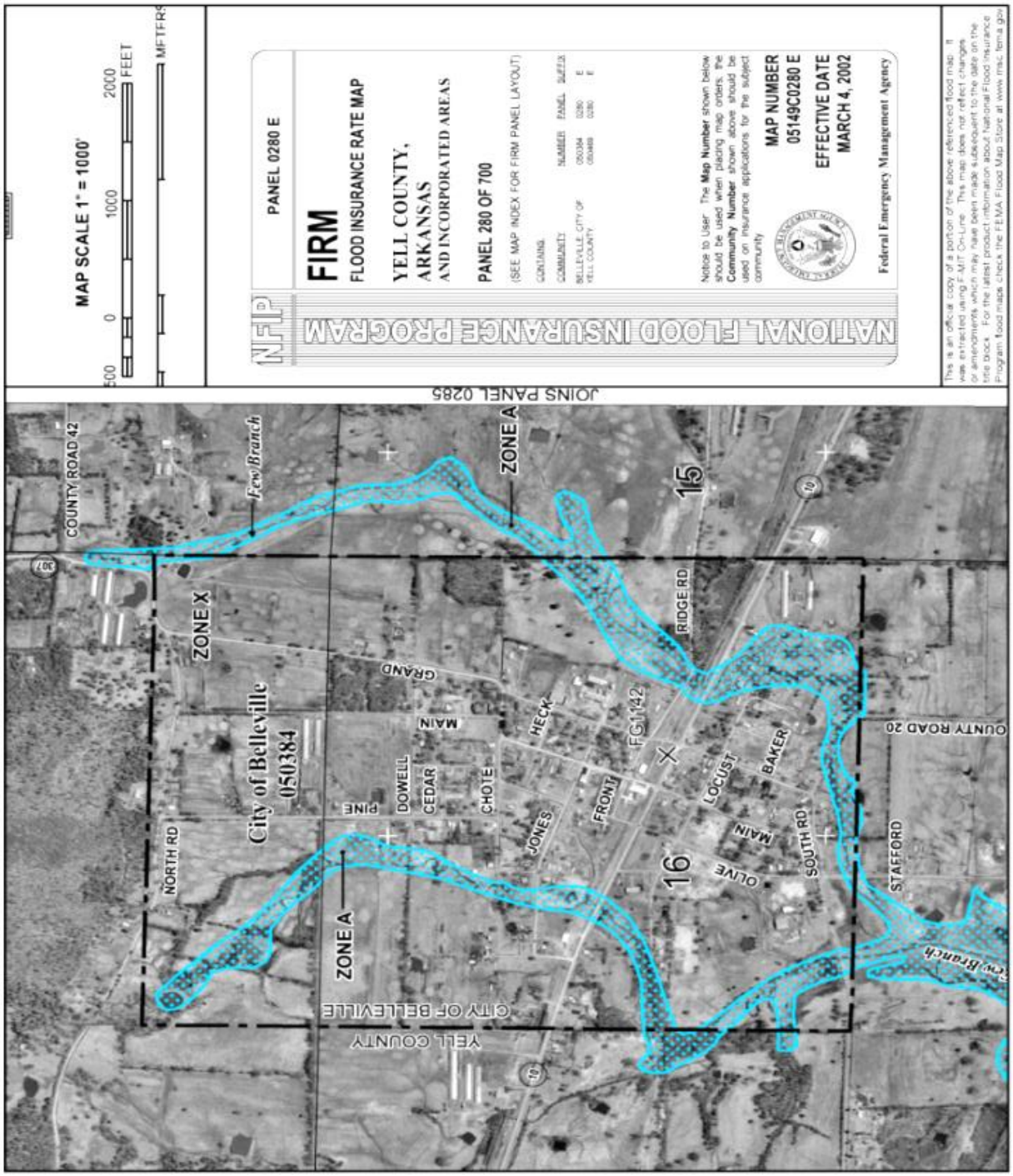
A variety of factors affect the type and severity of flooding within Yell County, including topography, geology, urban development and infrastructure. Serious flooding in the mountainous areas is unusual because streams tend to be faster flowing and flood waters drain quickly. Also, the mountainous areas of the county are generally less populated and flooding that does occur is not as likely to threaten property or lives. Flash floods are most common in this area due to this area exhibiting high to moderate relief, steep to moderate slopes, and bedrock with low permeability. All factors facilitate rapid runoff and the consequent potential for flash floods. Development in this part of the county exacerbates the flash flooding problem. Intense rainfall events, often accompanying the large thunderstorms that occur in Yell County several times a year, may result in water flowing rapidly from higher elevations into valleys, collecting in, and sometimes overtopping the valley streams. There have also been issues with the maintenance and clearing of drainage channels in this area that have resulted in obstructions restricting the flow of water during a storm.

IRM Maps show flood zones in all jurisdictions.

Zone	Description
A	Areas of 100-year Flood; Base flood elevations and flood hazard factors not determined
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundations are shown, but no flood hazard factors are determined.

AE	Base flood elevations determined.
AH	Areas of 100 year shallow flooding where depths are between one (1) and three (3) feet; Base Flood Elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100 year flood; Base Flood Elevations and Flood Hazard Factors determined.
A-99	Areas of 100 year flood to be protected by flood protection system under construction; Base Flood Elevations and Flood Hazard Factors not determined.
AR	The base floodplain that results from the de-certification of a previously accredited flood protection system that is in the process of being restored to provide a 100 year or greater level of flood protection.
V	The coastal area subject to a velocity hazard (wave action) where BFE's are not determined on the FIRM.
VE	The coastal area subject to a velocity hazard (wave action) where BFE's are provided on the FIRM.
B & X Shaded	Areas of moderate flood hazard, usually the area between the limits of the 100 year and 500 year floods. B zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from the 100 year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C &X Unshaded	Areas of minimal flood hazard, usually depicted on FIRMs as exceeding in 500 year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500 year flood.
D	Ares of undetermined but possible flood hazards.

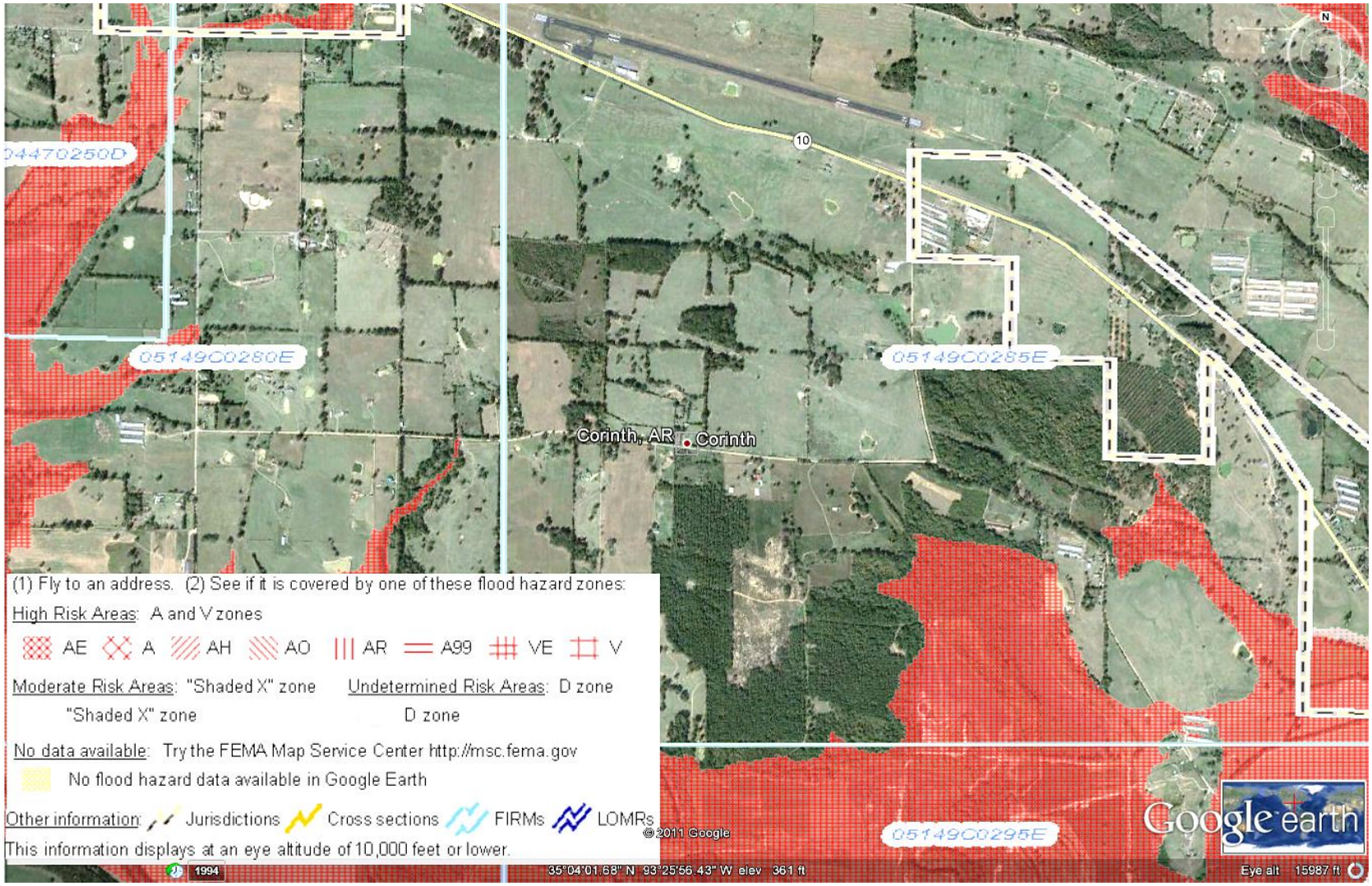
City of Belleville



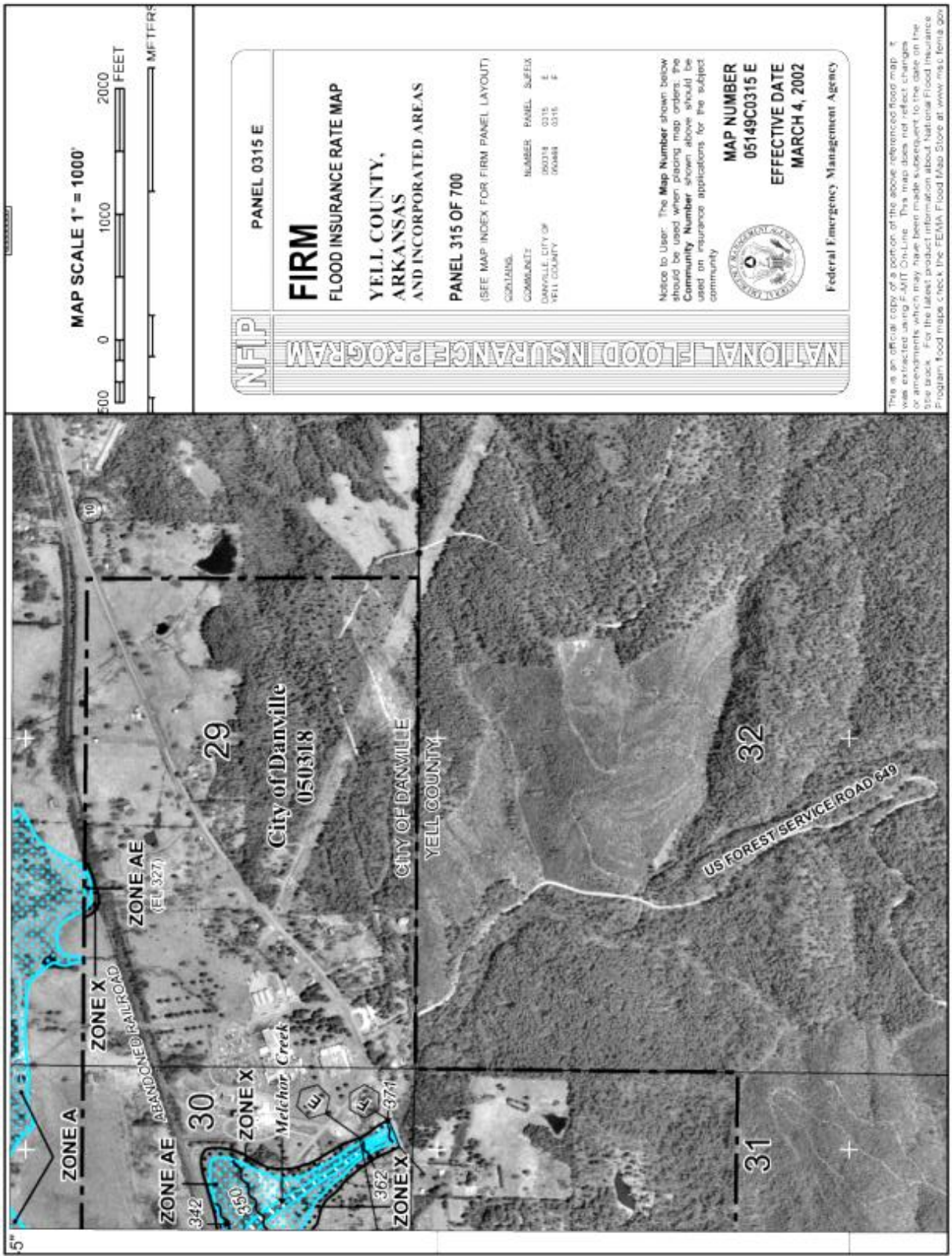
City of Corinth

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
METERS
PANEL 0285 E
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 285 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
DANVILLE, CITY OF 050318 0285 E
YELL COUNTY 050469 0285 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0285 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
050318
22
23
27
CORINTH RD
COUNTY ROAD 516
ZONE A
ZONE A
ZONE

Danville


05149C0280E
05149C0285E
05149C0295E
Corinth, AR
Corinth
10
(1) Fly to an address. (2) See if it is covered by one of these flood hazard zones:
High Risk Areas: A and V zones
AE A AH AO AR A99 VE V
Moderate Risk Areas: "Shaded X" zone
"Shaded X" zone
Undetermined Risk Areas: D zone
D zone
No data available: Try the FEMA Map Service Center http://msc.fema.gov
No flood hazard data available in Google Earth
Other information: Jurisdictions Cross sections FIRMs LOMRs
This information displays at an eye altitude of 10,000 feet or lower.
©2011 Google
Google earth
1994
35°04'01.68" N 93°25'56.43" W elev 361 ft
Eye alt 15987 ft

The northeast portion of Danville

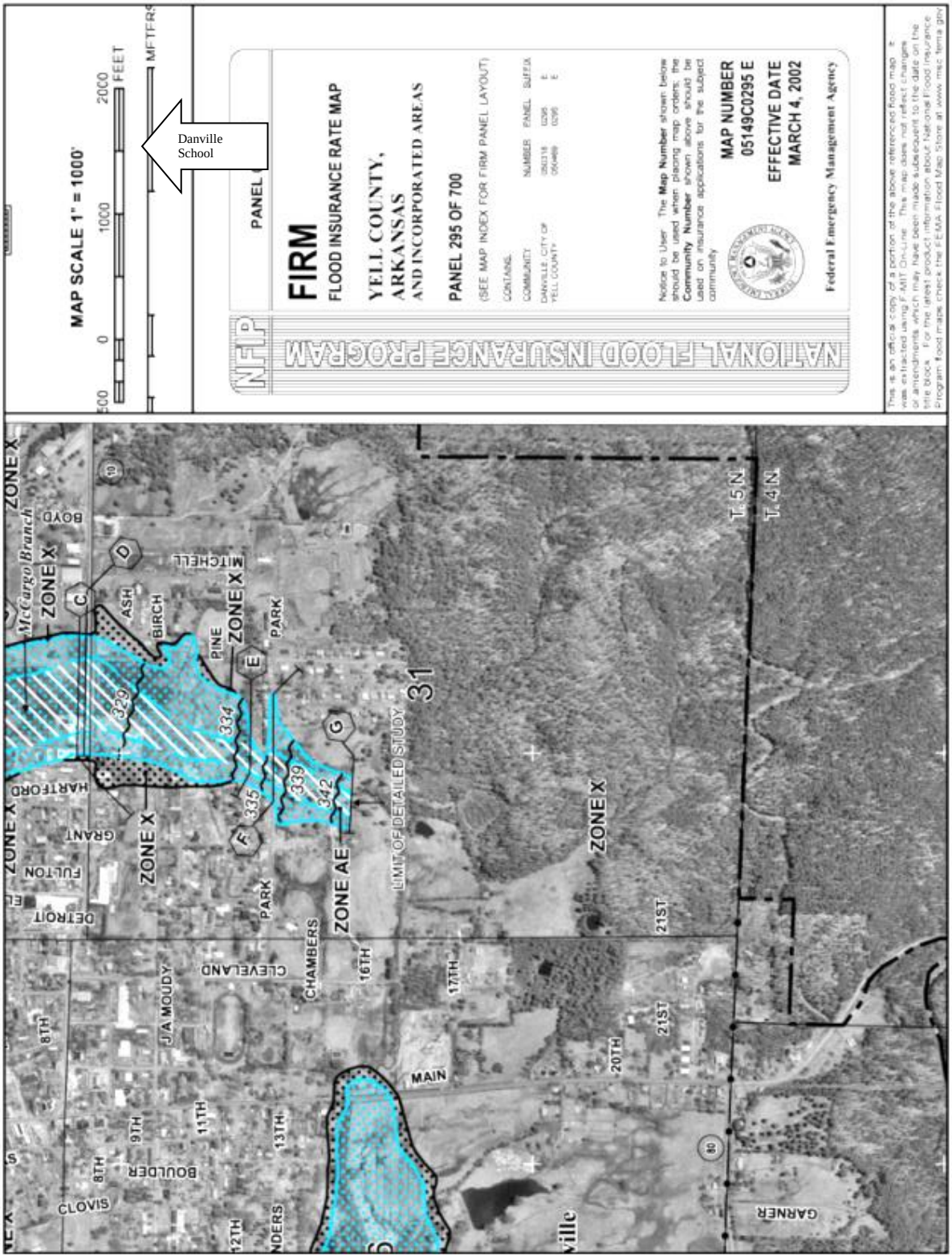


City of Danville FIRM 05149C0315 E-Eastern side of Danville

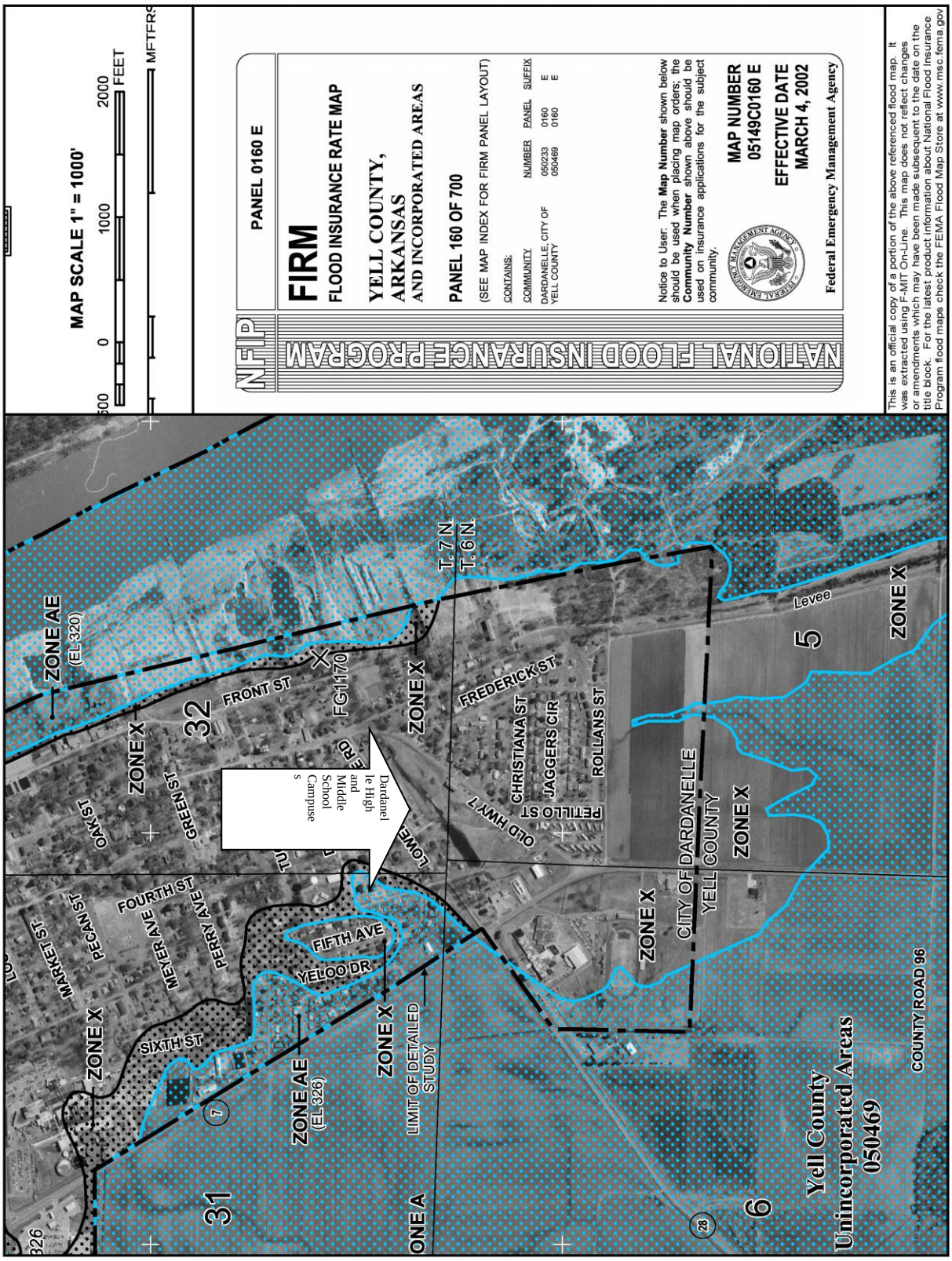
05149C0325E
05149C0285E
05149C0295E
05149C0315E
Danville, AR
Danville
Cleveland St
E 17th St
Cowger Lake
US-First Service Rd
Google earth
(1) Fly to an address. (2) See if it is covered by one of these flood hazard zones:
High Risk Areas: A and V zones
AE A AH AO AR A99 VE V
Moderate Risk Areas: "Shaded X" zone
Undetermined Risk Areas: D zone
"Shaded X" zone
D zone
No data available: Try the FEMA Map Service Center http://msc.fema.gov
No flood hazard data available in Google Earth
Other information: Jurisdictions Cross sections FIRMs LOMRs
This information displays at an eye altitude of 10,000 feet or lower.
35°02'23.66" N 93°24'30.71" W elev 327 ft
Eye alt 15981 ft
© 2011 Google
1994

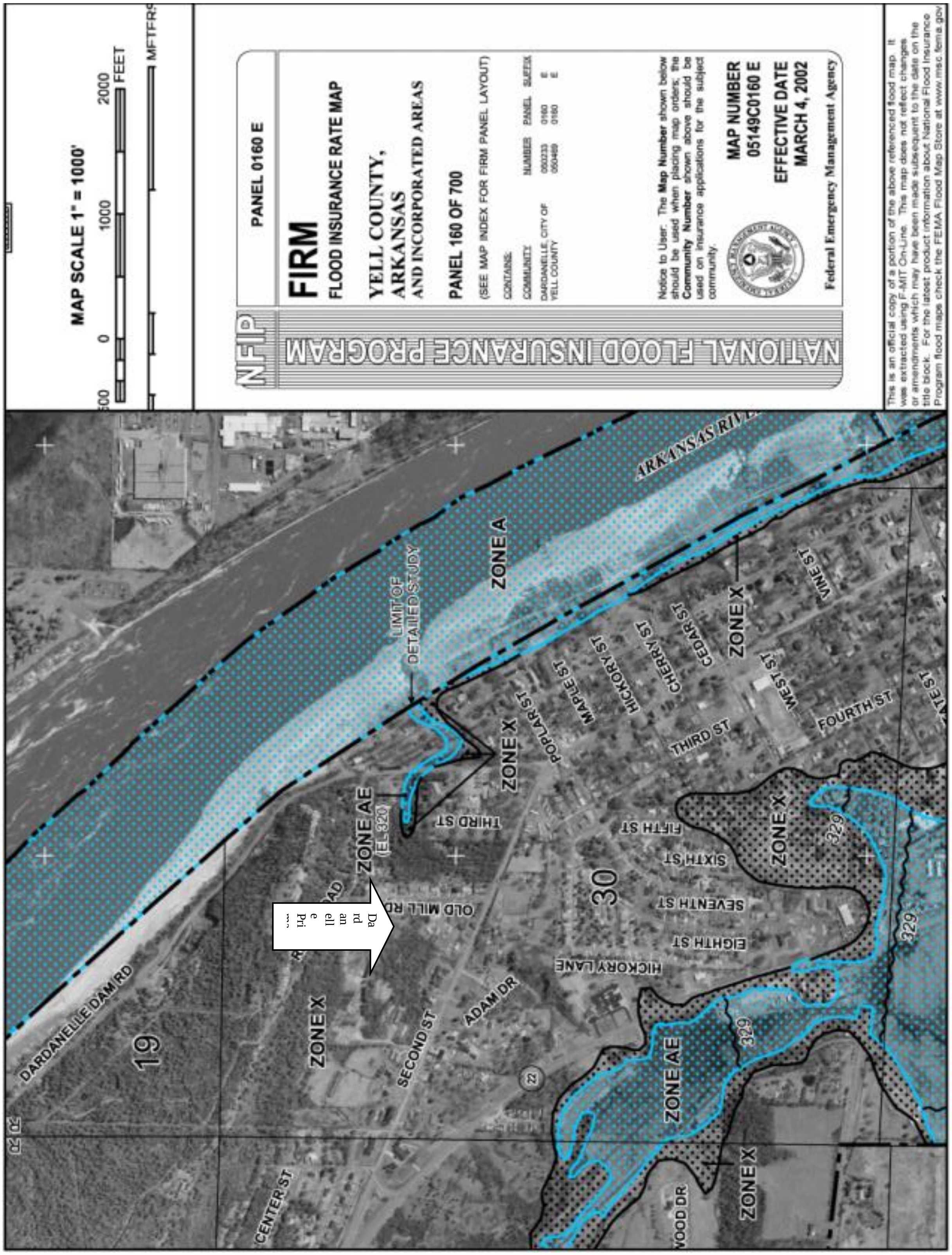
UNINCORPORATED AREAS
YELL COUNTY
CITY OF DANVILLE
0514 9C0295E
05149C03
Chambers Farm Rd
Industrial Rd
Fairground Rd
Dennis Dr
Boyd St
Mitchell Ln
M St
Ash St
Birch St
Ridgeview
Park Ave
Sewer Plant Rd
E 6th St
E 7th St
Fulton St
Grant St
Harriford St
Cleveland St
E 8th Pl
Boston Pl
Boston St
Atlanta St
Main St
E 4th St
E 2nd St
Boulder St
Clovis St
(1) Fly to an address. (2) See if it is covered by one of these flood hazard zones:
High Risk Areas: A and V zones
AE
A
AH
AO
AR
A99
VE
V
Moderate Risk Areas: "Shaded X" zone
Undetermined Risk Areas: D zone
"Shaded X" zone
D zone
No data available: Try the FEMA Map Service Center http://msc.fema.gov
No flood hazard data available in Google Earth
Other information: Jurisdictions
Cross sections
FIRMs
LOMRs
This information displays at an eye altitude of 10,000 feet or lower.
Google earth
Eye alt 6901 ft
35°03'08.87" N 93°22'54.93" W elev 323 ft
© 2011 Google
1994

FIRM 05149C0295 E- The Eastern portion of Danville.

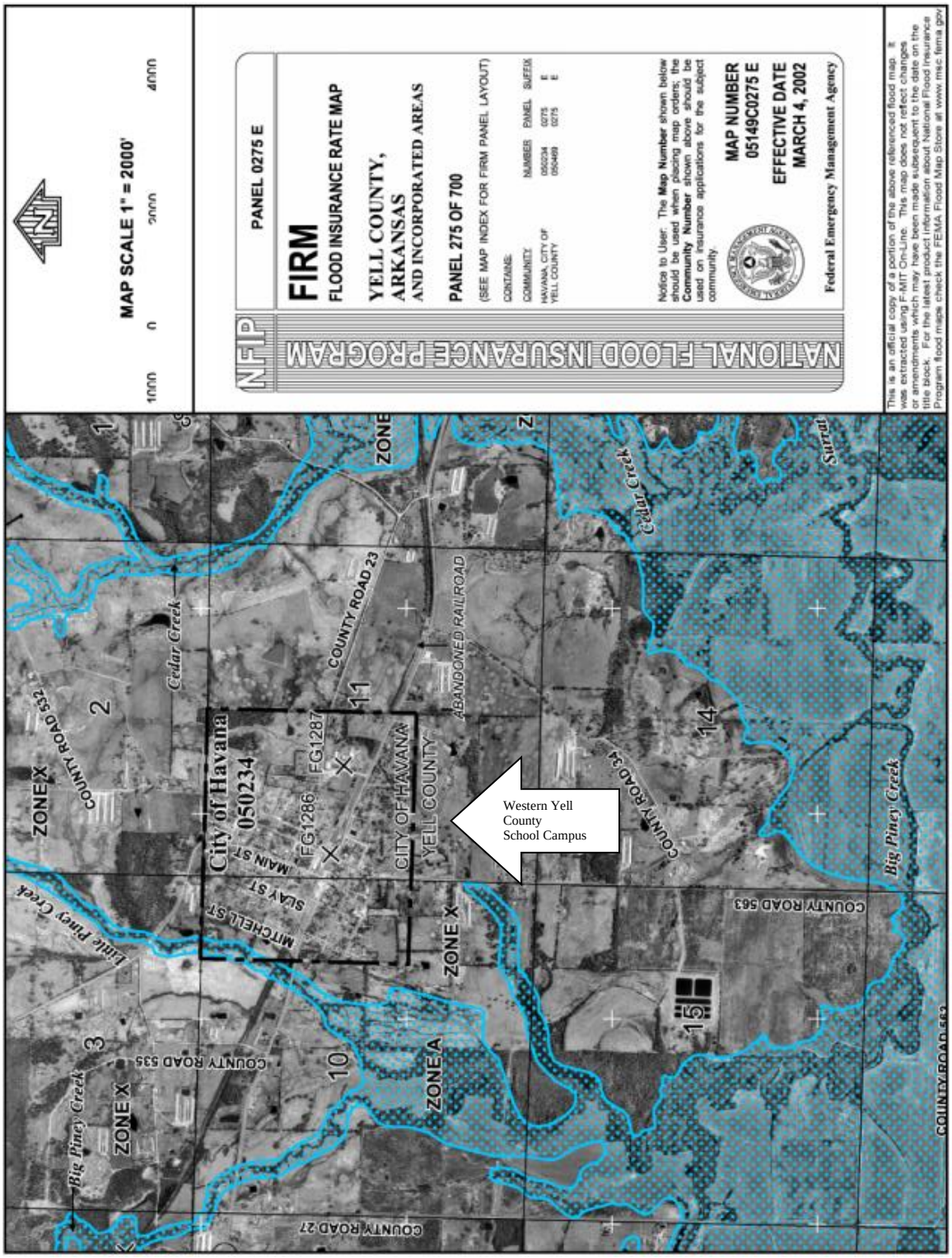


City of Dardanelle and surrounding area




MAP SCALE 1" = 1000'
500
0
1000
2000
FEET
METERS
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0160 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY,
ARKANSAS
AND INCORPORATED AREAS
PANEL 160 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
DARDANELLE, CITY OF 050233 0160 E
YELL COUNTY 050469 0160 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0160 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
ARKANSAS RIVER
ZONE A
LIMIT OF DETAILED STUDY
ZONE X
ZONE AE
(EL 320)
DARDANELLE DAM RD
19
30
ZONE X
SECOND ST
ADAM DR
OLD MILL RD
THIRD ST
POPLAR ST
MAPLE ST
HICKORY ST
CHERRY ST
CEDAR ST
VINE ST
WEST ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
HICKORY LANE
329
ZONE AE
CENTER ST
WOOD DR
22
Da
rd
an
ell
e
Pri

MAP SCALE 1" = 2000'
1000 0 2000 4000
FEET
METERS
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0050 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 50 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
DARDANELLE, CITY OF 050233 0050 E
YELL COUNTY 050469 0050 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0050 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
ZONE X
Yell County
Unincorporated Areas
050469
ARKANSAS RIVER
ZONE A
City of Dardanelle
050233
COUNTY ROAD 400
RIDGE DR
11
14
13
24
23
2


MAP SCALE 1" = 2000'
1000 0 2000 4000
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0275 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 275 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
HAVANA, CITY OF 050234 0275 E
YELL COUNTY 050469 0275 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0275 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
Western Yell County School Campus
City of Havana
050234
ZONE X
ZONE A
ZONE AE
Cedar Creek
Big Piney Creek
Little Piney Creek
COUNTY ROAD 532
COUNTY ROAD 535
COUNTY ROAD 27
COUNTY ROAD 23
COUNTY ROAD 563
ABANDONED RAILROAD
MAIN ST
SLAY ST
MITCHELL ST
CITY OF HAVANA
YELL COUNTY
FG1286
FG1287
Surrat

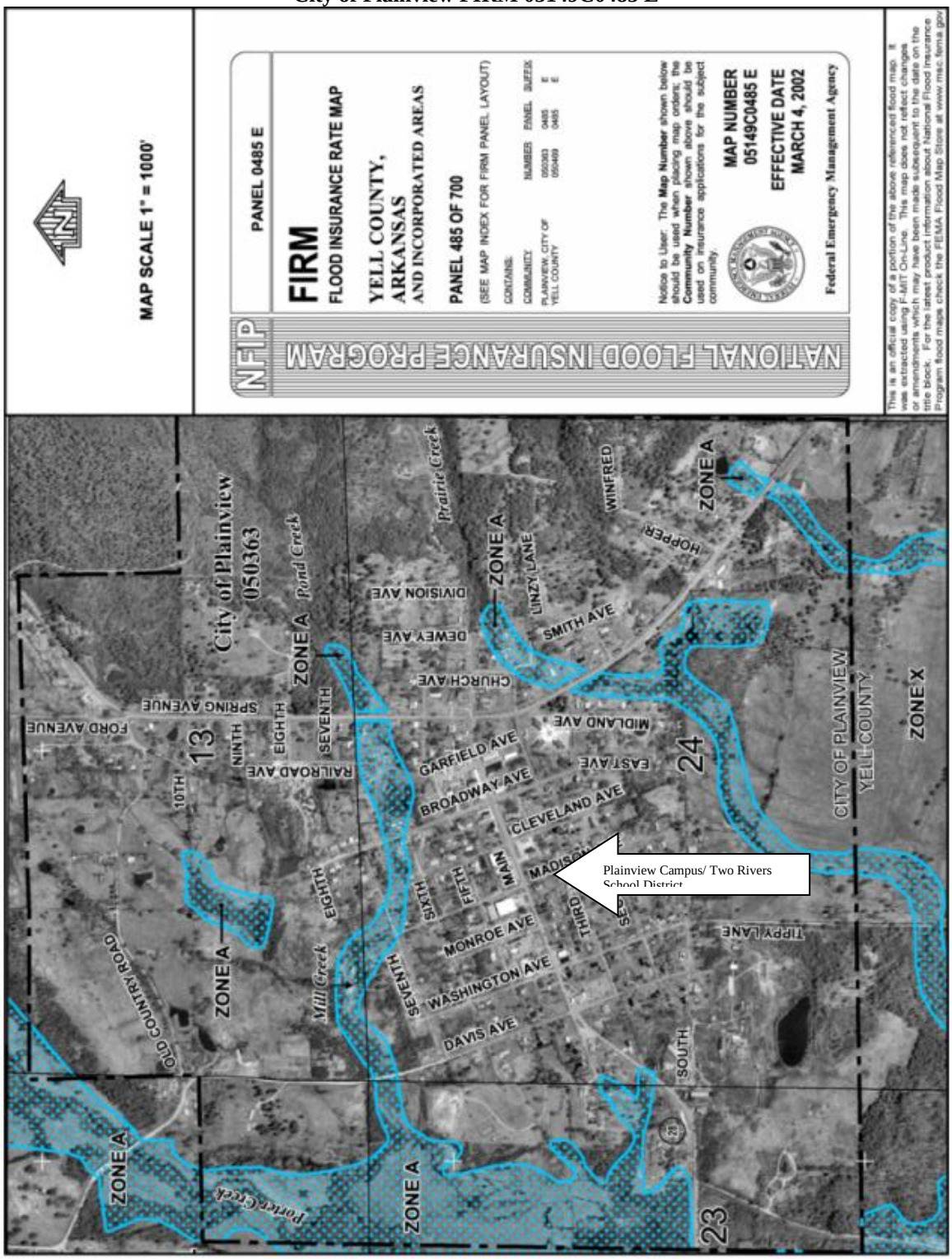
City of Ola

MAP SCALE 1" = 1000'
500 0 1000 2000
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0340 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 340 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
OLA, CITY OF 050187 0340 E
YELL COUNTY 050469 0340 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0340 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
Two Rivers/ Ola Campus
ZONE X
ZONE A
LIMIT OF DETAILED STUDY
LAKE OLA-DALE
Keeland Creek
COUNTY ROAD 741
CITY OF OLA
YELL COUNTY
HARKEY ST
VALLEY ST
W LAKE
BOLES ST
SIXTH ST
FIFTH ST
FOURTH ST
SEVENTH DR
348
354
357
362
369
380
397

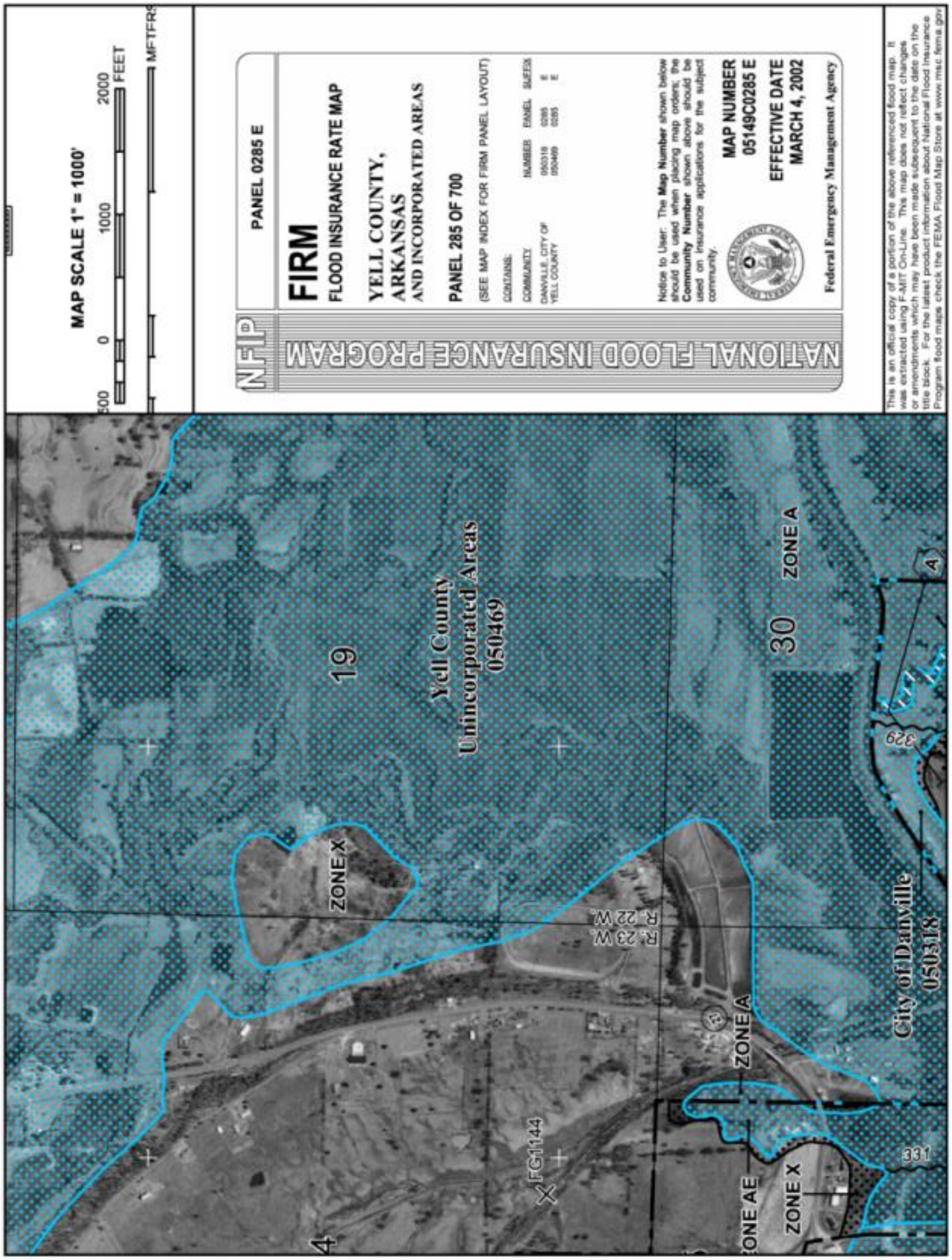
MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
MFTFRS
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0340 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 340 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
OLA, CITY OF 050357 0340 E
YELL COUNTY 050469 0340 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0340 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
City of Ola
050357
DOYLE
MAIN ST
HILL ST
FG1153
SECOND ST
THIRD ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH DR
FOURCHE AVE
LEIGH ST
FIRST ST
ZONE AE
ZONE X
ZONE A
LIMIT OF DETAILED STUDY
LAKE OLA-DALE
Keeland Creek
HARKEY ST
VALLEY ST
W LAKE
BOLES ST
SPRING ST
Two Rivers High School Campus
336
339
342
345
347
348
351
354
357
362
369
380
397

MAP SCALE 1" = 1000'
500 0 1000 2000
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0340 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY, ARKANSAS
AND INCORPORATED AREAS
PANEL 340 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
OLA, CITY OF 050357 0340 E
YELL COUNTY 050469 0340 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
05149C0340 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov
City of Ola
050357
HASTY
SEVENTH DR
DOYLE
OAK ST
MAIN ST
HILL ST
FG1153
FG1166
FG1165
SECOND ST
THIRD ST
FOURCHE AVE
FOURTH ST
FIFTH ST
SIXTH ST
LEIGH ST
FIRST ST
COOK ST
ZONE AE
ZONE AE
ABANDONED RAILROAD
COUNTY ROAD 61
DELTIC
Keeland Creek
CITY OF OLA
YELL COUNTY
323
324
327
330
333
336
339
342
345
347
348
351
354
2
3

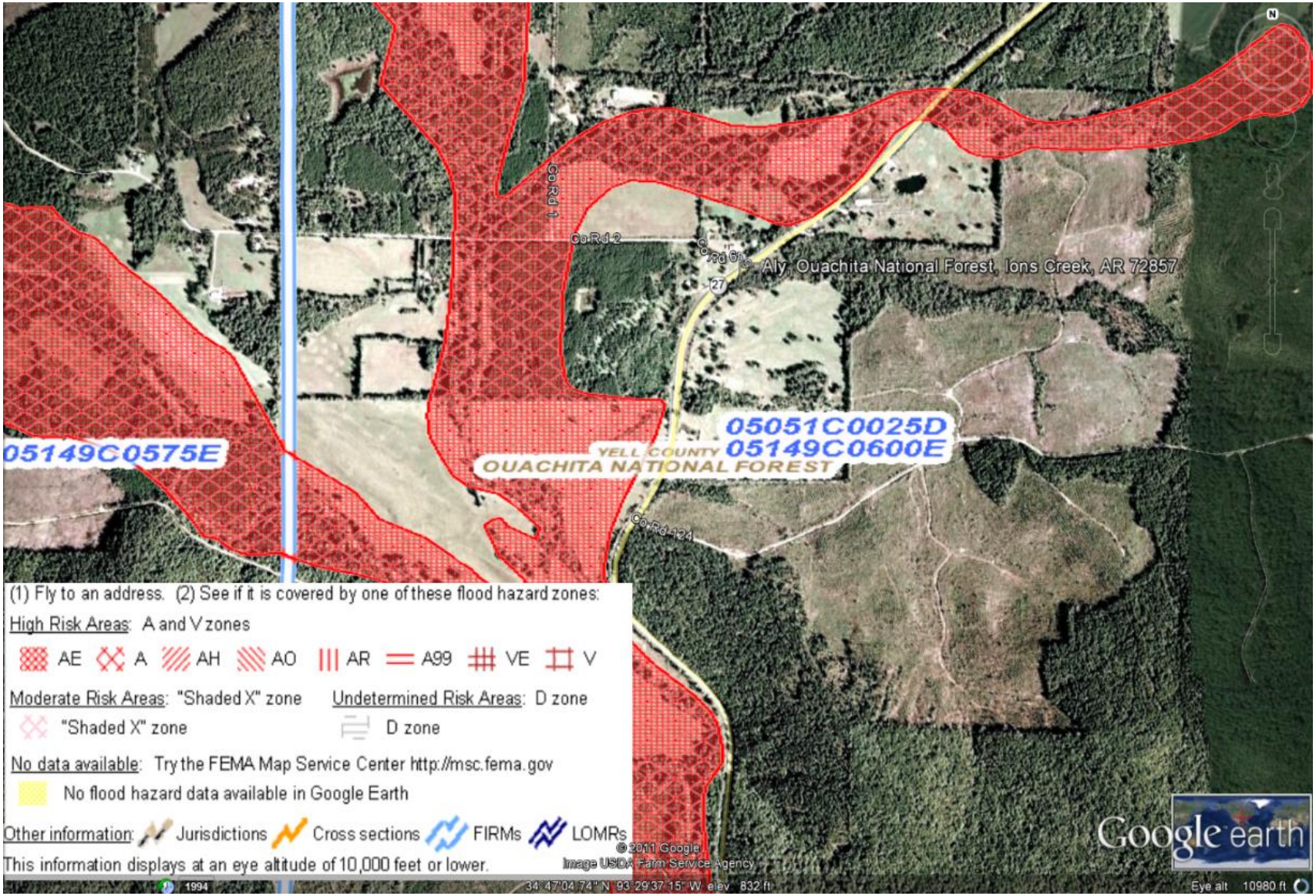
City of Plainview FIRM 05149C0485 E



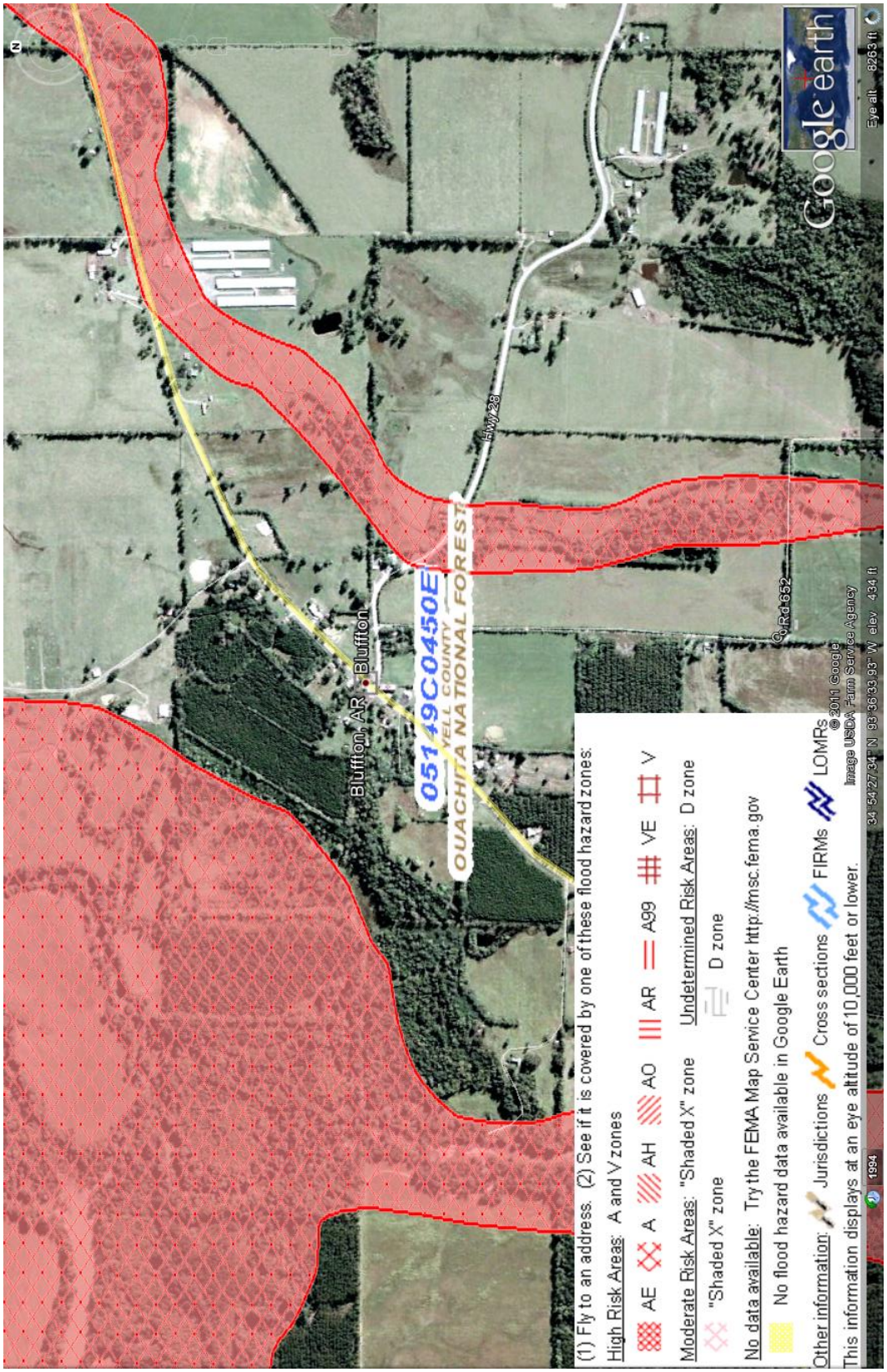
Unincorporated areas of Yell County


MAP SCALE 1" = 1000'
500
0
1000
2000
FEET
PANEL 0285 E
FIRM
FLOOD INSURANCE RATE MAP
YELL COUNTY,
ARKANSAS
AND INCORPORATED AREAS
PANEL 285 OF 700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
NATIONAL FLOOD INSURANCE PROGRAM
NFIP
MAP NUMBER
05149C0285 E
EFFECTIVE DATE
MARCH 4, 2002
Federal Emergency Management Agency
Yell County
Unincorporated Areas
050469
19
30
ZONE A
ZONE X
ZONE AE
R. 23 W.
R. 22 W.
City of Danville
050318
329
331
FG1144

RM 051449C0285 E Aly Community, an unincorporated area of Yell County


Co Rd 1
Co Rd 2
Co Rd 6
27
Aly, Ouachita National Forest, Ions Creek, AR 72857
05149C0575E
05051C0025D
YELL COUNTY
05149C0600E
OUACHITA NATIONAL FOREST
Co Rd 124
(1) Fly to an address. (2) See if it is covered by one of these flood hazard zones:
High Risk Areas: A and V zones
AE A AH AO AR A99 VE V
Moderate Risk Areas: "Shaded X" zone
"Shaded X" zone
Undetermined Risk Areas: D zone
D zone
No data available: Try the FEMA Map Service Center http://msc.fema.gov
No flood hazard data available in Google Earth
Other information: Jurisdictions Cross sections FIRMs LOMRs
This information displays at an eye altitude of 10,000 feet or lower.
© 2011 Google
Image USDA Farm Service Agency
Google earth
1994
34°47'04.74" N 93°29'37.15" W elev 832 ft
Eye alt 10980 ft

Bluffton Community, an unincorporated area

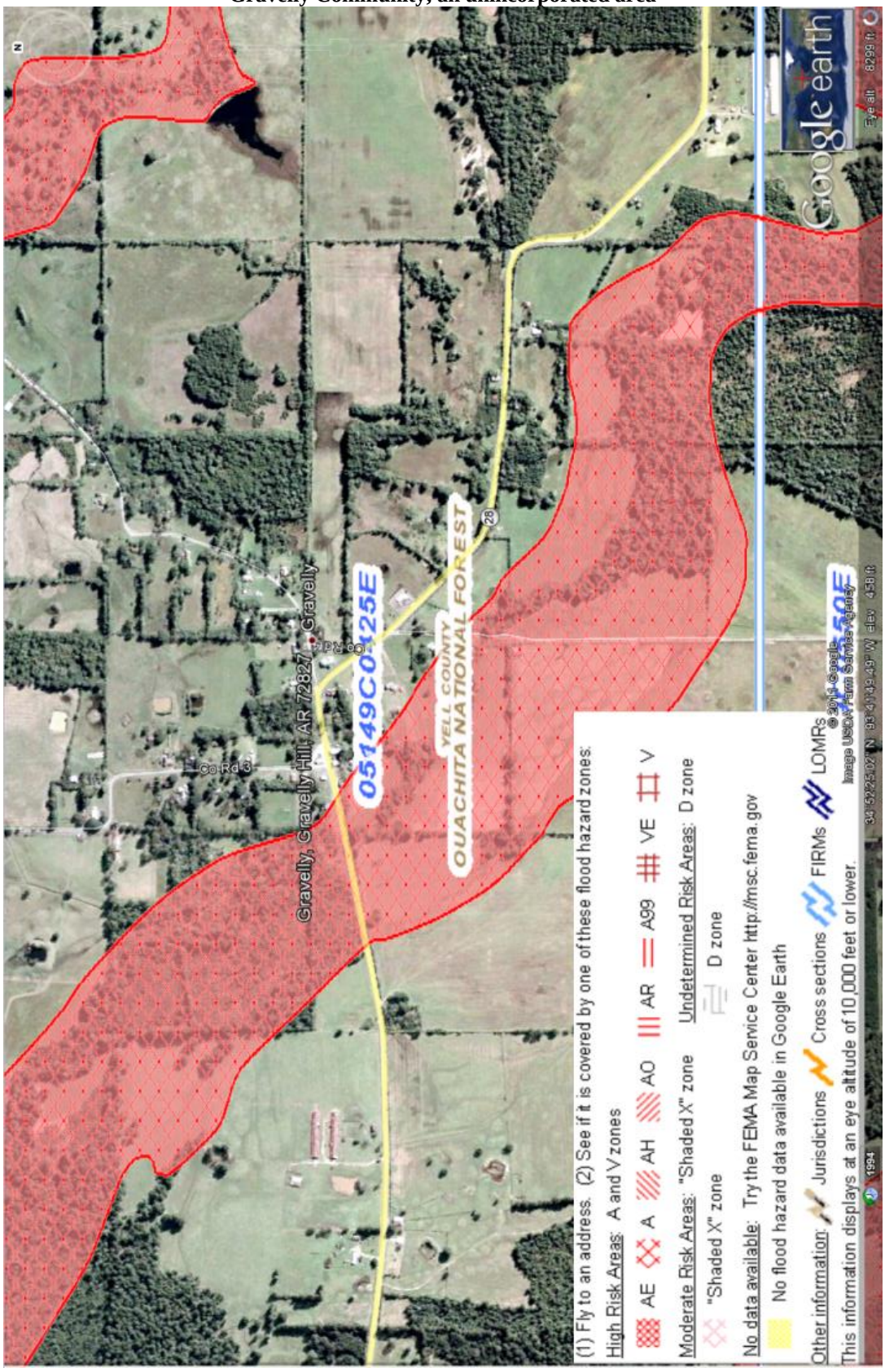


Briggsville Community an unincorporated area

Birta Community, an unincorporated area

Centerville Community, an unincorporated area

Gravelly Community, an unincorporated area

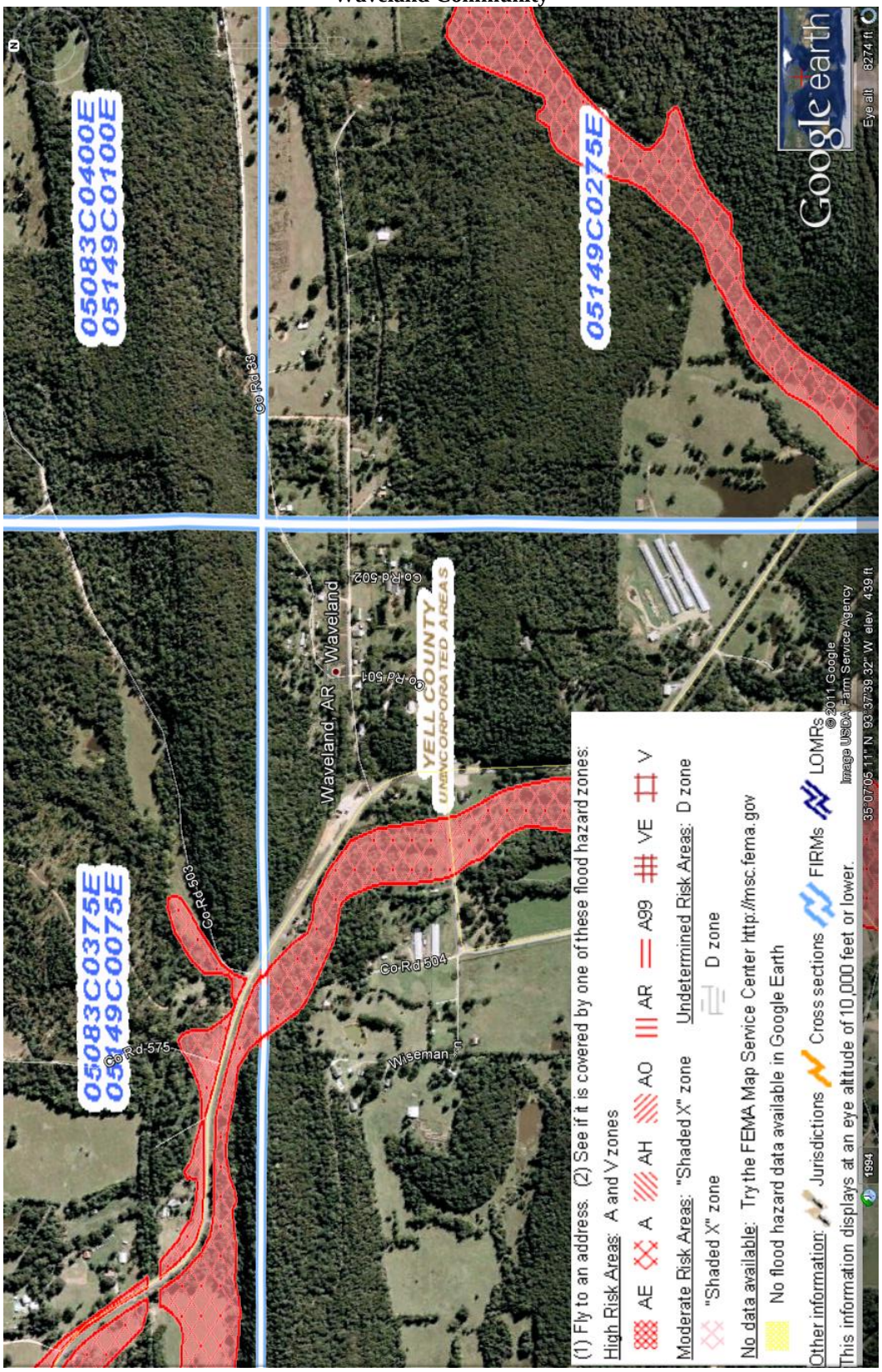


Mickles Community, an unincorporated area

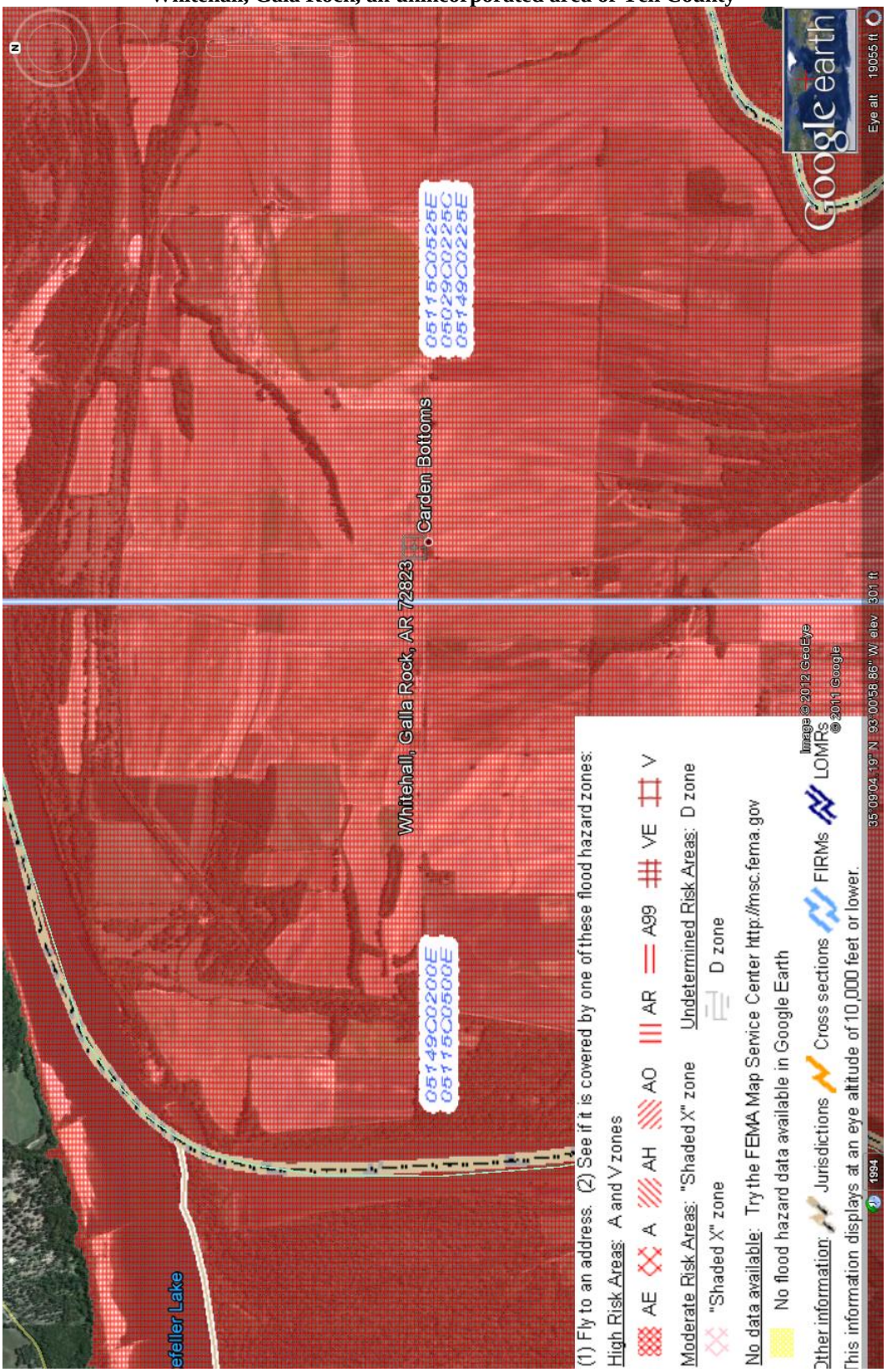
Rover Community, an unincorporated area

Sills Community, an unincorporated area

Waveland Community



Whitehall, Gala Rock, an unincorporated area of Yell County



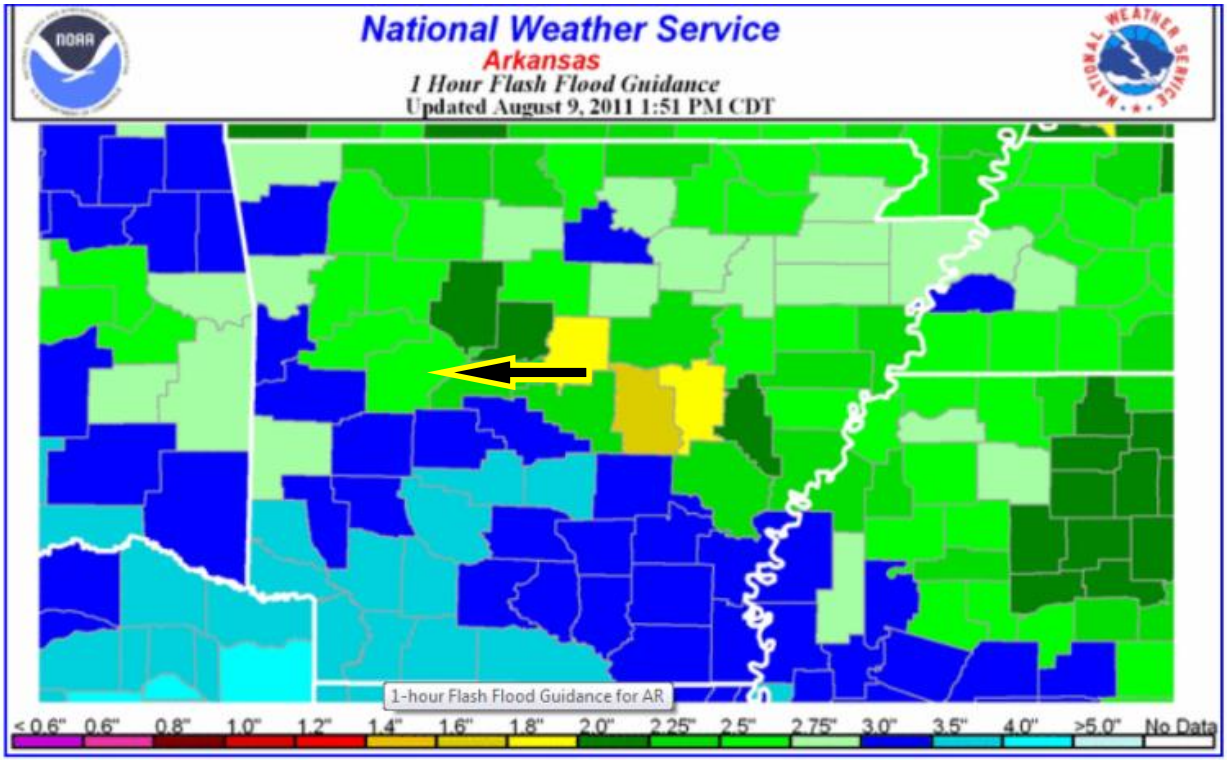
3.5.4.3 Extent, Magnitude or Severity of Flooding

Flood severity categories used by the NWS include minor flooding, moderate flooding, and major flooding. Each category has a definition based on property damage and public threat.

Minor Flooding - minimal or no property damage, but possibly some public threat or inconvenience

Moderate Flooding - some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary.

Major Flooding - extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations.



Inches of rainfall for specified durations required to product flash flooding in forecast zones. Lower amounts may cause flash flooding in urban or mountainous areas.

NAME	1-HR	3-HR	6-HR	12-HR
Yell	2.5	3.5	4.0	2.5

3.5.4.4 Previous Flood and Flash Flooding Occurrences

There have been 31 flash flood events and 49 flood events between 1950 and 2018.

3.5.4.5 Probability of Future Flooding

There is a 45% chance of a flash flood events and 35% chance of a flood event in any given year.

3.5.4.6 Impact of Flooding

There are numerous ways that flooding could impact Yell County. Flooding causes traffic problems by cutting off streets, collapsing overpasses and bridges and causing traffic-light failures. Cars may stall and can even be carried off by flood waters. Flood waters interrupt gas, electricity and water services and contaminate the water supply, making drinkable water unavailable. Transportation systems may go off-line because buses, cars and trucks can't navigate the high water.

People can die in floods when their autos and homes are overtaken quickly by fast-rising flood waters. Homes, personal belongings and businesses can be damaged or lost entirely as a result of ravages of flooding. People may be unable to get to work, creating loss of income and a lack of services they would provide.

Listed are other areas in which flooding can affect Yell County;

Environmental -Flat areas that do not have trees or rocks to prevent erosion are often swept away. Farm fields, which typically are located in flat areas, become washed out and crops are lost. Contaminants from sewer back-ups and other waste may be washed into the water supply, resulting in water that is unsafe for residents to use. The shelters of animals in the area are also washed out, resulting in many homeless animals that can cause problems for their owners.

Economic- Residential loss or repair. Businesses also suffer, not only from the loss of property, but the lack of customers during the flood and for a while after during recovery. Farmers also suffer from the loss of their crops.

Financial- Some residents who do not carry flood insurance suffer a great financial hardship. Those who do have insurance get help with the clean-up, but some costs may still come out of pocket. Towns and cities that are impacted by a flood carry the financial burden of fixing the public buildings, roads and other structures damaged by the flood waters. People who are impacted by the flood may also lose wages because the business they work for suffered damages or they are unable to get to work.

Health- Flood waters can also damage the health of those living and working in the area. Because flood waters can wash dangerous waste into water supplies, tap water may become unsafe to use if the local authorities do not issue a boil advisory warning everyone to boil water before ingesting it. Mold is also likely to grow in homes and other buildings that were engulfed by the flood waters. It is important to search all homes for mold and remove it completely before moving back in. Breathing the mold spores is dangerous for your health. A flood can also contribute to other health problems from human waste that contaminates the ground.

Safety Once flooding begins, strong currents can pull a grown man beneath the water to drown. Once the flood waters have settled, it is still unsafe to wander through the water by car or on foot. Deep spots may be undetectable and there may be electric currents running through the water as well.

Timber Plantations Flooding can severely stress or even kill trees, depending on how deeply or how long they remain submerged. Floods kill trees that are completely covered by water and seedlings pushed over by the force of the water or buried under silt. Prolonged flooding can cause root rot, leading to tree death. Prior tree health plays a role in whether the trees survive after flooding.

Soil Flooding results in poor soil aeration, leading to poor plant growth. Soil becomes more acidic following flooding. In addition, flooding can lead to soil erosion or soil contamination from such man-made pollutants as oils (on roadways), fertilizers (in yards and farms) and paints.

Rural Impact Floods damage farmland by burying crops in silt, uprooting crops by the force of the water or drowning crops. Flood waters can drown livestock as well. Flooding devastates wetlands and other wildlife habitats by depositing massive amounts of silt or leaving behind toxic substances such as petroleum products, fertilizers and pesticides and other man-made chemicals. This can kill animals and lead to water and land pollution.

Disease Flooding increases human exposure to dysentery and other diseases. Flooded sewage treatment plants contaminate drinking water supplies. Contaminated drinking water is a greater problem in developing countries.

3.5.4.7 Addressing Repetitive Loss Properties

The City of Ola was the only area of Yell County with residential repetitive losses which were located in and around the east end of Valley Street.

Ola has 27 existing structures are located in the floodway. No new structures or development are being built in the floodway.

3.5.4.8 Vulnerability of Estimating Potential Loss

All areas of unincorporated areas of Yell County, Cities of Belleville, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County are vulnerable to flooding. Loss of life and injuries are possible, damage to residential and business structures, transportation systems, disruption of utility services, and major environmental damage.

Below are pictures of flood damage to the county roads in Yell County.




3.5.4.9 Multi-Jurisdictional Risk Assessment

According to the NCDC Storm Events, the northern part of the county has is more susceptible to and has experience more flood and flash flood events than the southern portion.

Yell County has experienced 5 countywide flooding events (1998-2002) affecting the county as a whole. Property damaged total $108,000, but no crop damage. The primary damages were to low water bridges and roads sustained damage as a result of the heavy rains.

The Northern portion of Yell County has experienced approximately 39 floods and flash flooding events between the years 1996-2013. Areas included in the northern portion of the county are Belleville, Corinth, Plainview, Havana, Danville, Dardanelle, Ola and unincorporated areas of communities such as Waveland, Sills, Birta, and Stafford. Belleville and Corinth were the only areas that experienced only one recorded flood (2012-2013) event each, without any damage.

The unincorporated community of Waveland has experienced 5 flood events (2008-2013) resulting in $3,175,000 in property damage and $275,000 in crop damages. This is an average of one flood event a year with $635,000 in property damage and $55,000 in crop damages.

Past flooding events in the Waveland Community (located in the northern portion of Yell County) has been caused by heavy rains, causing the Petit Jean River at Danville to go above flood stage. Upstream, Blue Mountain Lake has rose to record levels and several feet of water was flowing through the emergency spillway. Numerous county roads were flooded and Arkansas Highways 27 and 10 were affected. Pastures along the river and the Petit Jean Wildlife Management Area were inundated.

The Great Flood of 2011 in Arkansas was due to heavy rain, while some of it was caused by water from rivers, creeks, and bayous backing up onto the land in the Community of Waveland, and campsites at Waveland Park on Blue Mountain Lake.

Arkansas Highway 307 north of Belleville was closed due to flooding. Damaged areas included Plainview and Rover, including Arkansas Highway 28.

Record levels on Blue Mountain Lake with excessive spillway releases, when combined with heavy rainfall, produced moderate flooding on the Petit Jean River at Danville. County road flooding was the principal damage during the event.

The Danville area has more flooding events, but less damage than the Waveland Community. Out of the ten flooding events from 2011-2013 a 2 year period property damage equaled $64,000 and crop damage of $70,000. Danville averages 3 or more flooding events per year, $21,000 property damage per accordance, and $23,000 crop damage.

Heavy rains have caused flash flooding across parts of Yell County. Several county roads in and around the Danville area are covered by high water for a period of time. Culverts have been completely washed out of the ground and damaged a newly constructed portion of Arkansas Highway 10 about 2.5 miles east of Danville. Creeks also rose to near bank full in the area, and threatened a few homes. Several streets in town were covered by high water for a short period of time. Additional heavy rainfall and additional releases from area lakes caused some rivers to rise back above flood stage. Heavy rainfall caused the Petit Jean River near Danville to rise above flood stage for several days. This river reached over 26 feet before receding below flood stage during the evening hours. The crest of 26.66 feet reached was the 7th highest crest on record. Heavy rainfall at the beginning of December caused the Petit Jean River at Danville to rise above flood stage for several days.

Havana experienced 3 flood events in 2009, which resulted in $10,000 property damage and $5,000 crop damage. Heavy rainfall pushed the Petit Jean River above flood stage during the middle of September. Pastures and some county roads were impacted by the high river stages. Heavy rainfall pushed the Petit Jean River above flood stage again at the end of October into the beginning of November.

Ola experienced 5 flash flood events (2003-2009) resulting in $110,000 in property damages. Heavy rains of 3 to 6 inches fell across much of Yell County. In Ola, Numerous roads and bridges were closed due to high water levels for several hours. A number of county roads and city streets also sustained damage due to washouts from the flood waters. Some homes and businesses suffered some minor flood damage. The high water reached depths of about 2 feet on a few streets, especially on Old Highway 10. South Cook Road was closed and water was over South Fifth and over Old Highway 10. A few low water crossings were covered.

The flooding on April 3, 2008, caused several residents near Ola to be evacuated due to rising waters from a nearby creek. Flood waters reached the interior of one residence and a church in Ola. Arkansas Highway 28 between Rover and Plainview was closed due to rising waters from Porter Creek. Arkansas Highway 28 was closed between Rover and Briggsville due to a culvert being washed out.

On April 11, 2008, in Plainview, according to police reports, the driver of a small pick-up truck drove around barricades into a flooded portion of Arkansas Highway 28. The motorist continued through about 1/8 mile of flooded roadway until the water got so deep that the truck floated off the highway. The two occupants drowned. Water was reported to be so deep on the highway that only the tops of the guardrails were visible. The highway had been closed and barricaded for more than 24 hours when the fatalities occurred.

The Southern portion of Yell County has experienced 2 in 2004 flooding events, no losses were reported. Several roads were blocked or partially covered by water, including Highway 28 near Bluffton. Flooding occurred mainly on county roads and low water crossings in these areas.

In the Rover community their one reported flood event resulted in $600,000 property damage and $5,000 crop damage. Parts of Arkansas Highway 28 in multiple locations had to be closed because of high water. At least one person drove off into the floodwaters and lost the vehicle but not their life. Downstream, Lake Nimrod rose to its highest level ever with water more than 4.5 feet deep flowing through the emergency spillway. Some homes were isolated by floodwaters and livestock and infrastructure losses were also noted.

The Whitehall community experienced one reported flooding event resulting in $150,000 in property damages and $100,000 crop damage. Flooding was due to moderate flooding at the Dardanelle stream gage on the Arkansas River occurring for two and a half days. The Arkansas River rose to 36.3 feet, the highest level since May, 1990, and primarily impacted the low land within the levee system. Damages were primarily to agricultural lands and some county roads. Most of the Holla Bend National Wildlife Refuge was also flooded with interior roads damaged.

The Gravely community experienced two reported flash flood events resulting in $10,000 in property damage. Heavy rainfall from thunderstorms caused the Fourche LaFave River at Gravelly to rise above flood stage, before falling back below flood stage during the next morning. This river reached over 29 feet before receding below flood stage during the evening hours on the same day. The crest of 29.38 feet reached during the afternoon of the 22nd was the 5th highest crest on record.

3.5.5 Thunderstorms

3.5.5.1 Description of Thunderstorm, Lightning, Hail and High Wind Events

A **thunderstorm**, also known as an **electrical storm**, a **lightning storm**, **thundershower** or simply a **storm**, is a form of turbulent weather characterized by the presence of lightning and its acoustic effect on the Earth's atmosphere known as thunder. The meteorologically assigned cloud type associated with the thunderstorm is the cumulonimbus. Thunderstorms are usually accompanied by **strong winds**, heavy rain and sometimes snow, sleet, hail, or no precipitation at all. Those that cause hail to fall are called **hailstorms**. Thunderstorms may line up in a series or rainband, known as a squall line. Strong or severe thunderstorms may rotate, known as supercells. While most thunderstorms move with the mean wind flow through the layer of the troposphere that they occupy, vertical wind shear causes a deviation in their course at a right angle to the wind shear direction.

Lightning- Lightning is a channel of electrical charge called a stepped leader that zigzags downward in roughly 50-yard segments in a forked pattern. This step leader is invisible to the human eye, and shoots to the ground in less time than it takes to blink. As it nears the ground, the charged step leader is attracted to a channel of opposite charge reaching up, a streamer, normally through something tall, such as a tree, house, or telephone pole. When the oppositely-charged leader and streamer connect, a powerful electrical current begins flowing. A bright return stroke travels about 60,000 miles per second back towards the cloud. A flash consists of one or perhaps as many as 20 return strokes. We see lightning flicker when the process rapidly repeats itself several times along the same path.
The actual diameter of a lightning channel is one-to-two inches.

Hail- Hail is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into balls of ice. Hail can damage aircraft, homes and cars, and can be deadly to livestock and people.

According to data from the FEMA 1997 publication "Multi-Hazard - Identification and Risk Assessment," Arkansas is within a part of the country that averages two to three hailstorms annually.

Strong Winds- Damaging winds are often called "straight-line" winds to differentiate the damage they cause from tornado damage. Strong thunderstorm winds can come from a number of different processes. Most thunderstorm winds that cause damage at the ground are a result of outflow generated by a thunderstorm downdraft. Damaging winds are classified as those exceeding 50-60 mph.

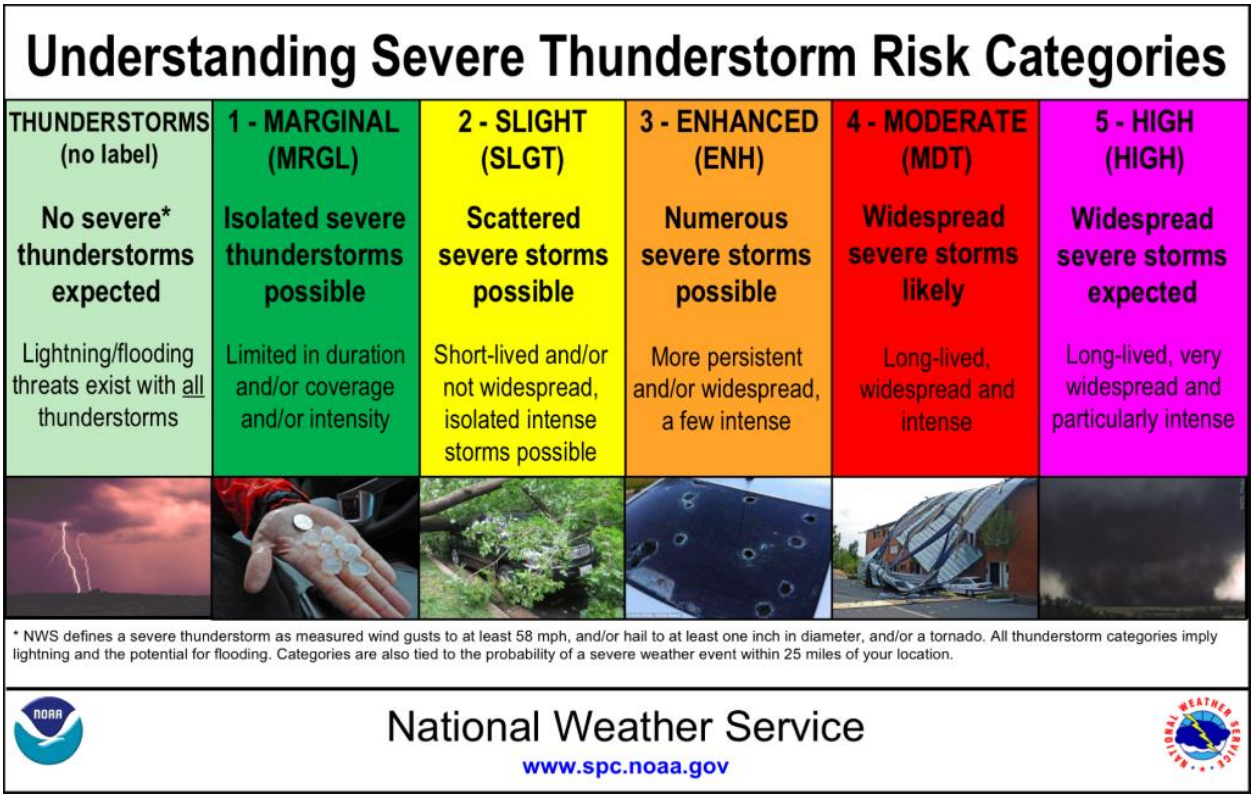
Damage from severe thunderstorm winds account for half of all severe reports in the lower 48 states and is more common than damage from tornadoes. Wind speeds can reach up to 100 mph and can produce a damage path extending for hundreds of miles.

3.5.5.2 Location of Thunderstorm, Lightning, Strong Winds and Hail Events

All areas of the unincorporated Yell County and cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County have experienced Thunderstorms, lightning, strong winds and hail events and are equally at risk.

3.5.5.3 Extent, Magnitude or Severity of Thunderstorm, Lightning, Strong Winds and Hail Events

All areas of the unincorporated Yell County and cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County are equally subject to thunderstorms ranging from Marginal to Category 5- High on the chart below. This would result in lightning, hail from 2 to 4 in, and possible tornadoes up to an EF5. Thunderstorms winds with a catergory 5 may be in excess of 70 mph.



3.5.5.4 Previous Thunderstorm, Lightning, Strong Winds and Hail Events-

Event	Event Total	Fatalities	Injuries	Property Damage	Crop Damage
Hail	145	0	0	$0	0
Lightning	4	1	4	$1K	0
Thunderstorm Winds	224	0	0	$2.776M	0

3.5.5.5 Probability of Future Thunderstorm, Lightning, Hail and Strong Wind Events

In any given year there is a 26% chance of two hail events, 5% chance of a lightning event, and a 22% chance of three thunderstorm wind events occurring in any given year.

3.5.5.6 Impact of Thunderstorm, Lightning, Strong Winds and Hailstorm Events

All structures in the participating jurisdictions and their contents are vulnerable to damage by thunderstorms winds. Strong winds can down trees onto power lines, damage mobile homes that are not anchored, and rip off roofing. Winds can cause death and injuries by lifting unanchored objects creating flying missiles.

Lightning strikes have the power to fall trees many times disrupting service, and structural fires. Lightning can possibly cause death and injuries. Four injuries due to lightning have been reported. Wind and lightning can damage communication towers located throughout the participating jurisdictions.

Hailstorm events are frequent and can cause damage to all structures, mainly roof shingles which can lead to roof leaks and further damage to the structure interiors. All types of real and personal property are vulnerable to hailstorms, cars, trailers, boats, and crops. Hailstorms can cause bodily injury if caught outside without protection.

School Districts could be vulnerable to the impacts of a thunderstorm. Thunderstorm winds could damage the facilities depending on the strength of the winds. Disruptions could also occur even if the school districts sustain no damage. Tree may be fall blocking routes into and out of the school as well as knocking out power and other utilities that the school depends upon to operate. School buses could also be damages during a thunderstorm due to strong winds, hail and rare evens lightning strikes. All of these events can cause damage as well as the disruption of transportation and the operation of the school districts as well as the transportation departments.

3.5.5.7 Vulnerability and Estimating Potential Loss

All areas within Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County are equally likely to experience a severe thunderstorm, lightning, strong winds and hailstorm events.

All structures in the county and their contents are vulnerable to damage by thunderstorms winds. Strong winds can down trees onto power lines, damage mobile homes that are not anchored, and rip off roofing. Winds can cause death and injuries by lifting unanchored objects creating flying missiles.

Lightning strikes have the power to fell trees many times disrupting service, and structural fires. Lightning can possibly cause death and injuries. Four injuries due to lightning have been reported in Yell County. Wind and lightning can damage communication towers located throughout the county.

Hailstorms event are frequent in the county and can cause damage to all structures, namely roof shingles which can lead to roof leaks and further damage to the structure interiors. All types of real and personal property are vulnerable to hailstorms, cars, trailers, boats, and crops. Hailstorms can cause bodily injury if caught outside without protection.

The entire county is subject to thunderstorm events where usually high winds, lightning and hail are involved.

3.5.5.8 Multi-Jurisdictional Risk Assessment of Thunderstorms, Strong Winds, Lightning and Hailstorms

The threat of thunderstorms, strong winds, lightning and hailstorms are countywide making Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Plainview and Ola, school districts of Danville, Dardanelle, Two Rivers and Western Yell County, with no significant variation at the county or jurisdiction levels.

3.5.6 Tornado

3.5.6.1 Description of a Tornado

A tornado is a rapidly rotating vortex or funnel of air extending ground ward from a cumulonimbus cloud. Most of the time, vortices remain suspended in the atmosphere (Golden and Snow, 1991). When the lower tip of the vortex touches earth, the tornado becomes a force of destruction. Approximately 1,000 tornadoes are spawned by severe thunderstorms each year.

Tornadoes are related to larger vortex formations and therefore often form in convective cells such as thunderstorms or in the right forward quadrant of a hurricane, far from the hurricane eye. The strength and number of tornadoes are not related to the strength of the hurricane that generates them. Often, the weakest of hurricanes produce the most tornadoes (Bryant, 1991). In addition to hurricanes, events such as earthquake induced fire and fires from atomic bombs or wildfires may produce tornadoes.

The path of a single tornado generally is less than 0.6 mi (1km). The path length of a single tornado can range from a few hundred meters to dozens of kilometers. A tornado typically moves at speeds between 30 and 125 mph (50 and 200 km/h) and can generate internal winds exceeding 300 mph (500km/h). However, the lifespan of a tornado rarely is longer than 30 minutes.

3.5.6.2. Locations of Tornado Events

Because there is no defined geographic hazard boundary, all people and property in Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, all school districts of Danville, Dardanelle, Two Rivers and Western Yell County are exposed to the risk of damage from Tornadoes. Based on the short 50-year dataset, no clear areas of high tornado occurrence occur at any particular county scale. Thus, although tornado risk appears to vary at a statewide scale, variable tornado risk at the county scale cannot be demonstrated. Thus, mapping variations in tornado risk at a local or county scale is not currently possible. For the purpose of this plan, all parts of this plan are considered equally likely to experience a tornado event. This is proven to be the case in tornadoes that have occurred in a wide variety of areas.

3.5.6.3. Extent, Magnitude or Severity of Tornado

he Enhanced Fujita (EF) Scale was devised by a panel of meteorologists and engineers convened by the Wind Science and Engineering Research Center at Texas Tech University. The Weather Channel's severe weather expert Dr. Greg Forbes was on the team of experts who determined the revised wind speed ranges. Since 2007, the EF Scale has been used to rate tornadoes.

Enhanced Fujita Scale		
Category	Wind Speed	Potential Damage
EF0	105–137 km/h 65–85 mph	Light damage. Peels surface off roofs; some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; mobile homes pushed off foundations or overturned; sign boards damaged.
EF1	138–179 km/h 86–110 mph	Moderate damage. Roofs torn off frame houses; windows and glass doors broken; moving autos blown off roads; mobile homes demolished; boxcars overturned.
EF2	180–217 km/h 111–135 mph	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	218–266 km/h 136–165 mph	Severe damage. Some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	267–324 km/h 166–200 mph	Devastating damage. Well-constructed houses and whole frame houses completely leveled; structures with weak foundations blown away some distance; trees debarked; cars thrown and small missiles generated.
EF5	>324 km/h >200 mph	Incredible damage. Strong frame houses leveled off foundations and swept away; with strongest winds, brick houses completely wiped off foundations; automobile-sized missiles fly through the air in excess of 100 m (109 yd); cars thrown and large missiles generated; incredible phenomena will occur.

Yell County could experience the entire range of tornadoes from and EF0 – EF5.

3.5.6.4. Previous occurrences

There have been a reported 30 tornadoes between 1950 and 2018, resulting in 8 injuries and $3.688M in property damage.

3.5.6.5. Probability of Future Tornadoes

There is a 28% chance of a Tornado impacting Yell County in any given year.

3.5.6.6 Impact of Tornado

The table below describes the impact of tornados to residential homes in the participating jurisdictions.

RESIDENTAL HOME DAMAGE CLASSES		
Degree of Damage (DOD)		**Expected Wind Speed Value (mph)**
1	Threshold of visible damage	65
2	Loss of roof covering material (<20%), gutters, and/or Awning; loss of vinyl or metal siding	79
3	Broken glass in doors and windows	90
4	Uplift of roof deck and loss of significant roof covering material (>20%); collapse of chimney, garage doors; collapse inward, failure of porch or carport.	97
5	Entire house shifts off foundation	121
6	Large sections of roof structure removed; most walls remain standing	122
7	Exterior walls collapsed	132
8	Most walls collapsed, except small interior rooms	152
9	All walls collapsed	170
10	Destruction of engineered and/or well-constructed residence; slab swept clean.	200

Source: FEMA

The methodology for the potential loss estimate was developed by using past hazard events data from the NCDC. The following is the resources used in the loss estimation;

- Arkansas Hazard Mitigation Plan
- National Climatic Data Center (NCDC) Storm Events Database

The National Climatic Data Center provides historical details about past hazard events in the County. The chart on the following pageshows a breakdown of the magnitudes of the tornadoes which have occurred in Yell County from 1950-2018

Yell County has recorded 30 tornadoes since 1950 of which 2 were recorded as F-3, 6 recorded as F-2 and 8 F-1 with 9 F-0 tornadoes. These numbers indicate that Yell County will experience at least 1 tornado about every other year. The Yell County and jurisdictions will continue to see damages ranging from F0-F3: Light to Severe, such as chimneys that are damaged, tree branches are broken, shallow-rooted trees are toppled to Roofs and some walls are torn from structures, some small buildings are destroyed, non-reinforced masonry buildings are destroyed, and most trees in forest are uprooted. There is a documented damage report of $3.083M in property damages from 1951 to 2008 consisting of tornado damage to structures, trees, and several chicken houses.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	8	3.688M	0.00K
YELL CO.	YELL CO.	AR	10/23/1951	03:00	CST	Tornado	F2	0	4	0.00K	0.00K
YELL CO.	YELL CO.	AR	03/14/1953	01:30	CST	Tornado	F3	0	0	2.50K	0.00K
YELL CO.	YELL CO.	AR	10/12/1973	21:30	CST	Tornado	F1	0	0	2.50K	0.00K
YELL CO.	YELL CO.	AR	02/22/1975	13:40	CST	Tornado	F2	0	0	25.00K	0.00K
YELL CO.	YELL CO.	AR	03/26/1976	17:40	CST	Tornado	F3	0	4	2.500M	0.00K
YELL CO.	YELL CO.	AR	05/07/1978	22:40	CST	Tornado	F0	0	0	0.00K	0.00K
YELL CO.	YELL CO.	AR	04/07/1980	19:00	CST	Tornado	F2	0	0	250.00K	0.00K
YELL CO.	YELL CO.	AR	04/07/1980	19:24	CST	Tornado	F2	0	0	250.00K	0.00K
YELL CO.	YELL CO.	AR	07/18/1980	17:30	CST	Tornado	F0	0	0	25.00K	0.00K
Sims to Aly	YELL CO.	AR	10/26/1995	21:20	CST	Tornado	F2	0	0	0.00K	0.00K
BELLEVILLE	YELL CO.	AR	03/01/1997	14:55	CST	Tornado	F1	0	0	2.70K	0.00K
CHICKALAH	YELL CO.	AR	03/01/1997	15:05	CST	Tornado	F1	0	0	15.00K	0.00K
OLA	YELL CO.	AR	12/04/1999	17:30	CST	Tornado	F1	0	0	0.00K	0.00K
BRIGGSVILLE	YELL CO.	AR	05/16/2003	13:46	CST	Tornado	F0	0	0	0.00K	0.00K
OLA	YELL CO.	AR	05/16/2003	17:14	CST	Tornado	F1	0	0	0.00K	0.00K
ALY	YELL CO.	AR	05/16/2003	17:27	CST	Tornado	F0	0	0	0.00K	0.00K
CHICKALAH	YELL CO.	AR	04/21/2004	15:35	CST	Tornado	F1	0	0	0.00K	0.00K
DARDANELLE	YELL CO.	AR	04/21/2004	15:41	CST	Tornado	F1	0	0	0.00K	0.00K
DARDANELLE	YELL CO.	AR	04/11/2005	17:45	CST	Tornado	F0	0	0	0.00K	0.00K
BLUFFTON	YELL CO.	AR	11/27/2005	15:40	CST	Tornado	F1	0	0	0.00K	0.00K
DANVILLE	YELL CO.	AR	11/27/2005	15:57	CST	Tornado	F0	0	0	0.00K	0.00K
CHICKALAH	YELL CO.	AR	01/12/2006	22:29	CST	Tornado	F2	0	0	0.00K	0.00K
NEELY	YELL CO.	AR	02/05/2008	16:49	CST-6	Tornado	EF0	0	0	0.00K	0.00K
CARDEN BOTTOMS	YELL CO.	AR	02/05/2008	16:52	CST-6	Tornado	EF0	0	0	10.00K	0.00K
BIRTA	YELL CO.	AR	02/05/2008	17:31	CST-6	Tornado	EF0	0	0	0.00K	0.00K
GILKEY	YELL CO.	AR	04/14/2011	22:12	CST-6	Tornado	EF1	0	0	25.00K	0.00K
CHICKALAH	YELL CO.	AR	04/14/2011	22:35	CST-6	Tornado	EF1	0	0	75.00K	0.00K
OLA	YELL CO.	AR	05/25/2015	17:35	CST-6	Tornado	EF1	0	0	5.00K	0.00K
BIRTA	YELL CO.	AR	05/25/2015	17:40	CST-6	Tornado	EF1	0	0	300.00K	0.00K
CHICKALAH	YELL CO.	AR	04/26/2017	09:04	CST-6	Tornado	EF0	0	0	200.00K	0.00K
Totals:								0	8	3.688M	0.00K

The following pictures show the 2006 tornado impact experienced in Yell County.

Yell County is located in "Tornado Alley," the most tornado-prone area of the nation. A large portion of Arkansas is at risk. Poorly constructed or older homes and mobile home parks are at highest risk to sustain the greatest damage.

3.5.6.7. Vulnerability and Estimating Potential Loss

The methodology for the potential loss estimate was developed by using past hazard events data from The NCDC. The following is the resources used in the loss estimation;

- Arkansas Hazard Mitigation Plan
- National Climatic Data Center (NCDC) Storm Events Database

3.5.6.8 Multi-Jurisdictional Risk Assessment

All areas, residents, structures, and critical facilities in Yell County are of high risk of tornado events. Mobile Homes are of the highest risk.

	Critical Facilities	Mobile Homes	Frame/Masonry Homes	Frame	Brick Homes	Hospital, Long Term Care	Schools
County-wide	42	1,587	485	3,865	2,223		14
Belleville/ Havana (WYC)		274	61	572	210		3
Danville/Danville SD		204	70	552	437	1	1
Dardanelle/Dardanelle SD		472	221	1509	1183	1	4
Plainview/Ola Two Rivers SD		637	132	1232	393	1	6
Total		1587	484	3865	2223	3	

Because there is no defined geographic hazard boundary, all people and property in Yell County are exposed to the risk of damage from tornadoes. All structures in Yell County are vulnerable to tornadoes. The most vulnerable to tornadoes are wood frame structures and manufactured homes. An estimated 47% of structures within the Yell County mitigation planning area are wood frame structures, 6% are masonry/frame, and an estimated 19% are manufactured homes. Damage to residential structures could cause hundreds to be without shelter, or try to live in unsafe conditions.

Utilities most vulnerable to tornado winds are electrical power (e.g. power generation facility, above ground transmission lines and sub-stations) and communication structures (radio towers, cell phone towers). Most transportation systems such as highways, railways are not highly vulnerable to tornadoes, but downed power lines and trees and limbs can delay travel until roads are cleared. This would not only affect the day to day traffic but also critical services such as emergency police, fire, and ambulance.

Vulnerable populations (retirement homes, schools and child care centers), are located in about every section of the county. Long term care facilities/Nursing Homes are located in Dardanelle, and Danville, a Special Needs facility is located in Ola. There are numerous schools and child care centers are located in Danville, Dardanelle, Belleville, Havana, Ola and Plainview.

All areas of Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, the school districts of Danville, Dardanelle, Two Rivers and Western Yell County would be affected due to the lost power, water, sewer, gas, and communications. Power and water outages would cause food spoilage and sanitation problems for communities. Hospitals, grocery stores and other critical need and economically important facilities are damaged and closed for extended periods.

Businesses and local government infrastructure often suffer extensive damage in tornados as well as the death of people, wildlife and livestock. Employment is often affected because of businesses that close due to the tornado damage and loss of business. Even with the advances in meteorology, warning times may be short.

The Danville, Dardanelle, Two Rivers and Western Yell County School Districts could be closed for extended periods due to power and water outages, or possible damage to building structures on school campuses. The school buses are also disrupted due to damaged or destroyed roads and bridges. Employment would be affected from school closings.

The tornado index value is calculated for some of the cities and communities in Yell County based on historical tornado events data using USA.com algorithms. It is an indicator of the tornado level in a region. A higher tornado index value means a higher chance of tornado events

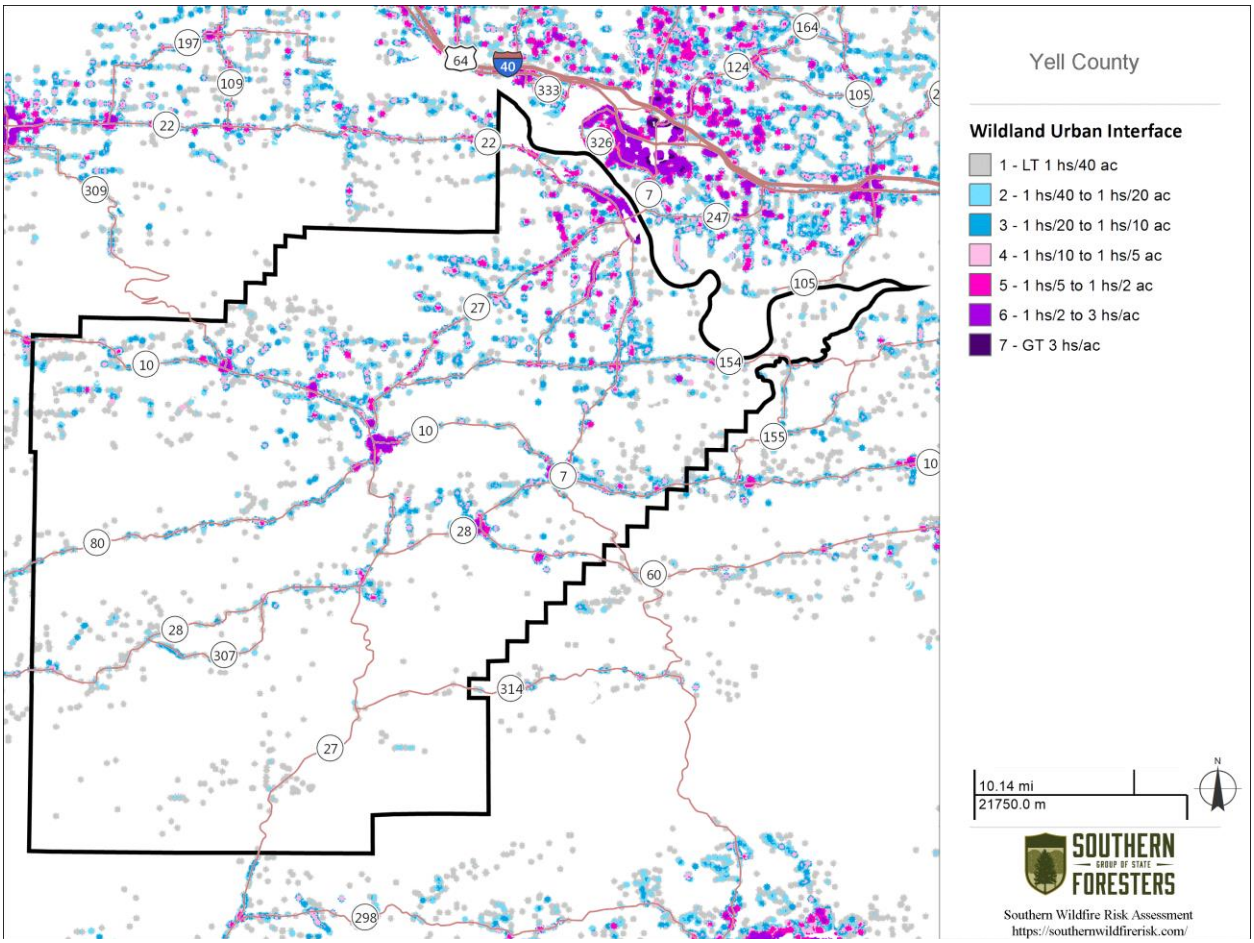
3.5.7 Wildfire Profile

3.5.7.1 Description of Wildfire

A wildfire is any outdoor fire that is not controlled, supervised, or arranged that spreads through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles around. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A Wildland-Urban Interface (WUI) fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels. Areas with a large amount of wooded, brush and grassy areas are at highest risk of wildfires. Additionally, areas anywhere that have experienced prolonged droughts or are excessively dry are also at risk of wildfires.

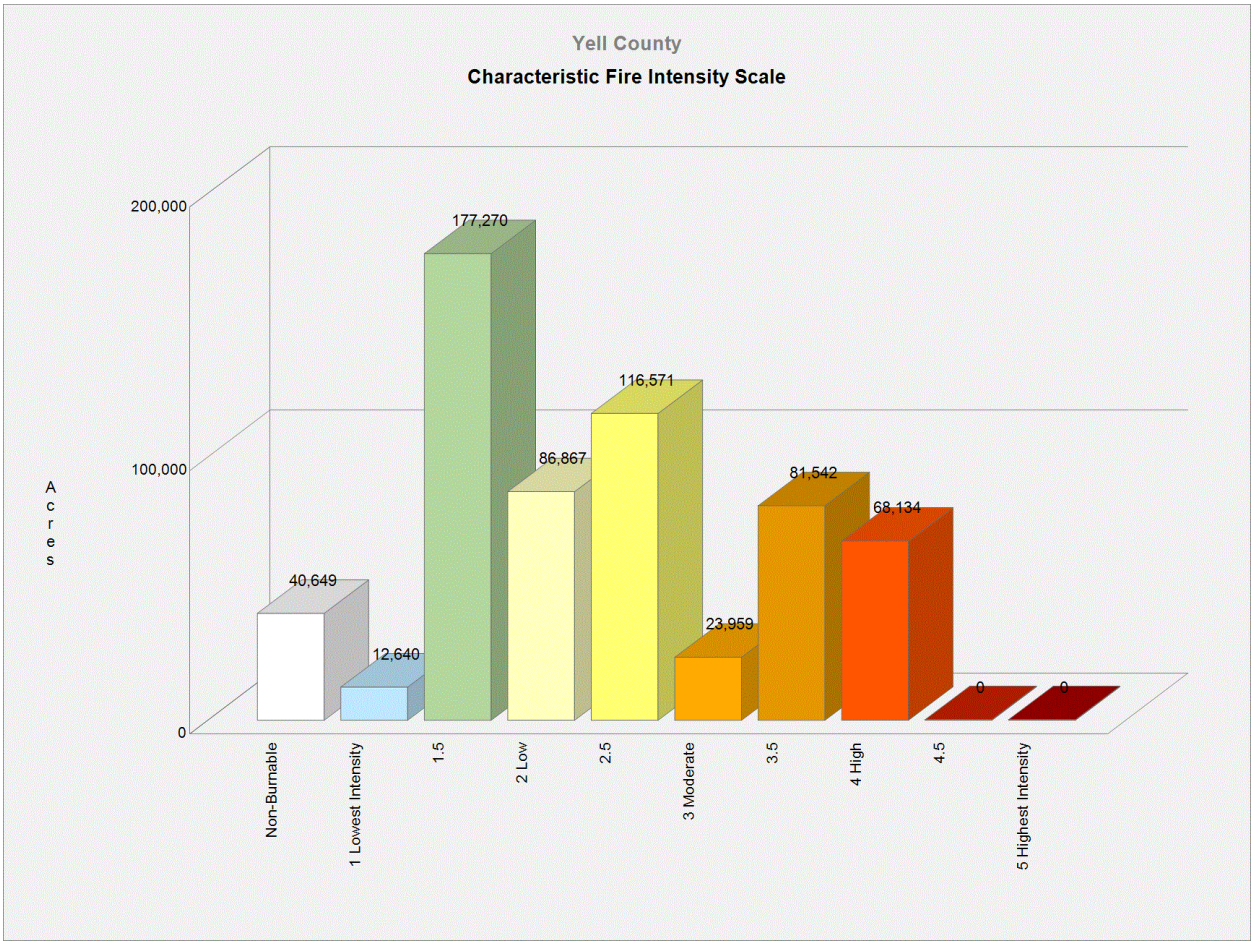
3.5.7.2 Location of Wildfire

The Wildland-Urban Interface (WUI) is the area where houses meet or intermingle with underdeveloped wildland vegetation. This makes the WUI a focal area for human-environmental conflicts such as wildland fires, habitat fragmentation, invasive species and biodiversity decline. Using geographic information systems (GIS), U.S. Census National Land Cover Data was integrated to map the Federal Register definition of WUI (Federal Register 66:751,2001.)



The area most affected by wildfire would be wooded areas such as timber plantations in the green and dark green areas. The entire county possesses some type of fuel, whether grass, agriculture, forestry, shrubs, structures, or other vegetation types. The southern, west central and northwest portion of Yell County is covered in timber. These areas are the areas that would be most affected by wildfire.

The lower two-thirds of Yell County, below the City of Danville are located in the Non WUI Vegetated area, which is very low density housing or no housing. Inside the Non WUI area, the Cities of Ola, and Plainview and several unincorporated communities. The Cities of Dardanelle is located in the Non-Vegetate or Agriculture area with low and very low density housing. The cities of Danville, Havana, Belleville, and Corinth, are located in the WUI Intermix.



3.5.7.3 Extent, Magnitude or Severity of Wildfire

Based on Arkansas Forestry Commission data from 2002 through 2011, 1,898 acres have burned in Yell County. The most acres burned in a year in the County were 530 acres in 2006; the #1 cause of the fires that year was arson. The fewest acres burned in a year were 25 acres in 2008, which was also caused by arson.

During the development of this mitigation plan, Yell County had several wildland fires one of these fires spread over 1,400 acres.

Burn Severity
From a landscape perspective, burn severity is defined as the degree of environmental change caused by fire. Heterogeneity in burn severity is a result of the spatial variation of factors such as fire intensity, topography and vegetation type. Burn severity can be broken down into several categories, useful in gauging post burn ecological responses:

Rank	Burn Severity	Description	Characteristics

0	Unburned	Fire extinguished before reaching microsite	• Leaf litter from previous years intact and uncharred • No evidence of char around base of trees and shrubs • Pre-burn seedlings and herbaceous vegetation present.
1	Low Severity Burn	Surface fire which consumes litter yet has little effect on trees and understory vegetation.	• Burned with partially consumed litter present • Evidence of low flame heights around base of trees and shrubs (<0.5 m) • No significant decreases in overstory & understory basal area, diversity or species richness from pre-burn assessments • Usually burning below 80 ° C
2	Medium-Low Severity Burn	No significant differences in overstory density and basal area, & no significant differences in species richness. However, understory density, basal area, and species richness declined.	• No litter present and 100% of the area covered by duff • Flame lengths < 2 m • Understory mortality present, little or no overstory mortality
3	Medium-High Severity Burn	Flames that were slightly taller than those of Medium-low intensity fires, but these fires had occasional hot spots that killed large trees, With significant reduction in the understory	• Soil exposure on l-50% of the area • Flame lengths <6m • High understory mortality with some overstory trees affected
4	High Severity Burn	Crown fires, usually a stand replacing burn with relatively high overstory mortality	• Soil exposure >50% • Flame lengths >6m • Higher overstory mortality >20% • Usually burning above 800 ° C

The burn severity for the all Jurisdictions and School Districts located in Yell County rank between 0-4.

3.5.7.4 Previous Occurrences

According to the Arkansas Forestry Commission, there have been a reported 203 wildland fires between 2002 and 2011 burning a total of 1,898 acres in Yell County, Arkansas.

Year	No. of Fires	Acres burned	#1 Cause	#2 Cause	#3 Cause
2002	9	34	Burning brush or debris	Arson	Burning trash
2003	18	113	Arson	Burning brush or debris	Lightning
2004	14	70	Logging	Arson	Burning brush or debris
2005	28	280	Lightning	Burning trash	Burning brush or debris
2006	31	530	Arson	Lightning	Burning brush or debris
2007	24	170	Arson	Burning brush or debris	Lightning
2008	12	25	Arson	Power Lines	Hunters
2009	18	197	Arson	Burning Brush or debris	Burning trash

2010	28	390	Burning brush or debris	Logging	Powerlines
2011	21	89	Lightning	Cigarettes	Arson
Total	**203**	**1,898**	**Arson**	**Burning**	**Burning**

The three major causes for wildland fire each year are listed with the most frequent cause for that particular year.

By the middle of August 2012, the acres burned by wildfire ranked higher than the 203 fires that occurred between the years 2002-2011. In the month of July 2012, 1,400 acres were burned by wildland fires and residents in the path of fires were evacuated from their homes. Listed below are newspaper clippings from the ***Yell County Record*** outlining wildland fires in Yell County.

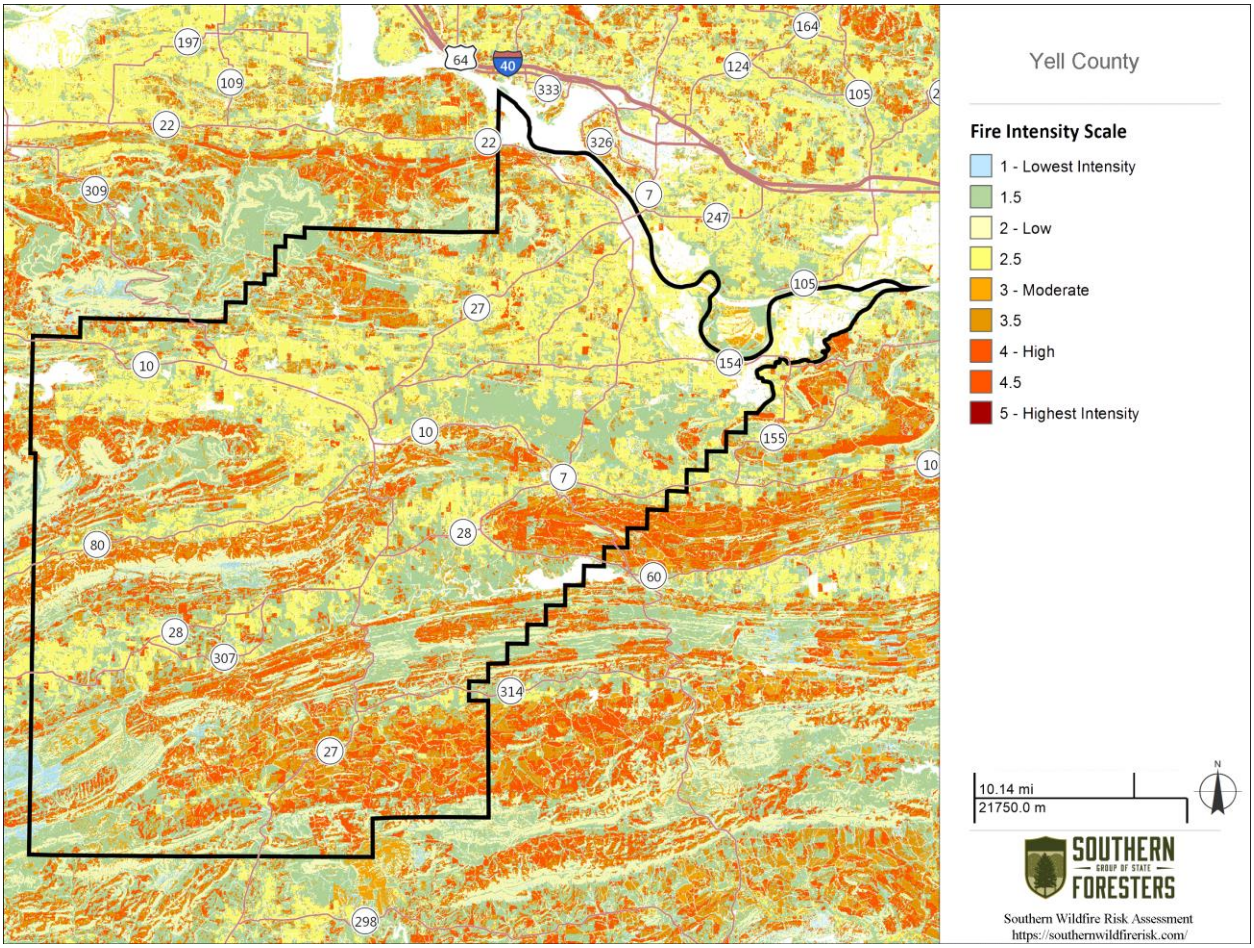
3.5.7.5 Probability of Future Wildfire Occurrences

It is likely that Yell County will continue to experience wildfire hazards due to the three primary factors wildfires are based on: fuel, topography, and weather. Though most wildfires typically affect only grass and wood-lands with no damage to property or loss of lives, the threat of wildfires to homes and other structures is often high during certain times of the year and under certain conditions. As residential growth increases in the rural areas of the county, the likelihood of wildfires causing property damage and possibly injuries grows. Good fire protection coverage is provided throughout the county by rural fire departments, which do an excellent job of responding to and minimizing the damage of wildfires. The county is also planning to establish the State Forestry's Firewise program, which is intended to educate residents on the dangers of wildfires and on mitigating measures to take. Participation in the Firewise program will also help the county quantify the number of structures in the county that are vulnerable to wildfire.

There is a 60% chance of a wildfire occurring in any given year.

3.5.7.6 Impact of Wildfire

The worst impact from wildfire in Yell County occurred on July 25, 2012. A state contract road maintenance crew accidentally started a small fire that grew to 1400 acres and threatened the small town of Ola, Arkansas. The Yell County Fire Departments, Arkansas Forestry Commission, United States Forestry Service, and Deltic Timber battled the blaze. The response to the fire was quick, but not enough to defeat the spread of the fire. Over 50% of the fire was contained when it had only consumed approximately 100 acres. The strong winds in the area and drought caused the fire to jump not only the fire lines that were containing the fire, but SR 10 as well. There were no injuries contributed to the fire, but two abandoned buildings were lost to the flames.



Wildland fires not only consume forest and rangeland vegetation, but impact wildlife habitat, recreation and tourism, water quality and supply and property values. Wildfires can cause extensive damage, both to property and human life.

In Yell County, most rural residents depend on their local volunteer fire departments to protect their property from loss.

In drought conditions, wildfires can be easily started and are extremely dangerous. Protecting structures in the wildland from fires poses special problems, and put additional burdens on local firefighting resources. Weather conditions leading to wildfires can change rapidly. Thus, there are few measures, other than rapid-response, that can contain wildfires and limit their threat to property. Local economic impacts from catastrophic wildfires include disruptions to both consumption and production of local goods and services. Immediate effects may include decreased recreation / tourism and timber harvest in the fire region, as well as disruptions from evacuations and transportation delays. Increased use of local goods and services for fire protection also impacts local economies. Other effects include direct property losses (in the form of buildings, timber, livestock, and other capital), damage to human health, and possible changes in the long-term structure of the local economy. There are many secondary effects to wildfire. All vegetation may be destroyed as well as the organic material in the soil may be burned away or may decompose into water repellent substances that prevent water from absorbing into the soil. In effect, normal rainfall after a wildfire may result in unusual erosion or flooding from burned areas; depending on the topography of the burned area, heavy rain can produce destructive debris flows. Wildfires also have an effect on water supplies. The loss of ground-surface cover, such as pine needles and small branches, and the chemical transformation of burned soils make watersheds more susceptible to erosion from rainstorms.

3.5.7.7 Vulnerability and Estimating Potential Loss

Fire suppression's threat of massive damage to human lives, private property and natural resources is increasing. In the past 10 years, 203 wildland fires burned a total of 1,898 acres. The only information we have for 2012, is the wildland fire on July 25th, which burned a total of 1,400 acres and evacuating 2,500 people.

Yell County is approximately 607,744 acres. Forest land accounts for 412,992 acres, or 73.7 percent of Yell County.

3.5.7.8 Multi-Jurisdictional Risk Assessment

All areas of Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview, school districts of Danville, Dardanelle, Two Rivers and Western Yell County can be affected by wildland fire. The county is surrounded by the Arkansas and U.S. Forest Service land.

The US Forestry land covers a large portion of Yell County. The area from Ola and Plainview headed south through the unincorporated areas of Yell County, is highly susceptible to wildland fires. The lower portion of the county consists of low and very low-density housing, more farming and woodland area.

The entire County possesses some type of fuel, whether grass, agriculture, forestry, shrubs, structures, or other vegetation types. The upper portion of the county is also located in timber plantations and higher population areas and local businesses, which makes this area of the county a higher risk to wildfires.

Structure location is the primary control on vulnerability to wildfire. Structures most vulnerable to wildfire are those located within the wildland-urban interface and wildland-urban intermix. These are areas where structures and other human development meet or intermix with undeveloped wildland. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. Its expansion in recent years has increased the likelihood that wildfires will threaten structures and people. Although all building construction types within the WUI are vulnerable, the most vulnerable construction type is wood frame, which comprises approximately 47% of the structures in the county. For future plan updates, Yell County would like to have more details for what is vulnerable to wildfire and will work with communities to improve database inventory for structure types within the county at the local level.

The lower two-thirds of Yell County, below the City of Danville are located in the Non WUI Vegetated area, which is very low density housing or no housing. Inside the Non WUI area, the Cities of Ola, and Plainview and several unincorporated communities. The Cities of Dardanelle is located in the Non-Vegetate or Agriculture area with low and very low density housing. The cities of Danville, Havana, Belleville, and Corinth, are located in the WUI Intermix.

3.5.8 Winter Storm

3.5.8.1 Description of Winter Storm

Severe winter storms, which may include heavy snowfall, sleet, freezing rain, or a mix of these wintry forms of precipitation. Severe winter weather can down trees, cause widespread power outages, damage property, and cause fatalities and injuries

3.5.8.2 Location of Winter Storm Events

All areas of the unincorporated areas of Yell County, the cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and the school districts of Danville, Dardanelle, Two Rivers and Western Yell County are equally susceptible to severe winter storm events.

3.5.8.3 Extent, Magnitude or Severity of Winter Storms

According to National Climatic Data Center (NCDC) and National Weather Service Data, typical snow accumulations in Yell County during heavy snow and winter storm events ranges from 1 inch to 8 inches. Typical ice storm accumulations range from 1/10 of one inch to 1/2 of an inch. Only one severe winter storm event, the December 2000 Severe Winter Storm (FEMA 1354-DR), has resulted in a Presidential Disaster Declaration in Yell County. When severe winter storm events do occur (the worse typically associated with ice), they are usually wide-spread over the area and impede the movement of vehicles – limiting regular movement of traffic, causing accidents

and limiting responsiveness of emergency services – and can down power and communications lines and seriously damage some structures, thus creating potentially critical conditions for the entire area.

The School Districts of Danville, Dardanelle, Two Rivers and Western Yell County's school officials monitor weather updates via television, radio and internet. If weather becomes hazardous, as determined by the superintendent, then appropriate actions are taken based on students being in school or getting ready to come to school. There is not an actual policy on implement weather; the school administrators use their judgment decision as to closing school due to implement weather.

If weather is due to snow or ice, and either is forecasted to become hazardous, by the determination of the school official's school may be cancelled. If weather becomes hazardous after school has started school officials may dismiss school early, if road conditions are safe to do so.

Students may be kept inside by the determination of the building principals if there are extreme cold temperatures. Wind chill would be the determining factor in keeping students inside. Some districts initiate monitoring for wind chill is below 32 degrees, some 40 degrees.

WINTER STORM WATCH: Severe winter conditions, such as heavy snow and/or ice, are possible within the next day or two.

WINTER STORM WARNING: Severe winter conditions have begun or are about to begin in your area. Stay indoors!

BLIZZARD WARNING: Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill. Seek refuge immediately!

WINTER WEATHER ADVISORY: Winter weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not become life- threatening. The greatest hazard is often to motorists.

FROST/FREEZE WARNING: Below freezing temperatures are expected and may cause significant damage to plants, crops, or fruit trees. In areas unaccustomed to freezing temperatures, people who have homes without heat need to take added precautions.

3.5.8.4 Previous Occurrences

There have been a reported 14 winter storm events between 1950 and 2018 resulting in $3.250M in property and 7 ice storm events resulting in 10.375M damages.

3.5.8.5 Probability of Future Winter Storms

There is a 16% chance of a winter storm and a 9% chance of an ice storm occurring in any given year.

3.5.8.6 Impact of Winter Storms

Yell County experiences a major winter storm about every other year, with sometimes with two occurring in a single year. Damage from of winter storms is often not reported to public agencies for recording in databases such as SHELDUS, typically because the damage is not widespread and usually amounts to no more than downed tree limbs and utility-lines and closed schools and businesses caused by icy road conditions.

Based on past experience, an estimated twenty to thirty structures might be impacted in any given year by severe winter storm events, resulting typically in only minor damage to the structures, mainly due to limbs breaking and falling on roofs.

Winter storms can immobilize an entire county. Six inches of unplowed snow can make roads impassable. Trees can be brought down by the weight of wet snow, snap power lines and damage buildings and houses when they fall.

Winter storms can cut off heat, power and communications for several days or weeks. Death can occur from hypothermia.

Winter storms with freezing rain create a coating of ice which snaps tree branches, down power lines, ruin crops, and makes driving hazardous. Rural areas are most at risk of losing power and becoming isolated during a winter storm.

Winter storms can be accompanied by strong winds creating blizzard conditions with blinding wind driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines.

Extreme cold often accompanies a winter storm; exposure to the cold can cause frostbite or hypothermia and be life-threatening. Infants and elderly people are most susceptible. Freezing temperatures can cause severe damage to crops and other vegetation. Pipes may freeze and burst in homes or businesses that are poorly insulated or without heat. Structure fires occur more frequently in the winter due to lack of proper safety precautions and present a greater danger because water supplies may freeze, and impede firefighting efforts. People die of hypothermia from prolonged exposure to the cold. Elderly people are most vulnerable to winter storms and account for the largest percentage of hypothermia victims largely due to improperly or unheated homes, but the leading cause of death during winter storms is from automobile or other transportation accidents. Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians. Heavy snow can immobilize an area and paralyze a city, stranding commuters, stopping the flow of supplies, and disrupting emergency services. Large amounts of snow can collapse buildings and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, repairing damages, and loss of business can have large economic impacts on cities and towns.

3.5.8.7 Estimating Potential Losses by Jurisdiction to Severe Winter Weather

The methodology for the potential loss estimate was developed by using past hazard events data from The NCDC. The following is the resources used in the loss estimation;

- Arkansas Hazard Mitigation Plan
- National Climatic Data Center (NCDC) Storm Events Database

The National Climatic Data Center provides historical details about past hazard events in the county.

Winter Events 1950-2018	Fatalities	Injuries x $1 M	Combined Fatalities, Injuries Personal Property, and Crop Damage Value	Average Cost per Event
14	0	0	$3,250,000	$232,000
7	0	0	$10,275,000	$1,467,857.14

3.5.8.8 Multi-Jurisdictional Risk Assessment

The unincorporated areas of Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and school districts of Danville, Dardanelle, Two Rivers, and Western Yell County are equally affected by winter storms. Winter storms do not seem to be unique to particular areas of the county; the threat is considered to be countywide with no significant variation at the county or jurisdiction levels.

All parts of Yell County are equally susceptible to severe winter storms events. The occurrence of severe winter storms can have a substantial impact on Yell County's buildings, utility systems, transportation systems, and agriculture. Heavy accumulations of ice or snow commonly result in collapse of structural damage to buildings. Then damage may be caused directly by the excessive weight of the ice/snow accumulation, or by ice-laden trees or branches falling on structures. Homes, businesses, as well as weaker nonresidential structures are most vulnerable to this type of structural damage. The abundant wood structures and manufactured houses in the planning area are much more

vulnerable than steel, concrete, or masonry structures. Past storms indicate that poultry houses are particularly vulnerable.

Heavy accumulations of ice from ice storms or heavy snow can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communication and power can be disrupted for days or weeks while utility companies repair the damage. Power and communication disruptions are common consequences of ice storms and heavy snow in Yell County. Winter storms are sometimes accompanied by strong winds. These winds can knock down trees, utility poles and power lines.

Yell County's transportation systems are vulnerable to severe winter storms. These storms have rarely been hazardous to structural damage in the past, but accumulations of ice and snow can be extremely hazardous to motorist. Motorist in Yell County are not accustomed to driving on icy roads, causing an increase in traffic accidents. Travel is hampered by ice or heavy snow because Yell County lacks the necessary snow removal equipment due to the occurrence of severe winter storms.

The entire county is usually affected when a winter storm hits Yell County. Parts of the county may not be affected as bad as others, but when major roads are affected, it affects the travel flow and the availability of essential services throughout the county.

SECTION 4
Mitigation Strategy

The Yell County Hazard Mitigation plan includes a mitigation strategy that provides the Yell County's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

The following capabilities describe what the County, Cities and School District may or may not have to implement and maintain mitigation efforts, are addressed in the existing authorities, policies, programs and resources available to accomplish hazard mitigation;

Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview each are different in terms of staffing, funding, policies and program giving them the ability to carry out their local hazard mitigation goals. Each city has the capability to be an active member in the NFIP, to pass mitigation ordinances for their local government, regulate and limit the development in wildfire hazard areas and flood prone areas through land use planning implement retrofit construction plans, brace equipment, and provide emergency preparedness information to area residents through FEMA brochures.

Yell County, cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and the School Districts of Danville, Dardanelle and Two Rivers would be dependent upon grant funding to assist with larger mitigation projects, such as safe rooms and heavy duty generators to back up and maintain electrical power for critical facilities. The Cities would need assistance in financing drought communication and early warning systems, heating and cooling centers. The City of Ola would need funding assistance in correcting structural weaknesses in dams.

Yell County would need to seek outside financial resources for the development of a countywide flood inundation study. This study would benefit the Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview and the School District of Danville, Dardanelle and Two Rivers for future land development. Funds would also be needed for flood inundation studies and conduct inspections, maintenance and enforcement programs on high risk dams in the county.

4.1 Mitigation Goals and Objectives for Each Hazard

Based upon the results of the local and State risk assessments, the Yell County Hazard Mitigation Planning Team, with input from local jurisdictions and officials, developed hazard mitigation goals and objectives and selected those that were determined to be of greatest benefit. These goals and objectives represent what Yell County believes is a long-term vision for reduction and enhancement of mitigation capabilities:
The goals of the Johnson

County Hazard Mitigation plan are to:

- Goal 1: Reduce the potential for loss of life, injury and economic damage created by exposure to natural hazard for residents of Johnson County due to natural disasters.
- Goal 2: Provide a framework and coordination to encourage all levels of government and public and private
- organizations to undertake mitigation to minimize potential disasters and to employ mitigation in the recovery following disasters.
- Goal 3: Seek grants for mitigation projects through the State and Federal funding.
- Goal 4: Protect existing properties from natural disasters.

On February 10, 2010, Yell County Arkansas passed a resolution stating the county had the legal authority to adopt land use and control measures to reduce future flood losses pursuant to the legislature of the State of Arkansas in Act 629 of 1969. This resolution adopted the Flood Damage Prevention Code, Designation of the Floodplain Administrator, and Provisions for Flood Hazard Reduction.

Yell County is currently participating in the Map Modernization Program thorough FEMA. Currently, all NFIP participating communities follow local ordinances that require new and substantially improved structure to build 2 feet above the Base Flood Elevation (BFE). This ordinance also requires elevation (2 feet above BFE) or dry flood-proofing of new or substantially improved non-residential structures. These actions prohibit development in floodways. The City of Corinth does not participle in the NFIP and the City of Havana no longer participates.

4.2 National Flood Insurance Program (NFIP) Compliance

Yell County began a member of the National Flood Insurance Program in 2010. Since that time, the Office of Emergency Management, Jeff Gilkey has become a Certified Floodplain Manager (CFM) for Yell County.

The Cities of Belleville, Danville, Dardanelle, Ola and Plainview participate in the NFIP. The City of Corinth does not and the City of Havana participated in the past, but is not at this time.

The School Districts of Danville, Dardanelle, Two Rivers and Western Yell County are not required to participate in the NFIP, but some are located in cities that participate and all are located in the county.

4.3 Implementation of Mitigation Actions

The mitigation actions are prioritized based upon their effect on the overall risk to life and property. Ease of implementation, community and agency support and ease of obtaining funding. The County and participating jurisdictions have used the STAPLEE method to prioritize mitigation actions. This method has the benefit that the Mitigation actions are considered in discrete categories of Social, Technical, Administrative, Political, Economic and Environmental. Prioritization can therefore be made taking each of these categories into account, so that nothing is overlooked when considering which actions may be best for each jurisdiction to consider.

Criteria used for prioritization and review of mitigation actions based on STAPLEE

Evaluation Category	Sources of Information
Social	Members of Local governments and the County Government were members of the Hazard Mitigation Planning Team and had input throughout the planning process. It must be noted that many small town political leaders are also business or professional persons. They are also members of the LEPC. Existing community plans were and will be relied on wherever possible. Members of the media were contacted and invited to all attend all HMPT meetings.
Technical	The following persons/agencies were consulted as to the technical feasibility of the various projects: Arkansas Geological Commission, University of Arkansas Extension Service, Arkansas Soil and Water Conservation Commission, Arkansas Health Department, Arkansas Highway and Transportation Department, Arkansas Department of Environmental Quality, Arkansas Governor's Pre-Disaster Advisory Council, Arkansas Governor's Earthquake Advisory Council, and Arkansas Forestry Service. Arkansas Department of Emergency Management. All of these had their comments and suggestions incorporated.
Administrative	Staffing for proper implementation of the plan currently will rely largely on existing members of the various agencies involved. Technical assistance is available from various local and state agencies. Some local jurisdictions have incorporated Hazard Mitigation efforts into their Capital Improvement Plans. Operations costs are under discussion by the appropriate agency or department heads.
Political	The County Quorum Court has passed resolutions in support of mitigation activities involving floodplain ordinances, mitigation planning, and fire districts, among others. The Governor of Arkansas issued an Executive Order in August of 2004 (EO 04-02) instructing all state agencies to assist ADEM in mitigation planning and implementation of mitigation goals.
Legal	Members of the HMPT discussed legal issues, and it was their opinion that no significant legal issues were involved in the projects that were selected by the HMPT. However, where legalities may be an issue, this is noted.
Economic	Economic and benefit cost issues were the predominant topics discussed by all concerned. Each entity felt that the projects selected would have positive effects, but yet realized that actions often have costs, sometimes hidden, imposed on the community, residents and businesses. Funding for the various activities was a major concern as local budgets are always under pressures with existing and competing projects and activities. Where necessary, particularly for costly capital projects, outside grants would be relied on heavily.
Environmental	The Arkansas Geological Survey, Arkansas Department of Environmental Quality, Arkansas Forestry Commission, and Arkansas Soil and Water Conservation Commission were all consulted as to the environmental impact of the various projects and it was felt that there would be no negative impact. Local environmental issues and concerns were also taken into consideration.

The Yell County Office of Emergency Management (YCOEM) will be responsible for evaluating actions among competing actions. The Planning Team prioritized the list of mitigation actions by conducting a cost-benefit review. This review was conducted by; first considering the number of people who would be affected by a chosen project, determining the area the project would cover, considering how critical the structures were within in the project area, and which structure were most critical, and finally how would it benefit the entire community. The YCOES shall evaluate actions based on funding availability, comparative value to mitigation objectives, and consideration of economic benefits and environmental concerns of the communities. Actions are prioritized in three different categories; **High** *need for immediate action*, **Medium** *need for action,* **Low** *lacking in urgency.*

All Yell County actions are the responsibility of the director of Yell County Office of Emergency Management. The Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview's actions are the responsibility of their Mayors. The School Districts of Danville, Dardanelle, Two Rivers, and Western Yell County will be the responsibility of their School Board Administration.

The Responsible Agency for each mitigation action will identify resources. Their responsibility will be to examine resources from all levels of government. The responsible parties will integrate the requirements of the mitigation plan into other plans when appropriate. This also, includes funding and support for enacting and enforcing building codes and zoning ordinances, and developing public education programs to alert residents to risks and how they can reduce hazard losses. Plans will be made to earmark resources for implementing these actions.

Each jurisdiction and school district within the County that participated in the planning process has at least two actions that will benefit the jurisdiction.

For the purpose of developing the Yell County Hazard Mitigation Plan, mitigation actions are categorized into six groups;

- Actions that will keep problems from getting worse (Prevention).

- Actions that address individual buildings (Property protection)
- Actions that will inform the public (Public education and awareness)
- Actions that will protect natural resources (Natural resource protection)
- Actions that will protect emergency services before, during, and immediately after an occurrence (Emergency services protection)
- Actions that will control the hazard (Structural projects)

4.4 Mitigation Actions/Projects

Mitigation Actions
Relocate critical infrastructure or critical functions outside the failure inundation zone, elevate above anticipated flood levels, or protect infrastructure that cannot be relocated or elevated (e.g., pipelines, water, sewage, natural gas, pump systems) **Associated Hazard:** Dam Failure **Type of Action:** Prevention **Contribution to Mitigation Objective:** Prevent loss of life or property due to future dam and levee failure by correcting structural weakness **Priority**: Medium **Rationale for Priority**: Since there are no past dam failures in Yell County, priority is not high, but failure is a possibility. **Addresses new or existing buildings:** New and existing **Cost Benefit:** Highly beneficial, low cost **TimeLine:** Ongoing **Projected Resources**: Existing County and Local Resources **Responsible Party**: Yell County with assistance from Soil and Water Conservation **Mitigation Action adopted by:** Yell County **STAPLEE**: Meets all Criteria **Update: New**
Voluntarily move, remove, or elevate structures and restrict development in the dam failure or flood inundation zone. **Associated Hazard:** Dam Failure, flood **Type of Action:** Prevention **Contribution to Mitigation Objective:** Prevent the loss of lives and property by limiting the development in areas that could be destroyed or flooded during a dam failure. **Priority**: Medium **Rationale for Priority:** There have been no past dam failures to give a reason to rank high, but a failure is always a possibility. **Addresses New or Existing buildings:** New **Cost Benefit:** Highly beneficial, no cost **TimeLine:** Ongoing **Projected Resources**: FEMA, and NFIP Resources **Responsible Party**: Yell County with assistance from Soil and Water Conservation **Mitigation Action adopted by:** Yell County **STAPLEE:** Meets all Criteria **Update: New**
Conduct flood inundation study for high and significant risk hazard dams; study will be used to develop mitigation measures such as facilitate acquisition projects, new zoning requirements, or elevation projects. Acquire reliable and current information relating to existing and new buildings and infrastructure, especially critical facilities located in or developed in the path of flooding from dam failure. **Associated Hazard:** Dam Failure **Type of Action:** Prevention **Contribution to Mitigation Objective:** Seeks to protect citizens and property in path of dam failure by diverting flow from flood waters as a result of dam failure. **Priority**: Medium **Rationale for Priority:** No past dam failures, avoiding high priority **Addresses New or Existing buildings:** New and Existing **Cost Benefit:** Highly beneficial, low or minimal cost **TimeLine:** ongoing **Projected Resources**: County, local resources and unidentified outside resources **Responsible Party**: Yell County with assistance from Soil and Water Conservation **Action adopted by:** Yell County **STAPLEE**: Meets all Criteria **Update: Action was in last but has not been completed due to funding**

Develop a countywide drought communication plan and early warning system to facilitate timely communication of relevant information to officials, decision makers, school administration, emergency manager and the general public.

Hazard Associated: Drought
Type of Action: Prevention
Contribution to Mitigation Objective: Reduces the risk to lives due to water shortages
Priority: High
Rationale for Priority: Drought has been an issue several times in the past.
Addresses New or Existing buildings: New and existing
Cost Benefit: Highly beneficial, at little cost.
TimeLine: 1 year
Projected Resources: County funds to develop plan. Possible grant funding.
Responsible Party: Yell County Quorum Court, City Councils of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview. School districts Danville, Dardanelle, Two Rivers and Western Yell County.
STAPLEE: Meets all Criteria **Update: Not completed since last plan**

Pass a County ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling swimming pools, etc.

Hazard Associated: Drought
Type of Action: Prevention
Contribution to Mitigation Objective: Reduces the risk due to water shortages
Priority: High
Rationale for Priority: Drought has been an issue several times in the past.
Addresses New or Existing buildings: New and existing
Cost Benefit: Highly beneficial, at no cost.
TimeLine: 1 year
Projected Resources: County funds to publish Ordinance
Responsible Party: Yell County Quorum Court, City Councils of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview.
STAPLEE: Meets all Criteria
Update: Not completed since last plan

Mitigate future losses by regulating development in wildfire hazard areas through land use planning and address density and quantity of development, as well as emergency access, landscaping and water supply.

Hazard Associated: Wildfire
Type of Action: Prevention
Contribution to Mitigation Objective: Reduces the risk of wildfire due to land use
Priority: High
Rationale for Priority: Prior wildfire events
Addresses New or Existing buildings: Existing
Cost Benefit: Highly beneficial at no cost.
TimeLine: 2 Years
Projected Resources: Publish notice in paper at minimum expense
Responsible Party: Yell County Quorum Court, City Councils of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Action adopted by: Yell County, Cities Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria **Update: Not completed since last plan**

Countywide ordinances to enforce burn bans during drought periods.

Hazard Associated: Wildfire
Type of Action: Prevention
Contribution to Mitigation Objective: Reduces the risk of wildfire due to land use
Priority: High
Rationale for Priority: Prior wildfire events during drought conditions.
Addresses New or Existing buildings: Existing
Cost Benefit: Highly beneficial at no cost.
TimeLine: 2 Years
Projected Resources: Publish notice in paper at minimum expense, and post on county web site at no cost.
Responsible Party: Yell County Quorum Court, City Councils of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Action adopted by: Yell County, Cities Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria **Update: enforced when needed**

Implement a fuels management team using prescribed burning techniques to reduce hazardous vegetative fuels that threaten public safety and property on public lands and working with landowners on private land, and near essential infrastructure.

Hazard Associated: Wildland Fire
Type of Action: Prevention
Contribution to Mitigation Objective: Eliminates the fuel for wildland fires
Priority: High
Rationale for Priority: Proven to **s**ave lives and lessen property damage. Has experienced past wild fire events.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly beneficial, controlled burn would be under the direction of United States Forest Service and Arkansas Forest Service.
TimeLine: ongoing
Projected Resources: Yell County with assistance from county Fire Departments, USFS, ASFS and Fire Department of the Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria **Update: Carried out by various teams however not yet completed in whole area**

County and Local Road Departments implement retrofit construction plans to increase drainage or absorption capacities with detention and relief drains, extra culverts, and bridge modification where susceptible to flooding.

Associated Hazard: Flood
Type of Action: Prevention and Structural
Contribution to Mitigation Objective: Corrects current weaknesses and prevents any future structural damage.
Priority: High
Rationale for Priority: Protection of life
Addresses New or Existing buildings: N/A
Cost Benefit: Highly Beneficial. Benefit will outweigh any cost.
TimeLine: 3 Years
Projected Resources: Existing State, County and Local Resources
Responsible Party: Yell County with assistance from State Highway Department and Yell County Road Department
Action adopted by: Yell County
STAPLEE: Meets all Criteria **Update: Completed when funding allows. Action is likely to occur in other areas impacted by plan.**

Brace equipment (such as mechanical equipment, chillers, and emergency generators) whose failure may disrupt the operation of a critical facility, such as hospitals and schools.

Associated Hazard: Tornado, and Thunderstorm Winds
Type of Action: Non Structural
Contribution to Mitigation Objective: Prevents damage to necessary operating equipment and injury to citizens
Priority: High
Rationale for Priority: Protection of critical operations equipment
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, minimum cost
TimeLine: Ongoing
Projected Resources: Existing County, State and Local Resources
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview. School Districts of Danville, Dardanelle, Two Rivers and Western Yell County.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview. School Districts of Danville, Dardanelle, Two Rivers and Western Yell County.
STAPLEE: Meets all Criteria **Update: this action has not been tracked at public facilities.**

Establishing and promoting accessible heating/cooling centers/shelters for vulnerable, special-needs, and at-risk-population.

Associated Hazard: Extreme Heat, Winterstorms
Type of Action: Prevention
Contribution to Mitigation Objective: Mitigates against loss of life and adverse health effects due to extreme temperatures.
Priority: High
Rationale for Priority: Prevention of loss of life due to extreme temperatures
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial
TimeLine: Ongoing
Projected Resources: Existing County, and Local Resources
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview.
STAPLEE: Meets all Criteria **Update: Established when needed**

Provide emergency preparedness information and resources for extreme heat/winter events through an active educational outreach program with specific plans and procedure's for at risk population.

Associated Hazard: Heat, Winterstorms
Type of Action: Public Education and Awareness
Contribution to Mitigation Objective: Education public how to be prepared to handle extreme temperatures and to be aware of those of high risk
Priority: High
Rationale for Priority: Prevent loss of life
Addresses New or Existing buildings: N/A
Cost Benefit: Highly Beneficial at no cost, free resources at FEMA website.
TimeLine: Ongoing
Projected Resources: FEMA brochures distributed by Yell County Office of Emergency Management
Responsible Party: Yell County Office of Emergency Management
Action adopted by: Yell County
STAPLEE: Meets all Criteria **Update: provided on regular basis by responsible party.**

Require that all critical facilities to meet requirements of Executive Order 11988 and be built 1 foot above the 500-year flood elevation.

Associated Hazard: Flood
Type of Action: Prevention
Contribution to Mitigation Objective: Protect Critical Facilities
Priority: High
Rationale for Priority: Past flooding events and prevent loss of life and property.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial at no cost
TimeLine :1 Year
Projected Resources: Guidance from FEMA Resources/Publications FEMA p-259,345, B-797
Responsible Party: Yell County with assistance from Soil and Water Conservation.
Action adopted by: Yell County
STAPLEE: Meets all Criteria **Update: Enforced when required**

Conducting NFIP community workshops to provide information for property owners to acquire flood insurance.

Associated Hazard: Flood
Type of Action: Public Education and Awareness
Contribution to Mitigation Objective: Education residents on the need of flood insurance
Priority: High
Rationale to Priority: Yell County is prone to flooding.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial at no cost.
TimeLine: ongoing
Projected Resources: FEMA brochures to be distributed by Yell County Office of Emergency Management
Responsible Party: Yell County Office of Emergency Management
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria **Update: Conducted to meet NFIP compliance will remain due to ongoing**

Implement to a higher standard of road elevation and culvert sizing on all county and city roads.

Associated Hazard: Flood
Type of Action: Property Protection
Contribution to Mitigation Objective: Prevent flood damage to residents and allow emergency personnel vehicles access to areas otherwise shut off due to flooding.
Priority: High
Rationale for Priority: Flooding is an issue in all parts of Yell County
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial
TimeLine: Ongoing
Projected Resources: State, County and Local Resources
Responsible Party: County Road/City Street Departments
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview.
STAPLEE: Meets all Criteria **Update: implemented when funds allow. ongoing**

Construct safe rooms within new and existing public buildings, such as schools, libraries, and community centers.

Associated Hazard: Winter storms, Thunderstorm Winds, Tornado
Type **of Action:** Structural Project
Contribution to Mitigation Objective: Prevent the loss of life by providing shelter during pre/post disasters.
Priority: High
Rationale of Priority: Prevents the loss of life during storms and also minimizes the effects post hazard events. Ranked high due to past storm events
Addresses New or Existing buildings: New and Existing
Cost Benefit: Benefits outweighs cost. Possible grants for construction.
TimeLine: Ongoing
Projected Resources: HMGP funding
Responsible Party: Emergency Management, School Districts, County and City Governments Offices
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts Danville, Dardanelle, Two Rivers, Western Yell County.
STAPLEE: Meets all Criteria
Update: two safe-rooms have been constructed since last plan. More are needed for area. Two Rivers and Dardanelle High School safe-rooms

Protect exceptionally vulnerable populations from the impacts of severe weather events through identifying specific at risk populations in the event of long-term power outages by establishing accessible heating and cooling centers.

Associated Hazard: Flood, Winter storms, Thunderstorm Winds, Tornado, Wildfire, and Extreme Heat Events.
Type of Action: Structural Project
Contribution to Mitigation Objective: Prevent the loss of life by providing shelter during pre/post disasters.
Priority: High
Rationale of Priority: Prevents the loss of life during storms and also minimizes the effects post hazard events. Ranked high due to past storm events
Addresses New or Existing buildings: Existing
Cost Benefit: Benefits outweighs cost. Possible grants for refurbishment
TimeLine: Ongoing
Projected Resources: HMGP funding
Responsible Party: Emergency Management, School Districts, County and City Governments Offices
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts Danville, Dardanelle, Two Rivers, Western Yell County.
STAPLEE: Meets all Criteria
Update: Established when needed

Adopt regulations governing residential construction to prevent wind damage, by requiring tie-downs with anchors and ground anchors appropriate for the soil type for manufactured homes.

Associated Hazard: Tornado and Thunderstorm Winds
Type of Action: Public Education and Awareness
Contribution to Mitigation Objective: Prevent loss of life and property by securing mobile homes from becoming missiles during high winds and tornadoes.
Priority: High
Rationale of Priority: Past wind storm events and number of mobile homes in Yell County.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly beneficial, no cost. Free info from fema.gov website
TimeLine: Ongoing
Projected Resources: FEMA brochures
Responsible Party: Yell County Office of Emergency Management
Action adopted by: Yell County
STAPLEE: Meets all Criteria
Update: Not completed at this time

Prepare and adopt an Outdoor Warning Sirens Plan, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. These plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Install new warning sirens in accordance with plan recommendations.

Associated Hazard: Thunderstorms, Tornados and Floods
Type of Action: Prevention
Contribution to Mitigation Objective: Prevent injury and loss of life by alerting residents to impending hazardous events.
Priority: High
Rationale of Priority: Past storm events throughout the county.
Addresses New or Existing buildings: N/A
Cost Benefit: Highly Beneficial
TimeLine: Ongoing
Projected Resources: Existing County and Local Resources
Responsible Party: Yell Co. OEM, School Districts, City and County Government.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts Danville, Dardanelle, Two Rivers, Western Yell County.
STAPLEE: Meets all Criteria
Update: Ongoing for responsible party

Install hail resistant roofing and window coverings, shutters laminated glass in windowpanes with a focus on critical infrastructure.

Associated Hazard: Hail
Type of Action: Property Protection
Contribution to Mitigation Objective: Seeks to protect critical facilities from hail damages
Priority: Medium
Rationale for Priority: Past hail events
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, minimum cost to owner. Possible grant for funding
TimeLine: Ongoing
Projected Resources: Existing County and Local Resources
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Darnell, Havana, Ola and Plainview. School Districts: Danville, Dardanelle, Two Rivers, Western Yell County.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Darnell, Havana, Ola and Plainview. School Districts: Danville, Dardanelle, Two Rivers, Western Yell County.
STAPLEE: Meets all Criteria***Update: Status unknown by planning team***

Install surge protection, lightning protection devices on all communications infrastructure and critical facilities.

Associated Hazard: Lightning
Type of Action: Property Protection
Contribution to Mitigation Objective: Will guard critical communication equipment from lightning strikes.
Priority: High
Rationale of Priority: Past lightning events, and the need for operable communication equipment before, during and after disasters.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, cost to owners of communications infrastructure and critical facilities.
TimeLine: Ongoing
Projected Resources: Existing County, Local and School District Resources
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Darnell, Havana, Ola and Plainview. School Districts: Danville, Dardanelle, Two Rivers, Western Yell County.
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Darnell, Havana, Ola and Plainview. School Districts: Danville, Dardanelle, Two Rivers, Western Yell County.
STAPLEE: Meets all Criteria ***Update: Status unknown by planning team***

Burying or otherwise protecting electric and other utility lines to prevent disruption by protecting lines from ice, wind, or snow damage.

Associated Hazard: Winter Storms, Tornado, Thunderstorm Winds
Type of Action: Prevention Action
Contribution to Mitigation Objective: Prevents ice and trees from failing on power lines creating power outages to homes, critical facilities and communication systems.
Priority: High
Rationale of Priority: Past disasters
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, cost to the owner of right-of-ways either County or City
TimeLine: Ongoing
Projected Resources: Existing County and Local Resources
Responsible Party: Yell County and Cities with assistance from Local Utility Companies
Action adopted by: Yell County, Cities Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria ***Update: Status unknown by planning team***

Adopt a land use plan with zoning and development restrictions to protect residents from hazardous floodways.

Associated Hazard: Floods
Type of Action: Prevention
Contribution to Mitigation Objective: Prevent the building of homes in floodways which can result in death, injuries and loss of property.
Priority: Medium
Rationale of Priority: Building in the floodway is not a problem at this time, allowing time to develop a land use plan.
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, can be implemented by County/City officials.
TimeLine: Ongoing
Projected Resources: Existing County, and Local Resources
Responsible Party: Yell County, Cities Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
Action adopted by: Yell County, Cities Belleville, Corinth, Danville, Dardanelle, Havana, Ola and Plainview.
STAPLEE: Meets all Criteria **Update: Action is enforced by responsible party**

Purchase heavy-duty generators to back up and maintain electrical power for critical facilities, schools, and shelters to maintain power and water supply during disasters.

Associated Hazard: Dam Failure, Extreme Heat, Flood, Lightning, Thunderstorm Winds, Tornado, Wildfire, Winter storms
Type of Action: Emergency Services Protection
Contribution to Mitigation Objective: Continuation of water service, and temperature control
Priority: High
Rationale of Priority: Past disasters
Addresses New or Existing buildings: New and Existing
Cost Benefit: Highly Beneficial, cost varies on size and type of generator.
TimeLine: Ongoing
Projected Resources: Existing County, Local and School Resources and possible grant funds
Responsible Party: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview
Action adopted by: Yell County**,** Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts: Danville, Dardanelle, Two Rivers, and Western Yell County.
STAPLEE: Meets all Criteria **Update: Ongoing not completed due to lack of funds**

Purchase of all-hazard NOAA weather radios in all schools, city halls, churches, assisted living facilities, hospitals, nursing homes, day care facilities, churches, businesses, industries where large numbers of people congregate; provide information to public on importance of having and how to acquire.

Associated Hazard: Dam Failure, Drought, Flooding, Thunderstorm Winds, Lightning, Hail, Tornado, Extreme Heat, Wildland Fire, Winterstorms
Type of Action: Prevention
Contribution to Mitigation Objective: Protect lives by alerting congregations of people of impending disasters
Priority: High
Rationale of Priority: Past Disasters
Addresses New or Existing buildings: New and Existing
Cost Benefit: If action proves effective in influencing other to obtain radios, benefits will greatly outweigh cost. (NFIP consideration: CRS 610 Flood Warning Program)
TimeLine: Ongoing
Projected Resources: Existing County, Local and School District Resources
Responsible Party: Yell County**,** Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts: Danville, Dardanelle, Two Rivers, and Western Yell County.
Action adopted by: Yell County**,** Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview School Districts: Danville, Dardanelle, Two Rivers, and Western Yell County.
STAPLEE: Meets all Criteria **Update: Ongoing not completed due to lack of funds**

Implement Code RED Weather Warning early telephone warning system designed to automatically deliver targeted weather notifications for the immediate threats of severe thunderstorm warnings, flash flood warnings and tornado warnings within moments of being issued by the National Weather Service (NWS) throughout the County.

Associated Hazard: Flood, Thunderstorm Wind/Strong Wind, Lightning, Hail, Tornado, Winterstorms
Type of Action: Prevention
Contribution to Mitigation Objective: Prevents the loss of lives by alerting citizens by landline or cell phone of approaching storms by physical address
Priority: High
Rationale of Priority: Past storm events
Addresses New or Existing buildings: N/A
Cost Benefit: Highly Beneficial, cost to county.
TimeLine: Ongoing
Projected Resources: Existing County and Possible Outside Resources
Responsible Party: Yell County
Action adopted by: Yell County, Cities of Belleville, Corinth, Danville, Dardanelle, Havana, Ola, and Plainview, School Districts Danville, Dardanelle, Two Rivers, Western Yell County
STAPLEE: Meets all Criteria **Update: Ongoing**

Find alternate means to assign probability when no events have occurred.
Hazard Associated: Dam Failure
Type of Action: Prevention
Contribution to Mitigation Objective: Help planning team and community to understand risk.
Priority: Low
Rationale for Priority: Dam Failure
Addresses New or Existing buildings: New and existing
Cost Benefit: NA
TimeLine: 5 year
Projected Resources: no additional funding required
Responsible Party: Planning Team
Action adopted by: Yell County
STAPLEE: Meets all Criteria

SECTION 5

Acronyms

ADA	Average Daily Attendance
ADEM	Arkansas Department of Emergency Management
BCA	Benefit-Cost Analysis
BMPs	Best Management Practices
CFR	Code of Regulations
CRS	Community Rating System
DMA 2000	Disaster Mitigation Act of 2000
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
GIS	Geographic Information System
HMC	Hazard Mitigation Committee
HMGP	Hazard Mitigation Grant Program
IBC	Internal Building Code
IFR	Interim Final Rule
LEPC	Local Emergency Planning Committee
MOU	Memorandum of Understanding
NFIP	National Flood Insurance Program
PDM	Pre-Disaster Mitigation Program
PGA	Peak Ground Acceleration
SHMO	State Hazard Mitigation Officer
STAPLEE	Social, Technical, Administrative, Political, Legal, Economic
UCC	Uniform Construction Code
WUI	Wildland Urban Interface
YCOEM	Yell County Office of Emergency Management
YCOES	Yell County Office of Emergency Services

SECTION 6

Plan Adoption

Attached are approved resolutions the county, cities and school districts passed after FEMA approved the Yell County Hazard Mitigation Plan.

6.1 Resolutions

Yell County Arkansas
City of Belleville
City of Corinth
City of Danville
City of Dardanelle
City of Havana
City of Ola
City of Plainview
Danville School District
Dardanelle School District
Two Rivers School District
Western Yell County School District