

PLAN REVIEW TOOL

1. COVER PAGE

2024 Northern Kentucky Regional Hazard Mitigation Plan			
New Plan or Update: A new plan using the new FEMA Policy		Date:	
Multi-Jurisdiction Plan for			
Boone County Florence Union Walton Campbell County Alexandria Bellevue California Cold Spring Crestview Dayton Fort Thomas Highland Heights Melbourne Mentor	Newport Silver Grove Southgate Wilder Woodlawn Carroll County Carrollton Ghent Prestonville Sanders Worthville Gallatin County Glencoe Sparta Warsaw	Grant County Corinth Crittenden Dry Ridge Williamstown Kenton County Bromley Covington Crescent Springs Crestview Hills Edgewood Elsmere Erlanger Fairview Ft. Mitchell	Ft. Wright Independence Kenton Vale Lakeside Park Ludlow Park Hills Ryland Heights Taylor Mill Villa Hills Owen County Gratz Owenton Pendleton County Butler Falmouth
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State Review			
Initial Review			
Initial Date Sent:		Date Received:	Date Returned:
Plan Reviewers:			

<i>Final Review</i>		
Initial Date Sent:	Date Received:	Date Returned:
Plan Reviewers:		
FEMA Review:		
Date Sent:	Date Received:	Date Returned:
Plan Reviewers:		
Plan Not Approved:	Plan Approvable Pending Adoption:	Plan Approved:

MULTI-JURISDICTIONAL SUMMARY SHEET

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Boone County	X	X	X	X	X		
Florence	X	X	X	X	X		
Union	X	X	X	X	X		
Walton	X	X	X	X	X		
Campbell County	X	X	X	X	X		
Alexandria	X		X	X			
Bellevue	X		X	X			
California	X		X	X			
Cold Spring	X		X	X			
Crestview	X		X	X			
Dayton	X	X	X	X			
Fort Thomas	X	X	X	X	X		
Highland Heights	X		X	X			
Melbourne	X		X	X			
Mentor	X		X	X			
Newport	X	X	X	X			
Silver Grove	X	X	X	X			
Southgate	X	X	X	X	X		
Wilder	X		X	X			
Woodlawn	X	X	X	X			
Carroll County	X	X	X	X	X		
Carrollton	X		X	X	X		
Ghent	X		X	X	X		
Prestonville							
Sanders	X		X	X			
Worthville							

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Gallatin County	X	X	X	X	X		
Glencoe	X		X	X	X		
Sparta	X		X				
Warsaw	X		X	X			
Grant County	X	X	X	X	X		
Corinth	X		X	X			
Crittenden							
Dry Ridge	X		X	X	X		
Williamstown	X	X	X	X	X		
Kenton County	X	X	X	X	X		
Bromley	X		X	X			
Covington	X	X	X	X			
Crescent Springs	X	X	X	X	X		
Crestview Hills	X	X	X	X	X		
Edgewood	X		X	X			
Elsmere	X	X	X	X			
Erlanger	X	X	X	X			
Fairview							
Ft. Mitchell	X		X	X	X		
Ft. Wright	X	X	X	X	X		
Independence	X		X	X			
Kenton Vale							
Lakeside Park	X		X	X	X		
Ludlow	X		X	X	X		
Park Hills	X		X	X			
Ryland Heights	X	X	X	X			
Taylor Mill	X	X	X	X			
Villa Hills	X	X	X	X			
Owen County	X	X	X	X	X		
Gratz	X		X	X	X		

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Monterey							
Owenton	X		X	X	X		
Pendleton County	X	X	X	X	X		
Butler	X		X	X	X		
Falmouth							

Passed during 2022 Kentucky's regular session, Senate Bill 106 (AN ACT relating to the administrative dissolution of cities) was the catalyst for the City of Monterey in Owen County to be dissolved. The city is no longer a functioning city government. The Kentucky Department of Local Government (DLG) held a public hearing in Monterey on October 26, 2023, to explain the process and answer residents' questions. Once DLG has finalized the documentation, the city will become unincorporated in Owen County and the responsibility of the county to provide services¹.

¹ [Kentucky cities with no government could be dissolved | Lexington Herald Leader](#)

2. PLAN REVIEW CHECKLIST

a. ELEMENT A: PLANNING PROCESS

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved?		
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?		
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and nonprofit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?		
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?		
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?		
Element A Required Revisions		
Required Revision:		

b. ELEMENT B: RISK ASSESSMENT

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?		
B1-b. Does the plan include information on the location of each identified hazard?		
B1-c. Does the plan describe the extent for each identified hazard?		
B1-d. Does the plan include the history of previous hazard events for each identified hazard?		
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature, and sea levels), on the type, location, and range of anticipated intensities of identified hazards?		
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?		
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))		
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?		
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?		

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?		
Element B Required Revisions		
Required Revision:		

C. ELEMENT C: MITIGATION STRATEGY

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Me
C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?		
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?		
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?		
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?		
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Me
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?		
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?		
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?		
C5-b. Does the plan provide the position, office, department, or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?		
Element C Required Revisions		
Required Revision:		

d. ELEMENT D: PLAN MAINTENANCE

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?		
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?		
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.		
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?		
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information, and strategy of the mitigation plan into other planning mechanisms?		
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?		
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?		
Element D Required Revisions		
Required Revision:		

e. ELEMENT E: PLAN UPDATE

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?		
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?		
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?		
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?		
Element E Required Revisions		
Required Revision:		

f. ELEMENT F: PLAN ADOPTION

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?		
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?		
Element F Required Revisions		

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
Required Revision:		

g. ELEMENT G: HIGH HAZARD POTENTIAL DAMS

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports, and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?		
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?		
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?		
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?		
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?		
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?		
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?		

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?		
HHPD4-c. Does the plan identify the position, office, department, or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?		
HHPD Required Revisions		
Required Revision:		

3. PLAN ASSESSMENT

ELEMENT A. PLANNING PROCESS

STRENGTHS

-

OPPORTUNITIES FOR IMPROVEMENT

-

ELEMENT B. RISK ASSESSMENT

STRENGTHS

-

OPPORTUNITIES FOR IMPROVEMENT

-

ELEMENT C. MITIGATION STRATEGY

STRENGTHS

-

OPPORTUNITIES FOR IMPROVEMENT

-

ELEMENT D. PLAN MAINTENANCE

STRENGTHS

-

OPPORTUNITIES FOR IMPROVEMENT

-

ELEMENT E. PLAN UPDATE

STRENGTHS

-

2/14/2024

OPPORTUNITIES FOR IMPROVEMENT

-

ELEMENT G. HHPD REQUIREMENTS

STRENGTHS

-

OPPORTUNITIES FOR IMPROVEMENT

-

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1. PLAN INTRODUCTION

1. CREATING THE NORTHERN KENTUCKY HAZARD MITIGATION PLAN

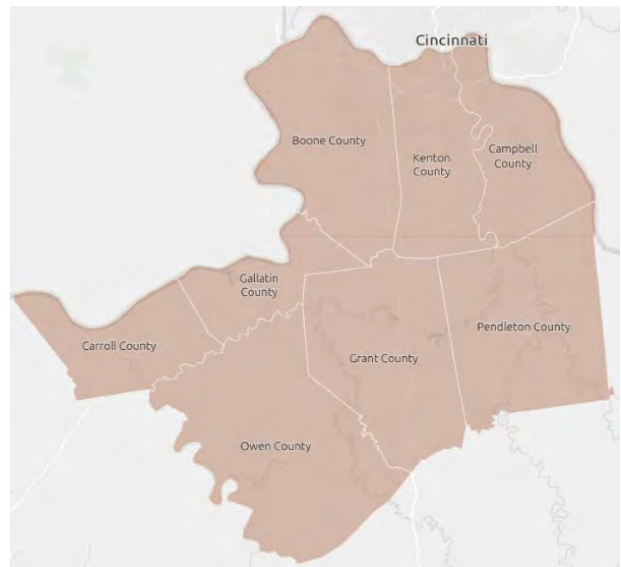
The Northern Kentucky Regional Natural Hazard Mitigation Plan has been created to serve as a guide to the counties and cities of the Northern Kentucky region when preparing to mitigate hazards. It results from a thorough local and regional planning process designed to identify potential hazards and formulate strategies to prevent or respond to them most effectively. Each political jurisdiction, members of the general public, community agencies, and academic institutions within the eight-county Northern Kentucky region were invited to give input into the hazard mitigation planning process that was coordinated by the Northern Kentucky Area Development District (NKADD).

Hazard Mitigation is the process of reducing the severity of the impacts of natural hazards through planning and preparation. Each hazard may require a specific type of mitigation. For example, engineering methods can be employed (such as building earthquake-resistant buildings) to reduce the impact of a natural hazard, at least temporarily. In other cases, the only form of mitigation that is guaranteed to be successful is to limit or prevent human activity and development where hazards are known to occur (such as preventing construction in floodplains). The mitigation planning process will enable the Northern Kentucky Region to make sound planning and development decisions for the future. It also provides a mechanism for coordinating the efforts of individuals, organizations, and local governments concerned with hazard mitigation activities.

AREA DEVELOPMENT DISTRICTS INVOLVEMENT AND GOVERNANCE

The Northern Kentucky Area Development District (NKADD) was organized as a nonprofit corporation in 1971 and became one of fifteen such local development districts in Kentucky. Although they are public bodies under Kentucky law, the Area Development Districts are neither state agencies nor local governments but rather partnerships with local governments. NKADD consists of Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton counties and includes fifty-two (52) incorporated cities. As required by legislation, the district is governed by a board of directors that is composed of at least 51% elected officials. The board consists of each county judge/executive, the mayor of each county seat, and citizen appointees.

The US Economic Development Administration (EDA) has designated the Northern Kentucky Area Development District as the regional economic development district. NKADD staff completes and



The Counties of the Northern Kentucky Area Development District

updates the region's Comprehensive Economic Development Strategy (CEDS). The 2022 CEDS and the 2023 CEDS updates can be found on the NKADD website, www.nkadd.org.

NORTHERN KENTUCKY AREA DEVELOPMENT DISTRICT STAFF

The Area Development District's professional staff has experience in development, human services management, planning, and workforce development. Local governments benefit from staff and services that many counties and cities cannot afford by sharing the services available through the Area Development District. The concept of Area Development Districts in Kentucky originated with federal funding established by the Appalachian Regional Development Act and the Public Works and Economic Development Act of 1965 and then were codified into state statute through Kentucky Revised Statutes (KRS) 147A.

a. NORTHERN KENTUCKY AREA DEVELOPMENT DISTRICT MITIGATION PLANNING EFFORT

The Northern Kentucky Hazard Mitigation Plan results from a partnership between the Kentucky Emergency Management Agency and the Northern Kentucky Area Development District. The plan was initially funded by a Federal Emergency Management Agency (FEMA) Mitigation Planning Grant. The first Regional Hazard Mitigation Plan was adopted in September 2006. A Regional Mitigation Committee comprised of public officials, emergency management personnel, and individual citizens guided the original plan. The Northern Kentucky Regional Hazard Mitigation plan has been updated and routinely monitored as defined in this plan, to maintain compliance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000 (Public Law 106-390, October 30, 2000). The plan has been developed and updated per the current rules and regulations governing regional mitigation plans.

The Disaster Mitigation Act of 2000 required Hazard Mitigation Plans to undergo a comprehensive update every five (5) years. The NKADD updated the original plan in 2011 and 2017. The 2023 Regional Hazard Mitigation Plan is an update to the 2017 plan. NKADD staff used FEMA's Local Mitigation Planning Policy Guide, effective April 2023, to write the new plan. The 2024 regional plan is broken down into six elements:

- Element A - Planning Process
- Element B – Risk Assessment
- Element C – Mitigation Strategy
- Element D – Plan Maintenance
- Element E – Plan Update
- Element F – Plan Adoption
- Element G – High Hazard Potential Dams

OVERALL SUMMARY OF THE MULTI-JURISDICTIONAL PLANNING PROCESS

For the 2024 Hazard Mitigation Plan update, staff started the plan update by connecting with the regional emergency management directors, collecting data on regional events and risks, and developing a public hazard mitigation survey. The eight-emergency management/ homeland security directors were essential in ensuring all community lifelines and stakeholders were aware of the planning process, and input was included in the plan update. Each county's emergency manager provided a contact list of community lifelines and stakeholders that were used throughout the planning process, including the creation of local mitigation committees. Also, input from the directors was used to develop the public hazard mitigation survey.

LOCAL AND REGIONAL HAZARD MITIGATION COMMITTEES

The local hazard mitigation committees were established in each county to represent all jurisdictions within the county. The local committee in each county is comprised of the County Emergency Management director, local elected officials representing the county and cities, emergency management personnel, community stakeholders, community development professionals and other persons with knowledge valuable to hazard mitigation planning. Each stage of the planning process was open to the public to allow insight and suggestions from private citizens. The proceedings from each meeting, including meeting minutes, maps, attendance records, public input, and all technical information reviewed, were documented, and will be kept on file at the Northern Kentucky Area Development District office in accordance with public records retention rules and guidance.

The local hazard mitigation committees were responsible for developing risk assessments and formulating mitigation strategies. The NKADD staff provided technical information and support as needed by the committees. During the plan update, the Local Mitigation Committees reviewed the risk assessment findings and mitigation strategies and gave final recommendations for the updated plan's content. For the mitigation strategy element, the local committees identified hazards, formulated goals and objectives to address those hazards and decided which action plans met those goals and objectives. The mitigation strategy was carefully formulated by incorporating the collective experience of local committee members who have firsthand knowledge of the conditions within their communities, including possible hazards, historical events, and vulnerabilities.

With a highly active emergency management community in Northern Kentucky, NKADD staff used these resources to gather additional input and as advisors for the different plan elements. Existing local and regional emergency management-related organizations include:

- NKY All-Hazards Incident Management Team (NKY AHIMT) – The NKY AHIMT is a multi-agency/multi-jurisdiction team for extended incidents formed and managed at the state, regional or metropolitan level. All-Hazard IMTs are deployed as a team of 10-35 trained personnel to manage major and/or complex incidents requiring a considerable number of local, regional, and state resources. The teams are activated to support incident management at incidents that extend beyond one operational period. An IMT may be utilized in incidents such as a tornado touchdown,

earthquake, flood, or multi-day hostage/standoff situation. They are also utilized at planned mass-gathering types of events such as festivals, political rallies, state and national summits, and conferences. Jurisdictions and agencies that participate in the NKY AHIMT include:

- o Anderson County EMS/EMA
 - o Boone County Emergency Management
 - o Burlington Fire Department
 - o Butler County Sheriff's Office – Ohio
 - o Campbell County Office of Emergency Management
 - o Campbell County Fire District 1
 - o Campbell County Fiscal Court
 - o Cincinnati Northern Kentucky International CVG Airport Fire Department
 - o Covington Fire Department
 - o Covington Professional Firefighters Local 38
 - o Florence Fire/EMS Department
 - o Fort Mitchell Fire Department
 - o Grant County Emergency Management
 - o City of Independence
 - o Independence Fire District
 - o Independence Police Department
 - o Kenton County – Government
 - o Kenton County Homeland Security Emergency Management
 - o Kenton County Police Department
 - o Kenton County Public Works
 - o Kentucky Department of Public Health
 - o Kentucky Emergency Management
 - o KYEM Area 6 Manager
 - o Kentucky Offices of Emergency Response Services (ERS)
 - o Lakeside Park – Crestview Hills Police Department
 - o Pendleton County Emergency Management
 - o St. Elizabeth Healthcare
 - o Scott County Emergency Management
 - o Winchester Fire Department
 - o Woodford County Emergency Management (KY)
- Northern Kentucky Emergency Planning Committee (NKEPC) – The NKEPC is a collaboration of Boone, Bracken, Campbell, Gallatin, Grant, Kenton, Owen, Pendleton, and Robertson Counties to serve collectively as Northern Kentucky's LEPC. Local Emergency Planning Committee's (LEPCs) are required under the Emergency Planning and Community Right to Know Act (EPCRA) to develop and review response plans and provide information about chemicals within the community to citizens. In 1986, the Emergency Planning and Community Right to Know Act (EPCRA) was created to assist

communities in planning for chemical emergencies. State and local governments are required to prepare and protect their communities from chemical hazard risks. Industries are required to report to the Local Emergency Planning Committee on the storage, use and release of hazardous substances.

- Northern Kentucky Regional Weapons of Mass Destruction/Hazmat Response Unit HM-3 - Northern Kentucky Regional Hazardous Materials/WMD Response Unit HM-373, in conjunction with the HM-3 Unit, provides response and planning support for chemical, biological, radiological, nuclear, and explosive incidents to include detection, evidence collection, sampling, and identification of Hazardous Materials/CBRNE Materials. The unit responds to emergencies with a team of 60 professional firefighters from departments in 11 counties.
- Northern Kentucky Health Care Planning Coalition (NKHPC) – The NKHPC is one of eight healthcare coalitions managed by the Kentucky Department for Public Health Preparedness Branch and funded through a grant from the Assistant Secretary for Preparedness and Response (ASPR). Healthcare coalitions play a critical role in developing healthcare system preparedness, response, and recovery capabilities. The NKHPC is comprised of multiple organizations, including hospitals, local health departments, emergency management agencies, emergency medical services, fire/rescue agencies, non-governmental disaster response agencies, long-term care facilities, home health services, outpatient services, dialysis centers, mental health services, and many other healthcare and community partners.
- Northern Kentucky Technical Rescue Team (NKTRT) – The Northern Kentucky Technical Rescue Team is a working team comprised of several fire departments, public agencies, and private agencies in Northern Kentucky that provides specialized rescue. NKTRT provides the following rescue services: Building Collapse, Confined Space, Heavy Vehicle Extrication, High/Low Angle Rope Rescue, Large Animal Rescue, Missing Persons Searches, Swift Water, and Trench.

b. MULTI-JURISDICTIONAL PLANNING PARTICIPATION PROCESS

As the hazard mitigation planning process started, staff researched and gathered information and resources from various sources and used several different methods. Staff used historical data, internet resources, surveys, in-person and hybrid meetings, and online submission platforms. Staff reviewed past hazard mitigation plans and updated historical event data and emergency declarations. The updated event data included jurisdiction information, date, event type, magnitude and extent, loss, and cost of damages. Realizing that events and declarations have occurred since the original data collection in fall 2022, staff completed a second update in summer 2023 of the event data and emergency declaration information.

The regional hazard mitigation survey was released in early December 2022. Survey questions include ranking how concerned they are about natural disasters affecting their county, how they receive information about natural disasters, and what concerns them most when natural disasters happen



(Appendix 1). As of May 2023, more than 229 surveys were completed, providing insight into regional concerns about natural disasters. The concerns include the effects of ice storms, severe thunderstorms/lightning, severe winter storms, and tornados. Those who completed the survey understand that the loss of life/or injuries and damage or loss of infrastructure are the two main priorities that are most susceptible to impacts caused by natural

hazards in their communities. In relation to creating policies and planning for future events, the survey showed it was important to disclose natural hazard risks during real estate transactions and safeguard the local economy following a disaster event. It also showed that it was critical to protect critical facilities, protect and reduce damages to utilities and strengthen emergency services. (Appendix 2). For the original survey release, staff sent an informative email to elected officials and each local mitigation committee member, included it in the NKADD monthly newsletter, and posted it on social media. A link to the survey was included in all local mitigation committee and community-focused meeting communications. Some counties created their own social media posts and community emails to gather additional survey input. To make it easier for the community to take the survey, staff created a QR code for the survey to promote the survey through social media posts, newsletters, and on-table tents used during meetings (Appendix 3).

Community Meetings

EMERGENCY MANAGERS MEETINGS

NKADD staff meet with local emergency managers throughout the planning process to get input, review data and provide insight into local and regional hazard mitigation concerns. An initial meeting was held before the Community Kick-off that outlined the plan update process, provided a detailed timeline for the update, and gathered information on a comprehensive hazard mitigation mailing list. Each county had its own mailing list, including elected officials, first responders, public work professionals, planning and zoning professionals, utilities, nonprofits, and community partners. A regional and statewide mailing list was created to inform community stakeholders that provided services throughout the region. A second meeting was held upon the completion of all of the community-focused meetings and the regional stakeholder meeting. The final Emergency Managers meeting was held in January 2024 during the public comment period to finalize the draft and detail the next steps, including plan maintenance, plan updates, and plan adoption.

HAZARD MITIGATION KICK-OFF MEETING

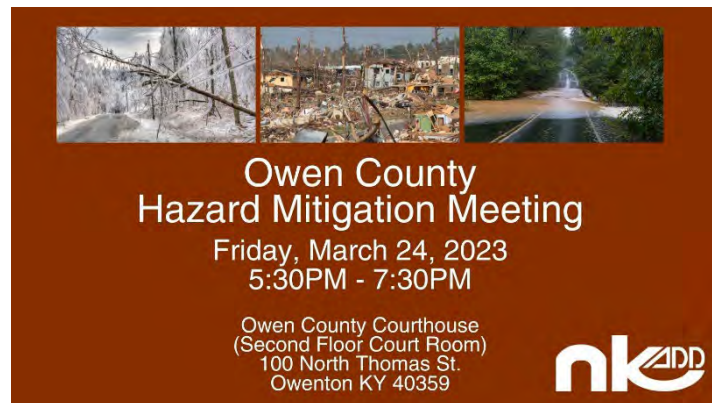
During the Kick-off meeting, NKADD staff provided an overview of the hazard mitigation process, including a background of the process, plan components, the timeline, the adoption process, and the next steps. They shared changes to the plan requirements and procedures outlined in the recently released Local Mitigation Planning Policy Guide, including the plan approval

process. Participants could review and provide input on each county's critical facilities maps to start the data updating process to identify any changes. A meeting invite was sent to the entire comprehensive hazard mitigation mailing list. Staff sent media releases to the local and regional news outlets, shared meeting promotional information with each county to post on their social media accounts, added the media release to the NKADD website, and made posts on the NKADD social media platforms.



COMMUNITY FOCUSED MEETINGS

To allow for more in-depth discussion and reach a larger audience, staff worked with the county emergency management directors to set up joint multi-jurisdictional community-focused meetings. The emergency management directors grouped 3 to 4 communities together and selected meeting dates from January 2023 to March 2023 (Appendix 4) by using Signup Genius to select meeting dates and times (Appendix 5). Staff sent meeting notices to community lifelines and stakeholders to one of the



sixteen specific community-focused meetings using the comprehensive hazard mitigation mailing list created by the county's emergency managers. Staff sent media releases to the local and regional news outlets, shared meeting promotional information with each county to post on their social media accounts, added the media release to the NKADD website, and made posts on the NKADD social media platforms.

The two-part community-focused meetings started with staff providing an overview of the hazard mitigation process, including a background of the process, plan components, the timeline, the adoption process, and the next steps (Appendix 6). The second part of the meeting consisted of staff using a template to lead roundtable discussions with each jurisdiction, where they recorded the information gathered during the breakout sessions or mini meetings that were later incorporated into the joint planning meeting documents (Appendix 7). Information collected included updated critical facilities,

dams, flooding and landslide maps, risk assessment (anecdotal data), goals for the mitigation strategy, and community plan information. To allow participants to provide additional information after the community-focused meetings, staff created a webpage on the NKADD's website where participants could view the updated maps, take the community input survey, provide updated local plan information, and input additional risk assessment survey data, including uploading documents and images. Staff created the Northern Kentucky Hazard Mitigation Plan – Risk Assessment form to make gathering the other assessment survey data easier. The form included the same information requested during the breakout sessions while also allowing communities to upload documents and pictures further detailing previous events and future concerns (Appendix 8).

REGIONAL STAKEHOLDER MEETING

With many regional stakeholders attending the community-focused meetings, staff wanted to bring them all together to understand the regional hazard mitigation concerns better. The hybrid meeting allowed regional utilities, healthcare, and community development agencies to provide input.



MITIGATION STRATEGY REVIEW MEETINGS

Each county held a mitigation strategy review meeting to provide input into the mitigation strategy element and action plan. Through community input, the previous mitigation strategy was revised and updated. New actions include encouraging collaboration and partnerships with private sector and non-governmental organizations, promoting economic recovery and continuity following hazard events,



ensuring vulnerable and underserved populations are addressed in hazard mitigation planning, and incorporating dam construction and maintenance into local and regional mitigation planning. Using the comprehensive hazard mitigation mailing list, staff sent meeting notices. Staff worked with county emergency managers to promote the county mitigation strategy review meetings, including sharing meeting promotional information with each county to post on their social media accounts, adding the media release to the NKADD website, and making posts on the NKADD social media platforms (Appendix 9).

LIST OF HAZARD MITIGATION MEETINGS

Date	Meeting	Number of Participants
12/7/2022	Emergency Managers	5
1/11/2023	Community Kick-off	62
1/26/2023	Campbell County Community Meeting - Group 1	8
1/31/2023	Campbell County Community Meeting - Group 3	9
2/7/2023	Campbell County Community Meeting - Group 4	12
2/7/2023	Carroll County Community Meeting - Group 1	13
2/7/2023	Carroll County Community Meeting - Group 2	3
2/9/2023	Kenton County Community Meeting - Group 1	11
2/17/2023	Kenton County Community Meeting - Group 2	10
2/24/2023	Boone County Community Meeting	17
2/24/2023	Kenton County Community Meeting - Group 3	15
2/27/2023	Campbell County Community Meeting - Group 2	6
3/1/2023	Grant County Community Meeting - Group 1	5
3/13/2023	Grant County Community Meeting - Group 2	5
3/23/2023	Gallatin County Community Meeting	5
3/24/2023	Owen County Community Meeting	11
3/28/2023	Pendleton County Community Meeting	13
3/29/2023	Kenton County Community Meeting - Group 4	18
4/11/2023	Regional Stakeholder Meeting	21
4/14/2023	CEDS Steering Committee Meeting	9
7/28/2023	Emergency Managers	5
8/25/2023	Regional Stakeholder Meeting - Mitigation Strategy	15
11/14/2023	Boone County Mitigation Strategy Meeting	5
11/28/2023	Carroll County Mitigation Strategy Meeting	12
12/5/2023	Grant County Mitigation Strategy Meeting	6
12/6/2023	Kenton County Mitigation Strategy Meeting	0
12/11/2023	Gallatin County Mitigation Strategy Meeting	3
12/12/2023	Owen County Mitigation Strategy Meeting	10
12/13/2023	Campbell County Mitigation Strategy Meeting	9
12/21/2023	Pendleton County Mitigation Strategy Meeting	3

OVERVIEW OF MULTI-JURISDICTIONAL PARTICIPATION

As a multi-jurisdiction Hazard Mitigation Plan, it was important for staff to gather input from and track participation for all jurisdictions. The staff's goal was to have participation from all of the jurisdictions, but they had difficulty with a few of the smaller jurisdictions that have less structured management. For

these communities, staff worked with the emergency managers and emergency services providers for input into the plan. Below is an overview of the hazard mitigation planning and adoption process.

JURISDICTION PARTICIPATION INVOLVEMENT LIST

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Boone County	X	X	X	X	X		
Florence	X	X	X	X	X		
Union	X	X	X	X	X		
Walton	X	X	X	X	X		
Campbell County	X	X	X	X	X		
Alexandria	X		X	X			
Bellevue	X		X	X			
California	X		X	X			
Cold Spring	X		X	X			
Crestview	X		X	X			
Dayton	X	X	X	X			
Fort Thomas	X	X	X	X	X		
Highland Heights	X		X	X			
Melbourne	X		X	X			
Mentor	X		X	X			
Newport	X	X	X	X			
Silver Grove	X	X	X	X			
Southgate	X	X	X	X	X		
Wilder	X		X	X			
Woodlawn	X	X	X	X			
Carroll County	X	X	X	X	X		
Carrollton	X		X	X	X		
Ghent	X		X	X	X		
Prestonville							
Sanders	X		X	X			

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Worthville							
Gallatin County	X	X	X	X	X		
Glencoe	X		X	X	X		
Sparta	X		X				
Warsaw	X		X	X			
Grant County	X	X	X	X	X		
Corinth	X		X	X			
Crittenden							
Dry Ridge	X		X	X	X		
Williamstown	X	X	X	X	X		
Kenton County	X	X	X	X	X		
Bromley	X		X	X			
Covington	X	X	X	X			
Crescent Springs	X	X	X	X	X		
Crestview Hills	X	X	X	X	X		
Edgewood	X		X	X			
Elsmere	X	X	X	X			
Erlanger	X	X	X	X			
Fairview							
Ft. Mitchell	X		X	X	X		
Ft. Wright	X	X	X	X	X		
Independence	X		X	X			
Kenton Vale							
Lakeside Park	X		X	X	X		
Ludlow	X		X	X	X		
Park Hills	X		X	X			
Ryland Heights	X	X	X	X			
Taylor Mill	X	X	X	X			
Villa Hills	X	X	X	X			
Owen County	X	X	X	X	X		

Jurisdiction	Attendance at Local Meetings	Attendance at Regional Meetings	Direct Planning Process	Direct Risk Assessment	Direct Plan Maintenance and Procedures	Presentation of Findings and Review	Adoption of Plan
Gratz	X		X	X	X		
Monterey							
Owenton	X		X	X	X		
Pendleton County	X	X	X	X	X		
Butler	X		X	X	X		
Falmouth							

Passed during 2022 Kentucky's regular session, Senate Bill 106 (AN ACT relating to the administrative dissolution of cities) was the catalyst for the City of Monterey in Owen County to be dissolved. The city is no longer a functioning city government. The Kentucky Department of Local Government (DLG) held a public hearing in Monterey on October 26, 2023, to explain the process and answer residents' questions. Once DLG has finalized the documentation, the city will become unincorporated in Owen County and the responsibility of the county to provide services².

² [Kentucky cities with no government could be dissolved | Lexington Herald Leader](#)

LIST OF NKY HAZARD MITIGATION PARTICIPANTS

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Emergency Managers	12/7/2022	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Emergency Managers	12/7/2022	Mark	Ihrig	Director	Boone County Emergency Management	Boone County	Boone
Emergency Managers	12/7/2022	Larry	Karsner	Director	Owen County Emergency Management Agency	Owen County	Owen
Emergency Managers	12/7/2022	Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County	Campbell
Emergency Managers	12/7/2022	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
Community Kick-off	1/11/2023	Matt	Adkins	Executive Director	Carroll County Community Development Corporation	Carroll County	Carroll
Community Kick-off	1/11/2023	Matthew	Allen	Deputy Director	Boone County Emergency Management	Boone County	Boone
Community Kick-off	1/11/2023	Chris	Amon	Fire Chief	City of Fort Thomas	Fort Thomas	Campbell
Community Kick-off	1/11/2023	Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region	Region
Community Kick-off	1/11/2023	Jeff	Barlow	Fire Chief	Burlington Fire Protection District	Boone County	Boone
Community Kick-off	1/11/2023	Jeff	Bethell	Public Works Director	City of Fort Wright	Fort Wright	Kenton
Community Kick-off	1/11/2023	John	Black	Assistant Chief	City of Florence Fire/EMS	Florence	Boone
Community Kick-off	1/11/2023	Mike	Bloemer	Deputy Chief	Covington Fire Department	Covington	Kenton
Community Kick-off	1/11/2023	Craig T.	Bohman	City Administrator	City of Villa Hills	Villa Hills	Kenton
Community Kick-off	1/11/2023	Eric	Bowles	Police Captain	City of Florence Fire/EMS	Florence	Boone
Community Kick-off	1/11/2023	Caroline	Braden	Commissioner	City of Taylor Mill	Taylor Mill	Kenton
Community Kick-off	1/11/2023	Susan	Brown	Conservation Education Specialist	Boone County Conservation District	Boone County	Boone
Community Kick-off	1/11/2023	Greg	Buckler	Deputy Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Community Kick-off	1/11/2023	Nicole	Clements	Watershed Coordinator	Banklick Watershed Council	Region	Region
Community Kick-off	1/11/2023	Kim	Clemons	Director of Human Resource, Communication, Facilities and Fleet	Northern Kentucky Water District	Region	Region
Community Kick-off	1/11/2023	Megan	Clere	Solid Waste Coordinator	Campbell County	Campbell County	Campbell
Community Kick-off	1/11/2023	John	Cole	Mayor	City of Ryland Heights	Ryland Heights	Kenton
Community Kick-off	1/11/2023	Kate	Dean	Regional Childcare Administrator	Statewide Childcare Awareness	Region	State
Community Kick-off	1/11/2023	Matt	Dowling	City Administrator	City of Elsmere	Elsmere	Kenton
Community Kick-off	1/11/2023	Kim	Francis	Disaster Program Manager	Greater Cincinnati Chapter of the American Red Cross	Ohio	Ohio
Community Kick-off	1/11/2023	Emily	Goddard	Associate Director - Local Gov Services	Northern Kentucky Area Development District	Region	NKADD
Community Kick-off	1/11/2023	Brian	Haney	City Administrator	City of Taylor Mill	Taylor Mill	Kenton
Community Kick-off	1/11/2023	Mark	Ihrig	Director	Boone County Emergency Management	Boone County	Boone
Community Kick-off	1/11/2023	Mark	Jacobs	Director of Conservation Programs	Boone County Conservation District	Boone County	Boone

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Community Kick-off	1/11/2023	Destiny	Jardin	Planning Specialist	Hamilton County EMA	Ohio	Ohio
Community Kick-off	1/11/2023	Tara	Johnson-Noem	Executive Director	Northern Kentucky Area Development District	Region	NKADD
Community Kick-off	1/11/2023	Larry	Karsner	Director	Owen County Emergency Management Agency	Owen County	Owen
Community Kick-off	1/11/2023	Christina	Kelly	City Council	City of Dayton	Dayton	Campbell
Community Kick-off	1/11/2023	Katie Jo	Kirkpatrick	Workforce Development Specialist	Northern Kentucky Area Development District	Region	NKADD
Community Kick-off	1/11/2023	Pavla	Link	District Operations Manager	Boone County Conservation District	Boone County	Boone
Community Kick-off	1/11/2023	Dana	Malone	Security Manager	St. Elizabeth Healthcare	Region	Region
Community Kick-off	1/11/2023	Mark	Martin	Assistant Chief Building Officer	Boone County Building Department.	Boone County	Boone
Community Kick-off	1/11/2023	Heather	Mayfield	District Manager	Kenton County Conservation District	Kenton County	Kenton
Community Kick-off	1/11/2023	Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills	Kenton
Community Kick-off	1/11/2023	Tonya	Miller	Director of Public Works	City of Crescent Springs	Crescent Springs	Kenton
Community Kick-off	1/11/2023	Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County	Campbell
Community Kick-off	1/11/2023	Mike	Moore	Director	Pendleton County Emergency Management Agency	Pendleton County	Pendleton
Community Kick-off	1/11/2023	Brad	Murphy	Safety Coordinator	Northern Kentucky Water District	Region	Region
Community Kick-off	1/11/2023	Jerald	Noran	Boone Co. Building Official	Boone County Building Department.	Boone County	Boone
Community Kick-off	1/11/2023	Jasper	Olsen	Soil Conservation Technician	Boone County Conservation District	Boone County	Boone
Community Kick-off	1/11/2023	Justin	Otto	Director of Economic Development	Campbell County Fiscal Court	Campbell County	Campbell
Community Kick-off	1/11/2023	Frank	Peluso	Fire Chief	City of Newport	Newport/Woodlawn	Campbell
Community Kick-off	1/11/2023	Angie	Perkins	Controller/Business Manager	Northern Kentucky Cooperative for Educational Services	Region	Region
Community Kick-off	1/11/2023	Audra	Points	Director of Safety and EM	Northern Kentucky University	Region	Region
Community Kick-off	1/11/2023	Bob	Porter	KY-4 District Director	Senator Rand Paul	Region	State
Community Kick-off	1/11/2023	Madeline	Pruszenski	River Basin Coordinator	Division of Water	Region	Region
Community Kick-off	1/11/2023	Lindsey	Rechtin	President and CEO	Northern Kentucky Water District	Region	Region
Community Kick-off	1/11/2023	Jeremiah	Rice	Solid Coordinator	Boone County Solid Waste	Boone County	Boone
Community Kick-off	1/11/2023	Steve	Schewe	Fire/EMS Chief	City of Fort Wright	Fort Wright	Kenton
Community Kick-off	1/11/2023	Bob	Schrage	Consultant	Northern Kentucky Area Development District	Region	NKADD
Community Kick-off	1/11/2023	Mary Paula	Schuh	Sr. Director - Planning, Design & Construction	Northern Kentucky University	Region	Region
Community Kick-off	1/11/2023	Brian	Storz		Licking River Basin	Region	Region
Community Kick-off	1/11/2023	Savannah	Sullivan	Climate Action Director	Green Umbrella	Region	Region
Community Kick-off	1/11/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Community Kick-off	1/11/2023	Alicia	Webb-Edgington	President and CEO	Life Learning Center, LLC	Kenton County	Kenton
Community Kick-off	1/11/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
Community Kick-off	1/11/2023	Breanna	White	Community Development Specialist	Northern Kentucky Area Development District	Region	NKADD
Community Kick-off	1/11/2023	David	Wilhoite	Judge Executive	Carroll County Fiscal Court	Carroll County	Carroll
Community Kick-off	1/11/2023	Mike	Wilson	Boone Co. Solid Waste	Boone County Solid Waste	Boone County	Boone
Community Kick-off	1/11/2023	Tami	Wilson	VP of Public Affairs	Northern Kentucky Chamber of Commerce	Region	Region
Community Kick-off	1/11/2023	Ed	Wise	Councilman	City of Crestview Hills	Crestview Hills	Kenton
Community Kick-off	1/11/2023	Chris	Zerhusen	Public Works Director	City of Elsmere	Elsmere	Kenton
Campbell County Community Meeting - Group 1	1/26/2023	Chris	Adkins	Fire Chief	City of Bellevue/Dayton	Bellevue	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Chris	Adkins	Fire Chief	City of Bellevue/Dayton	Dayton	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Neal	Bedel	Mayor	City of Silver Grove	Silver Grove	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Fred	Otto		Citizen	Fort Thomas	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Frank	Peluso	Fire Chief	City of Newport	Newport/ Woodlawn	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Frank	Warneck	City Administrator	City of Bellevue	Bellevue	Campbell
Campbell County Community Meeting - Group 1	1/26/2023	Robert	Yoder	Economic Development	City of Silver Grove	Silver Grove	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Kevin	Barbian	General Services Director	City of Fort Thomas	Fort Thomas	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Geoff	Besecker	Commissioner	Campbell County Fiscal Court	Campbell County	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Greg	Buckler	Deputy Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Jim	Hamberg	Mayor	City of Southgate	Southgate	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Ron	Hitch	Public Works Director	City of Cold Springs	Cold Springs	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Steve	Lehman	Public Works Director	City of Highland Heights	Highland Heights	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County	Campbell

2/14/2024

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Campbell County Community Meeting - Group 3	1/31/2023	Aileen	Okura	Council Member	City of Southgate	Southgate	Campbell
Campbell County Community Meeting - Group 3	1/31/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Jim	Bell	Fire Chief	Southern Campbell County	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Greg	Buckler	Deputy Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Sarah	Collins	Director	Campbell County Housing Authority	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Lucas	Cooper	Chief	City of Alexandria	Alexandria	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Doug	Dejaco	Public Works Superintendent	City of Alexandria	Alexandria	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Tim	Ford	Fire Chief	City of Alexandria	Alexandria	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Brad	Murphy	Council Member	City of Wilder	Wilder	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Douglas	Neyman	Chief	City of Wilder	Wilder	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Tom	Nitschke	Captain	Campbell County Police Department	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	Brian	Painter	Commissioner	Campbell County Fiscal Court	Campbell County	Campbell
Campbell County Community Meeting - Group 4	2/7/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Carroll County Community Meeting - Group 1	2/7/2023	Robb	Adams	Mayor	City of Carrollton	Carrollton	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Matt	Adkins	Executive Director	Carroll County Community Development Corporation	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Clay	Cable	Magistrate	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Nathan	Carter	Fire Chief	Westside Fire Department	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Tony	Crutcher	Director	Carroll County Emergency Management Agency	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Linda Jo	Davis	Council Member	City of Carrollton	Carrollton	Carroll

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Carroll County Community Meeting - Group 1	2/7/2023	Tim	Hendrick	Staff Writer	The News-Democrat	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Robert	Hofmann	Fire Chief	City of Carrollton Fire Department	Carrollton	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Jimmy	Lewellyn	Mayor	City of Ghent	Ghent	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Benjie	Long	Magistrate	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Terry	Roach	General Manager	Carrollton Utilities	Carrollton	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Pat	Stewart	Fire Chief	Ghent Fire Protection District	Ghent	Carroll
Carroll County Community Meeting - Group 1	2/7/2023	Mike	Willhoite	Police Chief	City of Carrollton Police Department	Carrollton	Carroll
Carroll County Community Meeting - Group 2	2/7/2023	Matt	Adkins	Executive Director	Carroll County Community Development Corporation	Carroll County	Carroll
Carroll County Community Meeting - Group 2	2/7/2023	David	Wilhoite	Judge Executive	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Community Meeting - Group 2	2/7/2023	Harold	Wyatt	Commissioner	City of Sanders	Sanders	Carroll
Kenton County Community Meeting - Group 1	2/9/2023	Jeff	Bethell	Public Works Director	City of Fort Wright	Fort Wright	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Mike	Dely	City Administrator	City of Crescent Springs	Crescent Springs	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Adam	Fuller	Fire Chief	City of Fort Mitchell	Fort Mitchell	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Edwin	King	City Administrator	City of Fort Mitchell	Fort Mitchell	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Paul	Markgraf	Mayor	City of Lakeside Park	Lakeside Park	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Rob	Nadar	Police Chief	City of Fort Mitchell	Fort Mitchell	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	John	Rigney	Fire Chief	Park Hills Fire Department	Park Hills	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Steve	Schewe	Fire/EMS Chief	City of Fort Wright	Fort Wright	Kenton
Kenton County Community Meeting - Group 1	2/9/2023	Christopher	Schitte	Police Chief	Lakeside Park/ Crestview Hills Police	Lakeside Park	Kenton

2/14/2024

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Kenton County Community Meeting - Group 1	2/9/2023	Jeff	Wendt	Fire Chief	City of Crescent Springs	Crescent Springs	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Tom	Dickman	Fire Chief	City of Edgewood	Edgewood	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Matt	Dowling	City Administrator	City of Crestview Hills	Crestview Hills	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Joe	Maier	Police Chief	City of Elsmere	Elsmere	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Alex	Mattingly	City Administrator	City of Crestview Hills	Crestview Hills	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Dave	McQuery	Assistant Chief Fire/EMS	City of Erlanger	Erlanger	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	John	Scheban	Public Work Director	City of Crestview Hills	Crestview Hills	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Christopher	Schitte	Police Chief	Lakeside Park/ Crestview Hills Police	Crestview Hills	Kenton
Kenton County Community Meeting - Group 2	2/17/2023	Chris	Zerhusen	Public Works Director	City of Elsmere	Elsmere	Kenton
Boone County Community Meeting	2/24/2023	Matt	Allen	Deputy Director	Boone County Emergency Management	Boone County	Boone
Boone County Community Meeting	2/24/2023	Julie	Aubuchon	Mayor	City of Florence	Florence	Boone
Boone County Community Meeting	2/24/2023	Eric	Banky	Captain	City of Florence Fire/EMS	Florence	Boone
Boone County Community Meeting	2/24/2023	Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region	Region
Boone County Community Meeting	2/24/2023	Jeff	Barlow	Fire Chief	Burlington Fire Protection District	Boone County	Boone
Boone County Community Meeting	2/24/2023	Doug	Bine	Commissioner	City of Union	Union	Boone
Boone County Community Meeting	2/24/2023	Matt	Bogen	City Engineer	City of Walton	Walton	Boone
Boone County Community Meeting	2/24/2023	Justin	Finke	Risk Manager	City of Florence	Florence	Boone
Boone County Community Meeting	2/24/2023	Steve	Gay	Director GIS Services	Boone County Planning Commission	Boone County	Boone

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Boone County Community Meeting	2/24/2023	Gevana	Hicks	City Clerk	City of Walton	Walton	Boone
Boone County Community Meeting	2/24/2023	Mark	Ihrig	Director	Boone County Emergency Management	Boone County	Boone
Boone County Community Meeting	2/24/2023	Mark	Jacobs	Director of Conservation Programs	Boone County Conservation District	Boone County	Boone
Boone County Community Meeting	2/24/2023	Paul	Kremer	Public Works	City of Union	Union	Boone
Boone County Community Meeting	2/24/2023	Gerry	Regensburger	Public Works Supervisor	City of Walton	Walton	Boone
Boone County Community Meeting	2/24/2023	Amy	Safran	City Administration	City of Union	Union	Boone
Boone County Community Meeting	2/24/2023	Matthew	Webster	Assistant County Administrator	Boone County Fiscal Court	Boone County	Boone
Boone County Community Meeting	2/24/2023	Rodney	Wren	Fire Chief	City of Florence	Florence	Boone
Kenton County Community Meeting - Group 3	2/24/2023	Scott	Breeze	Fire Chief	Independence Fire	Independence	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Rick	Buster	Public Service Supervisor	Kenton County Public Works	Kenton County	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Kim	Clemons	Director of Human Resource, Communication, Facilities and Fleet	Northern Kentucky Water District	Region	Region
Kenton County Community Meeting - Group 3	2/24/2023	John	Cole	Mayor	City of Ryland Heights	Ryland Heights	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Jake	Eubank	Crew Leader	City of Independence	Independence	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Brian	Haney	City Administrator	City of Taylor Mill	Taylor Mill	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Ashley	Hawks	Executive Director	Kenton County Dispatch	Kenton County	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Ken	Hicks	Director	City of Independence	Independence	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Spike	Jones	Chief of Police	Kenton County Police Department	Kenton County	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Jerry	Jump	Assistant Forman	City of Taylor Mill	Taylor Mill	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	James	Mills	Police Chief	City of Taylor Mill	Taylor Mill	Kenton

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Kenton County Community Meeting - Group 3	2/24/2023	Todd	Rice	Chief Deputy	Kenton County Detention Center	Kenton County	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Nick	Russell	Assistant Fire Chief	Independence Fire	Independence	Kenton
Kenton County Community Meeting - Group 3	2/24/2023	Todd	Schulkers	Deputy Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Campbell County Community Meeting - Group 2	2/27/2023	Geoff	Besecker	Commissioner	Campbell County Fiscal Court	Campbell County	Campbell
Campbell County Community Meeting - Group 2	2/27/2023	Rick	Garr	Board Member	Campbell County Conservation District	Campbell County	Campbell
Campbell County Community Meeting - Group 2	2/27/2023	Rick	Garr	City Engineer	City of Melbourne	Melbourne	Campbell
Campbell County Community Meeting - Group 2	2/27/2023	Kevin	Sell	Citizen	Campbell County	Campbell County	Campbell
Campbell County Community Meeting - Group 2	2/27/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Community Meeting - Group 2	2/27/2023	Wayne	Werrmann Jr.	Fire Chief	Campbell County Fire District #1 (California and Mentor)	California/ Mentor/ Crestview	Campbell
Grant County Community Meeting - Group 1	3/1/2023	Shawna	Coldiron	Magistrate	Grant County Fiscal Court (Corinth)	Grant County	Grant
Grant County Community Meeting - Group 1	3/1/2023	Tyler	Garnett	Deputy Director	Grant County Emergency Management Agency	Grant County	Grant
Grant County Community Meeting - Group 1	3/1/2023	Jaqualynn	Riley	Magistrate	Grant County Fiscal Court	Grant County	Grant
Grant County Community Meeting - Group 1	3/1/2023	Colton	Simpson	Deputy Judge-Executive	Grant County Fiscal Court	Grant County	Grant
Grant County Community Meeting - Group 1	3/1/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
Grant County Community Meeting - Group 2	3/13/2023	Mark	Christopher	Mayor	City of Williamstown	Williamstown	Grant
Grant County Community Meeting - Group 2	3/13/2023	Todd	Dupin	Director of Pupil Personnel & Operations	Williamstown Independent Schools	Williamstown	Grant
Grant County Community Meeting - Group 2	3/13/2023	Tyler	Garnett	Deputy Director	Grant County Emergency Management Agency	Grant County	Grant
Grant County Community Meeting - Group 2	3/13/2023	Derrick	Holland	Superintendent	City of Williamstown	Williamstown	Grant
Grant County Community Meeting - Group 2	3/13/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Gallatin County Community Meeting	3/23/2023	Ethan	Moore	Magistrate	Gallatin County Fiscal Court	Gallatin County	Gallatin
Gallatin County Community Meeting	3/23/2023	Ryan	Morris	Judge Executive	Gallatin County Fiscal Court	Gallatin County	Gallatin
Gallatin County Community Meeting	3/23/2023	Joe	Shinkle	Magistrate	Gallatin County Fiscal Court	Gallatin County	Gallatin
Gallatin County Community Meeting	3/23/2023	Brandon	Terrell	Director	Gallatin County Emergency Management Agency	Gallatin County	Gallatin
Gallatin County Community Meeting	3/23/2023	Mark	Wilson	Mayor	City of Glencoe	Glencoe	Gallatin
Owen County Community Meeting	3/24/2023	Tim	Cammack	Deputy Director	Owen County Emergency Management Agency	Owen County	Owen
Owen County Community Meeting	3/24/2023	Greg	Davis	Chief	New Liberty Fire Department	Owen County	Owen
Owen County Community Meeting	3/24/2023	Travis	Fitzgerald	Magistrate	Owen County Fiscal Court	Owen County	Owen
Owen County Community Meeting	3/24/2023	Adam	Grimes	Mayor	City of Owenton	Owenton	Owen
Owen County Community Meeting	3/24/2023	Wayne	Harris	Magistrate	Owen County Fiscal Court	Owen County	Owen
Owen County Community Meeting	3/24/2023	Larry	Karsner	Director	Owen County Emergency Management Agency	Owen County	Owen
Owen County Community Meeting	3/24/2023	Dan	Logan	Facilities Director	Owen County Schools	Owen County	Owen
Owen County Community Meeting	3/24/2023	Grant	Miller	Director of Pupil Personnel	Owen County Schools	Owen County	Owen
Owen County Community Meeting	3/24/2023	Dane	Perkins	Magistrate	Owen County Fiscal Court	Owen County	Owen
Owen County Community Meeting	3/24/2023	Charles	Riddle	Monterey - Amateur Radio	City of Monterey	Monterey	Owen
Owen County Community Meeting	3/24/2023	Tom	Slayback	Magistrate	Owen County Fiscal Court	Owen County	Owen
Pendleton County Community Meeting	3/28/2023	David	Fields	Judge Executive	Pendleton County Fiscal Court	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Ken	Hale	Chief	Butler Police Department	Butler	Pendleton
Pendleton County Community Meeting	3/28/2023	Michael	Hamets	Deputy EM Director	Pendleton County Emergency Management Agency	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Steve	Hill	Code Enforcement	Pendleton County Fiscal Court	Pendleton County	Pendleton

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Pendleton County Community Meeting	3/28/2023	Don	Jacobs	Pendleton Community Health Department-Environmental	Three River District Health Department	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Mike	Moore	Director	Pendleton County Emergency Management Agency	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Brett	Price	Planner	Pendleton County Joint Planning Commission	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Charlie	Purdy	County Rural Supervisor	Pendleton County Road Department	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Janet	Scanlon	Chair	Pendleton County Joint Planning Commission	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	John	Seitz	Chief	Northern Pendleton Fire Department	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Billy	Steele	Solid Waste Coordinator	Pendleton County	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	John	Steele	PVA	Pendleton County PVA	Pendleton County	Pendleton
Pendleton County Community Meeting	3/28/2023	Allen	Whaley	Magistrate	Pendleton County Fiscal Court	Pendleton County	Pendleton
Kenton County Community Meeting - Group 4	3/29/2023	Bart	Beck	Police Captain	City of Ludlow	Ludlow	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Mike	Bloemer	Deputy Chief	Covington Fire Department	Covington	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Craig T.	Bohman	City Administrator	City of Villa Hills	Villa Hills	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Adam	Chaney	Executive Director	SD1	Region	Region
Kenton County Community Meeting - Group 4	3/29/2023	Paul	Conlter	Safety Coordinator	SD1	Region	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Matthew	Hall	Chief of Police	Villa Hills Police Department	Villa Hills	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Shane	Hamant	Public Works	City of Ludlow	Ludlow	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Heather	Jansen	Mayor	City of Villa Hills	Villa Hills	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Brad	Murphy	Safety Coordinator	Northern Kentucky Water District	Region	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Sharmili	Reddy	Executive Director	Planning Development Services of Kenton County	Kenton County	Kenton

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Kenton County Community Meeting - Group 4	3/29/2023	Brad	Schwenke	Public Works	City of Covington	Covington	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Paul	See	System Administrator	Northern Kentucky Regional Communications System (NKYRCS)	Region	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Cody	Stanley	Police Chief	Park Hills Police Department	Bromley	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Michael	Steward	Fire Chief	Ludlow Fire Department	Ludlow	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Kyle	Walsh	Councilman	City of Villa Hills	Villa Hills	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Justin	Wietholter	Assistant Chief of Police - Operations	City of Covington	Covington	Kenton
Kenton County Community Meeting - Group 4	3/29/2023	Derick C.	Yelton	Public Works Director	City of Villa Hills	Villa Hills	Kenton
Regional Stakeholder Meeting	4/11/2023	Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region	Region
Regional Stakeholder Meeting	4/11/2023	Simon	Boxall	Local Government Specialist	Northern Kentucky Area Development District	Region	Region
Regional Stakeholder Meeting	4/11/2023	Kim	Clemons	Director of Human Resource, Communication, Facilities and Fleet	Northern Kentucky Water District	Region	Region
Regional Stakeholder Meeting	4/11/2023	Chris	Courtney	Associate Director - Local Gov Services	Northern Kentucky Area Development District	Region	Region
Regional Stakeholder Meeting	4/11/2023	Monica	Crews	HCC Readiness & Response Coordinator	District 9 EM Indiana	Indiana	Indiana
Regional Stakeholder Meeting	4/11/2023	Matt	Elberfeld	County Administrator/NKADD Vice Chair	Campbell County Fiscal Court	Campbell County	Campbell
Regional Stakeholder Meeting	4/11/2023	Nick	Grinstead	Plan and Grants Manager	UK-HMGP	State	State
Regional Stakeholder Meeting	4/11/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Regional Stakeholder Meeting	4/11/2023	AnneMarie	Hoopes	Program Assistant, Public Affairs & Women's Initiative	Northern Kentucky Chamber of Commerce	Region	Region
Regional Stakeholder Meeting	4/11/2023	Alex	Hycza	KYEM Area Manager	Area 6 - Kentucky Emergency Management	Region	Region
Regional Stakeholder Meeting	4/11/2023	Katie Jo	Kirkpatrick	Strategic Initiatives Manager	Northern Kentucky Area Development District	Region	Region
Regional Stakeholder Meeting	4/11/2023	Kenny	Losekamp	Emergency Preparedness Manager	CVG Airport Authority	Region	Region
Regional Stakeholder Meeting	4/11/2023	Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills	Kenton
Regional Stakeholder Meeting	4/11/2023	Ken	Muth	Community Relations Manager	Duke Energy	Region	Region
Regional Stakeholder Meeting	4/11/2023	Aileen	Okura	Council Member	City of Southgate	Southgate	Campbell
Regional Stakeholder Meeting	4/11/2023	Andy	Pape	Program Manager & Volunteer Coordinator	Red Cross of Central & Southern Ohio	Region	Region
Regional Stakeholder Meeting	4/11/2023	Rachel	Roberts	Representative - District 67	Kentucky House of Representatives	Newport	Campbell
Regional Stakeholder Meeting	4/11/2023	Mary Paula	Schuh	Sr. Director - Planning, Design & Construction	Northern Kentucky University	Region	Region

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Regional Stakeholder Meeting	4/11/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Regional Stakeholder Meeting	4/11/2023	Kevin	Vogelpohl	Deputy Director	Boone County Emergency Management	Boone County	Boone
Regional Stakeholder Meeting	4/11/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
CEDS Steering Committee Meeting	4/19/2023	Angie	Cain	DLG Field Representative	KY Department of Local Government	State	State
CEDS Steering Committee Meeting	4/19/2023	Mark	Christopher	Mayor	City of Williamstown	Williamstown	Grant
CEDS Steering Committee Meeting	4/19/2023	Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills	Kenton
CEDS Steering Committee Meeting	4/19/2023	Bill	Mitchell	NKADD Board Member		Pendleton County	Pendleton
CEDS Steering Committee Meeting	4/19/2023	Ken	Muth	Community Relations Manager	Duke Energy	Region	Region
CEDS Steering Committee Meeting	4/19/2023	Justin	Otto	Director of Economic Development	Campbell County Fiscal Court	Campbell County	Campbell
CEDS Steering Committee Meeting	4/19/2023	Emi	Randall	Director of Economic Development	City of Erlanger	Erlanger	Kenton
CEDS Steering Committee Meeting	4/19/2023	Kimberly	Rossetti	VP Economic Development	BE NKY	Region	Region
CEDS Steering Committee Meeting	4/19/2023	Lisa	Wilson	Project Manager	Terracon	Region	Region
Emergency Managers Meeting	7/28/2023	Matthew	Allen	Deputy Director	Boone County Emergency Management	Boone County	Boone
Emergency Managers Meeting	7/28/2023	Chris	Courtney	Associate Director - Local Gov Services	Northern Kentucky Area Development District	Region	Region
Emergency Managers Meeting	7/28/2023	Alaina	Hagenseker	Local Government Services Manager	Northern Kentucky Area Development District	Region	NKADD
Emergency Managers Meeting	7/28/2023	Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Emergency Managers Meeting	7/28/2023	Katie Jo	Kirkpatrick	Strategic Initiatives Manager	Northern Kentucky Area Development District	Region	Region
Emergency Managers Meeting	7/28/2023	Mike	Moore	Director	Pendleton County Emergency Management Agency	Pendleton County	Pendleton
Emergency Managers Meeting	7/28/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Emergency Managers Meeting	7/28/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region	Region
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Megan	Clere	Solid Waste Coordinator	Campbell County Fiscal Court	Campbell County	Campbell
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Paul	Kremer	Public Works Director	City of Union	Union	Boone

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Kenny	Losekamp	Emergency Preparedness Manager	CVG Airport Authority	Region	Region
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills	Kenton
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Chris	Miller	Assistance Fire Chief	City of Florence	Florence	Boone
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County	Campbell
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Margaret	Minzner	Senior Planner	OKI Regional Council of Governments	Region	Region
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Brad	Murphy	Safety Coordinator	Northern Kentucky Water District	Region	Region
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Aileen	Okura	Council Member	City of Southgate	Southgate	Campbell
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Justin	Otto	Director of Economic Development	Campbell County Fiscal Court	Campbell County	Campbell
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Audra	Points	Director, SEM	Northern Kentucky University	Region	Region
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Gerry	Regensburger	Supervisor	City of Walton	Walton	Boone
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Todd	Schulkers	Deputy Director	Kenton County Homeland Security/Emergency Management	Kenton County	Kenton
Regional Stakeholder Meeting - Mitigation Strategy	8/25/2023	Rodney	Wren	Fire Chief	City of Florence	Florence	Boone
Boone County Mitigation Strategy Meeting	11/14/2023	Matt	Allen	Deputy Director	Boone County Emergency Management	Boone County	Boone
Boone County Mitigation Strategy Meeting	11/14/2023	Kelly Joe	Aylor	Regional Preparedness Coordinator	Kentucky Public Health	Region	Region
Boone County Mitigation Strategy Meeting	11/14/2023	Jeff	Barlow	Fire Chief	Burlington Fire Protection District	Boone County	Boone
Boone County Mitigation Strategy Meeting	11/14/2023	Mark	Ihrig	Director	Boone County Emergency Management	Boone County	Boone
Boone County Mitigation Strategy Meeting	11/14/2023	Matthew	Webster	County Administrator	Boone County Fiscal Court	Boone County	Boone
Carroll County Mitigation Strategy Meeting	11/28/2023	Robb	Adams	Mayor	City of Carrollton	Carrollton	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Matt	Adkins	Director of Government Services	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Nathan	Carter	Fire Chief	Westside Fire Department	Carroll County	Carroll

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Carroll County Mitigation Strategy Meeting	11/28/2023	Tony	Crutcher	Director	Carroll County Emergency Management Agency	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Ryan	Gosser	Sheriff	Carroll County Sheriff Department	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Robert	Hofmann	Fire Chief	City of Carrollton Fire Department	Carrollton	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Jimmy	Luleeyn	Supervisor	Carroll County Road Department	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Scott	Nab	Magistrate	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Terry	Roach	General Manager	Carrollton Utilities	Carrollton	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Pat	Stewart	Fire Chief	Ghent Fire Protection District	Ghent	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	David	Wilhoite	Judge Executive	Carroll County Fiscal Court	Carroll County	Carroll
Carroll County Mitigation Strategy Meeting	11/28/2023	Mike	Willhoite	Police Chief	City of Carrollton Police Department	Carrollton	Carroll
Grant County Mitigation Strategy Meeting	12/5/2023	Coby	Brown	Firefighter/EMT	Williamstown Fire Department	Williamstown	Grant
Grant County Mitigation Strategy Meeting	12/5/2023	Allen	Cammack	Fire Chief	Dry Ridge Fire Department	Dry Ridge	Grant
Grant County Mitigation Strategy Meeting	12/5/2023	Tyler	Garnett	Deputy Director	Grant County Emergency Management Agency	Grant County	Grant
Grant County Mitigation Strategy Meeting	12/5/2023	Colton	Simpson	Deputy Judge-Executive	Grant County Fiscal Court	Grant County	Grant
Grant County Mitigation Strategy Meeting	12/5/2023	Kevin	Stace	Assistant Fire Chief/EMS Director	Dry Ridge Fire Department	Dry Ridge	Grant
Grant County Mitigation Strategy Meeting	12/5/2023	Les	Whalen	Director	Grant County Emergency Management Agency	Grant County	Grant
Kenton Count Mitigation Strategy Meeting	12/6/2023	Johnathan	Bradford	Supervisor II Kenton	Kentucky Transportation Cabinet	State	State
Kenton Count Mitigation Strategy Meeting	12/6/2023	Nicole	Clements	Watershed Coordinator	Banklick Watershed Council	Region	Region
Kenton Count Mitigation Strategy Meeting	12/6/2023	Mike	Daly	City Administrator	City of Crescent Springs	Crescent Springs	Kenton
Kenton Count Mitigation Strategy Meeting	12/6/2023	Brad	Degenhardt	Chief of Police	Lakeside Park/ Crestview Hills Police	Lakeside Park	Kenton
Kenton Count Mitigation Strategy Meeting	12/6/2023	Andy	Dickerson	Executive Director	Cardinal Land Conservancy	Region	Region

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Kenton Count Mitigation Strategy Meeting	12/6/2023	Shannon	Disbennett	Office Manager	Cardinal Land Conservancy	Region	Region
Kenton Count Mitigation Strategy Meeting	12/6/2023	Steve	Hensley	Director	Kenton County Emergency Management	Kenton County	Kenton
Kenton Count Mitigation Strategy Meeting	12/6/2023	Edwin	King	City Administrator	City of Fort Mitchell	Fort Mitchell	Kenton
Kenton Count Mitigation Strategy Meeting	12/6/2023	Alex	Mattingly	City Administrator	City of Crestview Hills	Crestview Hills	Kenton
Kenton Count Mitigation Strategy Meeting	12/6/2023	Jamie	Wood	Staff Assistant	Kentucky Transportation Cabinet	State	State
Kenton Count Mitigation Strategy Meeting	12/6/2023	Derick C.	Yelton	Public Works Director	City of Villa Hills	Villa Hills	Kenton
Gallatin County Mitigation Strategy Meeting	12/11/2023	MJ	Haddix	Magistrate	Gallatin County Fiscal Court	Gallatin County	Gallatin
Gallatin County Mitigation Strategy Meeting	12/11/2023	Ryan	Morris	Judge Executive	Gallatin County Fiscal Court	Gallatin County	Gallatin
Gallatin County Mitigation Strategy Meeting	12/11/2023	Brandon	Terrell	Director	Gallatin County Emergency Management Agency	Gallatin County	Gallatin
Owen County Mitigation Strategy Meeting	12/12/2023	Tim	Cammack	Deputy Director	Owen County Emergency Management Agency	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Greg	Estes	Chief	Owen County Volunteer Fire Department	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Travis	Fitzgerald	Magistrate	Owen County Fiscal Court	Gratz	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Mark	Garnett	County Coroner	Owen County Coroner	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Wayne	Harris	Magistrate	Owen County Fiscal Court	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Larry	Karsner	Director	Owen County Emergency Management Agency	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	David	Lilly	Chairman	Meeting the Needs	Owen County	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Dane	Perkins	Magistrate	Owen County Fiscal Court	Owenton	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Tom	Slayback	Magistrate	Owen County Fiscal Court	Owenton	Owen
Owen County Mitigation Strategy Meeting	12/12/2023	Todd	Woodyard	Judge Executive	Owen County Fiscal Court	Owen County	Owen
Campbell County Mitigation Strategy Meeting	12/13/2023	Kevin	Barbian	General Services Director	City of Fort Thomas	Fort Thomas	Campbell

Meeting	Date	First Name	Last Name	Title	Agency	Jurisdiction	County
Campbell County Mitigation Strategy Meeting	12/13/2023	Greg	Buckler	Deputy Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Campbell County Mitigation Strategy Meeting	12/13/2023	Matt	Elberfeld	County Administrator	Campbell County Fiscal Court	Campbell County	Campbell
Campbell County Mitigation Strategy Meeting	12/13/2023	Jim	Hamberg	Mayor	City of Southgate	Southgate	Campbell
Campbell County Mitigation Strategy Meeting	12/13/2023	Cindy	Minter	Director	Campbell County Planning and Zoning	Campbell County	Campbell
Campbell County Mitigation Strategy Meeting	12/13/2023	Margaret	Minzner	Environmental Planner	OKI	Region	Region
Campbell County Mitigation Strategy Meeting	12/13/2023	Aileen	Okura	Council Member	City of Southgate	Southgate	Campbell
Campbell County Mitigation Strategy Meeting	12/13/2023	Paul	See	System Administer	Northern Kentucky Regional Communication System	Region	Region
Campbell County Mitigation Strategy Meeting	12/13/2023	William	Turner	Director	Campbell County Office of Emergency Management	Campbell County	Campbell
Pendleton County Mitigation Strategy Meeting	12/21/2023	David	Fields	Judge Executive	Pendleton County Fiscal Court	Pendleton County	Pendleton
Pendleton County Mitigation Strategy Meeting	12/21/2023	Trish	Lovelace	Administrative Assistant	Pendleton County Fiscal Court	Pendleton County	Pendleton
Pendleton County Mitigation Strategy Meeting	12/21/2023	Mike	Moore	Director	Pendleton County Emergency Management Agency	Pendleton County	Pendleton

2. STAKEHOLDER PARTICIPATION AND THE OPPORTUNITY FOR PROVIDE COMMENT

Hazard mitigation committee members and regional stakeholders had multiple opportunities to participate in the plan update process. NKADD staff held emergency managers meetings, a community-wide hybrid kick-off meeting, sixteen community-focused meetings throughout the region, a regional provider meeting, regional-wide mitigation strategy meetings, and individual county mitigation strategy meetings.

COMMUNITY STAKEHOLDER PARTICIPATION

Community Stakeholders participated in regional and community-focused meetings throughout Northern Kentucky. They provided insight and brought awareness to planned and projected projects that could affect the mitigation process.

1. LOCAL AND REGIONAL AGENCIES

First Name	Last Name	Title	Agency	Jurisdiction
Chris	Adkins	Fire Chief	City of Bellevue/Dayton	Bellevue
Matthew	Allen	Deputy Director	Boone County Emergency Management	Boone County
Chris	Amon	Fire Chief	City of Fort Thomas	Fort Thomas
Eric	Banky	Captain	City of Florence Fire/EMS	Florence
Kevin	Barbian	General Services Director	City of Fort Thomas	Fort Thomas
Jeff	Barlow	Fire Chief	Burlington Fire Protection District	Boone County
Bart	Beck	Police Captain	City of Ludlow	Ludlow
Jim	Bell	Fire Chief	Southern Campbell County	Campbell County
Jeff	Bethell	Public Works Director	City of Fort Wright	Fort Wright
John	Black	Assistant Chief	City of Florence Fire/EMS	Florence
Mike	Bloemer	Deputy Chief	Covington Fire Department	Covington
Matt	Bogen	City Engineer	City of Walton	Walton
Eric	Bowles	Police Captain	City of Florence Fire/EMS	Florence
Scott	Breeze	Fire Chief	Independence Fire	Independence
Coby	Brown	Firefighter/EMT	Williamstown Fire Department	Williamstown
Greg	Buckler	Deputy Director	Campbell County Office of Emergency Management	Campbell County
Rick	Buster	Public Service Supervisor	Kenton County Public Works	Kenton County
Allen	Cammack	Fire Chief	Dry Ridge Fire Department	Dry Ridge
Tim	Cammack	Deputy Director	Owen County Emergency Management Agency	Owen County
Nathan	Carter	Fire Chief	Westside Fire Department	Carroll County
Lucas	Cooper	Chief	City of Alexandria	Alexandria
Tony	Crutcher	Director	Carroll County Emergency Management Agency	Carroll County
Greg	Davis	Chief	New Liberty Fire Department	Owen County
Brad	Degenhardt	Chief of Police	Lakeside Park/ Crestview Hills Police	Lakeside Park
Doug	Dejaco	Public Works Superintendent	City of Alexandria	Alexandria
Tom	Dickman	Fire Chief	City of Edgewood	Edgewood
Matt	Elberfeld	County Administrator	Campbell County Fiscal Court	Campbell County
Greg	Estes	Chief	Owen County Volunteer Fire Department	Owen County
Jake	Eubank	Crew Leader	City of Independence	Independence

First Name	Last Name	Title	Agency	Jurisdiction
Tim	Ford	Fire Chief	City of Alexandria	Alexandria
Adam	Fuller	Fire Chief	City of Fort Mitchell	Fort Mitchell
Mark	Garnett	County Coroner	Owen County Coroner	Owen County
Tyler	Garnett	Deputy Director	Grant County Emergency Management Agency	Grant County
Rick	Garr	City Engineer	City of Melbourne	Melbourne
Ryan	Gosser	Sheriff	Carroll County Sheriff Department	Carroll County
Ken	Hale	Chief	Butler Police Department	Butler
Matthew	Hall	Chief of Police	Villa Hills Police Department	Villa Hills
Shane	Hamant	Public Works	City of Ludlow	Ludlow
Michael	Hamets	Deputy EM Director	Pendleton County Emergency Management Agency	Pendleton County
Ashley	Hawks	Executive Director	Kenton County Dispatch	Kenton County
Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County
Steve	Hensley	Director	Kenton County Homeland Security/Emergency Management	Kenton County
Ken	Hicks	Director	City of Independence	Independence
Steve	Hill	Code Enforcement	Pendleton County Fiscal Court	Pendleton County
Ron	Hitch	Public Works Director	City of Cold Springs	Cold Springs
Robert	Hofmann	Fire Chief	City of Carrollton Fire Department	Carrollton
Alex	Hyrca	KYEM Area Manager	Area 6 - Kentucky Emergency Management	Region
Mark	Ihrig	Director	Boone County Emergency Management	Boone County
Spike	Jones	Chief of Police	Kenton County Police Department	Kenton County
Jerry	Jump	Assistant Forman	City of Taylor Mill	Taylor Mill
Larry	Karsner	Director	Owen County Emergency Management Agency	Owen County
Paul	Kremer	Public Works	City of Union	Union
Steve	Lehman	Public Works Director	City of Highland Heights	Highland Heights
Jimmy	Luleeyn	Supervisor	Carroll County Road Department	Carroll County
Joe	Maier	Police Chief	City of Elsmere	Elsmere
Dave	McQuery	Assistant Chief Fire/EMS	City of Erlanger	Erlanger
Chris	Miller	Assistance Fire Chief	City of Florence	Florence
Tonya	Miller	Director of Public Works	City of Crescent Springs	Crescent Springs
James	Mills	Police Chief	City of Taylor Mill	Taylor Mill
Cindy	Minter	Director	Campbell County Planning and Zoning	Campbell County
Rob	Nadar	Police Chief	City of Fort Mitchell	Fort Mitchell
Douglas	Neyman	Chief	City of Wilder	Wilder
Tom	Nitschke	Captain	Campbell County Police Department	Campbell County
Frank	Peluso	Fire Chief	City of Newport	Newport/ Woodlawn
Charlie	Purdy	County Rural Supervisor	Pendleton County Road Department	Pendleton County
Gerry	Regensburger	Public Works Supervisor	City of Walton	Walton
Jeremiah	Rice	Solid Coordinator	Boone County Solid Waste	Boone County
Todd	Rice	Chief Deputy	Kenton County Detention Center	Kenton County
John	Rigney	Fire Chief	Park Hills Fire Department	Park Hills
Nick	Russell	Assistant Fire Chief	Independence Fire	Independence
John	Scheban	Public Work Director	City of Crestview Hills	Crestview Hills
Steve	Schewe	Fire/EMS Chief	City of Fort Wright	Fort Wright
Christopher	Schitte	Police Chief	Lakeside Park/ Crestview Hills Police	Lakeside Park
Todd	Schulkers	Deputy Director	Kenton County Homeland Security/Emergency Management	Kenton County
Brad	Schwenke	Public Works	City of Covington	Covington

First Name	Last Name	Title	Agency	Jurisdiction
Paul	See	System Administer	Northern Kentucky Regional Communication System	Region
John	Seitz	Chief	Northern Pendleton Fire Department	Pendleton County
Kevin	Stace	Assistant Fire Chief/EMS Director	Dry Ridge Fire Department	Dry Ridge
Cody	Stanley	Police Chief	Park Hills Police Department	Bromley
Billy	Steele	Solid Waste Coordinator	Pendleton County	Pendleton County
Michael	Steward	Fire Chief	Ludlow Fire Department	Ludlow
Pat	Stewart	Fire Chief	Ghent Fire Protection District	Ghent
Brandon	Terrell	Director	Gallatin County Emergency Management Agency	Gallatin County
William	Turner	Director	Campbell County Office of Emergency Management	Campbell County
Kevin	Vogelpohl	Deputy Director	Boone County Emergency Management	Boone County
Jeff	Wendt	Fire Chief	City of Crescent Springs	Crescent Springs
Wayne	Werrmann Jr.	Fire Chief	Campbell County Fire District #1 (California and Mentor)	California/ Mentor/ Crestview
Les	Whalen	Director	Grant County Emergency Management Agency	Grant County
Justin	Wietholter	Assistant Chief of Police - Operations	City of Covington	Covington
Mike	Willhoite	Police Chief	City of Carrollton Police Department	Carrollton
Mike	Wilson	Boone Co. Solid Waste	Boone County Solid Waste	Boone County
Rodney	Wren	Fire Chief	City of Florence	Florence
Derick C.	Yelton	Public Works Director	City of Villa Hills	Villa Hills
Chris	Zerhusen	Public Works Director	City of Elsmere	Elsmere

2. DEVELOPMENT AGENCIES

First Name	Last Name	Title	Agency	Jurisdiction
Robb	Adams	Mayor	City of Carrollton	Carrollton
Matt	Adkins	Director of Government Services	Carroll County Fiscal Court	Carroll County
Julie	Aubuchon	Mayor	City of Florence	Florence
Neal	Bedel	Mayor	City of Silver Grove	Silver Grove
Geoff	Besecker	Commissioner	Campbell County Fiscal Court	Campbell County
Doug	Bine	Commissioner	City of Union	Union
Craig T.	Bohman	City Administrator	City of Villa Hills	Villa Hills
Caroline	Braden	Commissioner	City of Taylor Mill	Taylor Mill
Clay	Cable	Magistrate	Carroll County Fiscal Court	Carroll County
Angie	Cain	DLG Field Representative	KY Department of Local Government	State
Mark	Christopher	Mayor	City of Williamstown	Williamstown
Megan	Clere	Solid Waste Coordinator	Campbell County	Campbell County
Shawna	Coldiron	Magistrate	Grant County Fiscal Court (Corinth)	Grant County
John	Cole	Mayor	City of Ryland Heights	Ryland Heights
Sarah	Collins	Director	Campbell County Housing Authority	Campbell County
Mike	Daly	City Administrator	City of Crescent Springs	Crescent Springs
Linda Jo	Davis	Council Member	City of Carrollton	Carrollton
Mike	Dely	City Administrator	City of Crescent Springs	Crescent Springs
Matt	Dowling	City Administrator	City of Crestview Hills	Crestview Hills
Matt	Dowling	City Administrator	City of Elsmere	Elsmere

First Name	Last Name	Title	Agency	Jurisdiction
David	Fields	Judge Executive	Pendleton County Fiscal Court	Pendleton County
Justin	Finke	Risk Manager	City of Florence	Florence
Travis	Fitzgerald	Magistrate	Owen County Fiscal Court	Owen County
Steve	Gay	Director GIS Services	Boone County Planning Commission	Boone County
Adam	Grimes	Mayor	City of Owenton	Owenton
MJ	Haddix	Magistrate	Gallatin County Fiscal Court	Gallatin County
Jim	Hamberg	Mayor	City of Southgate	Southgate
Brian	Haney	City Administrator	City of Taylor Mill	Taylor Mill
Wayne	Harris	Magistrate	Owen County Fiscal Court	Owen County
Gevana	Hicks	City Clerk	City of Walton	Walton
Heather	Jansen	Mayor	City of Villa Hills	Villa Hills
Edwin	King	City Administrator	City of Fort Mitchell	Fort Mitchell
Jimmy	Lewellyn	Mayor	City of Ghent	Ghent
Benjie	Long	Magistrate	Carroll County Fiscal Court	Carroll County
Trish	Lovelace	Administrative Assistant	Pendleton County Fiscal Court	Pendleton County
Paul	Markgraf	Mayor	City of Lakeside Park	Lakeside Park
Mark	Martin	Assistant Chief Building Officer	Boone County Building Department.	Boone County
Alex	Mattingly	City Administrator	City of Crestview Hills	Crestview Hills
Heather	Mayfield	District Manager	Kenton County Conservation District	Kenton County
Paul	Meier	Mayor	City of Crestview Hills	Crestview Hills
Cindy	Minter	Director of Planning and Zoning/Floodplain Manager	Campbell County Planning and Zoning	Campbell County
Ethan	Moore	Magistrate	Gallatin County Fiscal Court	Gallatin County
Ryan	Morris	Judge Executive	Gallatin County Fiscal Court	Gallatin County
Scott	Nab	Magistrate	Carroll County Fiscal Court	Carroll County
Jerald	Noran	Boone Co. Building Official	Boone County Building Department.	Boone County
Aileen	Okura	Council Member	City of Southgate	Southgate
Justin	Otto	Director of Economic Development	Campbell County Fiscal Court	Campbell County
Brian	Painter	Commissioner	Campbell County Fiscal Court	Campbell County
Dane	Perkins	Magistrate	Owen County Fiscal Court	Owen County
Brett	Price	Planner	Pendleton County Joint Planning Commission	Pendleton County
Emi	Randall	Director of Economic Development	City of Erlanger	Erlanger
Sharmili	Reddy	Executive Director	Planning Development Services of Kenton County	Kenton County
Jaqualynn	Riley	Magistrate	Grant County Fiscal Court	Grant County
Rachel	Roberts	Representative - District 67	Kentucky House of Representatives	Newport
Amy	Safran	City Administration	City of Union	Union
Janet	Scanlon	Chair	Pendleton County Joint Planning Commission	Pendleton County
Kevin	Sell	Citizen	Campbell County	Campbell County
Joe	Shinkle	Magistrate	Gallatin County Fiscal Court	Gallatin County
Colton	Simpson	Deputy Judge-Executive	Grant County Fiscal Court	Grant County
Tom	Slayback	Magistrate	Owen County Fiscal Court	Owen County
John	Steele	PVA	Pendleton County PVA	Pendleton County
Kyle	Walsh	Councilman	City of Villa Hills	Villa Hills
Frank	Warneck	City Administrator	City of Bellevue	Bellevue
Matthew	Webster	Assistant County Administrator	Boone County Fiscal Court	Boone County
Allen	Whaley	Magistrate	Pendleton County Fiscal Court	Pendleton County

First Name	Last Name	Title	Agency	Jurisdiction
David	Wilhoite	Judge Executive	Carroll County Fiscal Court	Carroll County
Mark	Wilson	Mayor	City of Glencoe	Glencoe
Ed	Wise	Councilman	City of Crestview Hills	Crestview Hills
Todd	Woodyard	Judge Executive	Owen County Fiscal Court	Owen County
Harold	Wyatt	Commissioner	City of Sanders	Sanders
Robert	Yoder	Economic Development	City of Silver Grove	Silver Grove

3. NEIGHBORING COMMUNITIES

First Name	Last Name	Title	Agency	Jurisdiction
Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region
Johnathan	Bradford	Supervisor II Kenton	Kentucky Transportation Cabinet	State
Monica	Crews	HCC Readiness & Response Coordinator	District 9 EM Indiana	Indiana
Andy	Dickerson	Executive Director	Cardinal Land Conservancy	Region
Shannon	Disbennett	Office Manager	Cardinal Land Conservancy	Region
Kim	Francis	Disaster Program Manager	Greater Cincinnati Chapter of the American Red Cross	Ohio
Nick	Grinstead	Plan and Grants Manager	UK-HMGP	State
Destiny	Jardin	Planning Specialist	Hamilton County EMA	Ohio
Pavla	Link	District Operations Manager	Boone County Conservation District	Boone County
Margaret	Minzner	Senior Planner	OKI Regional Council of Governments	Region
Jamie	Wood	Staff Assistant	Kentucky Transportation Cabinet	State

4. BUSINESS, EDUCATION AND PRIVATE ORGANIZATIONS LEADERSHIP

First Name	Last Name	Title	Agency	Jurisdiction
Adam	Chaney	Executive Director	SD1	Region
Kim	Clemons	Director of Human Resource, Communication, Facilities and Fleet	Northern Kentucky Water District	Region
Paul	Conlter	Safety Coordinator	SD1	Region
Todd	Dupin	Director of Pupil Personnel & Operations	Williamstown Independent Schools	Williamstown
Tim	Hendrick	Staff Writer	The News-Democrat	Carroll County
Derrick	Holland	Superintendent	City of Williamstown	Williamstown
Dan	Logan	Facilities Director	Owen County Schools	Owen County
Kenny	Losekamp	Emergency Preparedness Manager	CVG Airport Authority	Region
Dana	Malone	Security Manager	St. Elizabeth Healthcare	Region
Grant	Miller	Director of Pupil Personnel	Owen County Schools	Owen County
Bill	Mitchell	NKADD Board Member	0	Pendleton County
Brad	Murphy	Safety Coordinator	Northern Kentucky Water District	Region
Ken	Muth	Community Relations Manager	Duke Energy	Region
Fred	Otto	0	Citizen	Fort Thomas
Audra	Points	Director of Safety and EM	Northern Kentucky University	Region
Bob	Porter	KY-4 District Director	Senator Rand Paul	Region
Lindsey	Rechtin	President and CEO	Northern Kentucky Water District	Region

First Name	Last Name	Title	Agency	Jurisdiction
Charles	Riddle	Monterey - Amateur Radio	City of Monterey	Monterey
Terry	Roach	General Manager	Carrollton Utilities	Carrollton
Mary Paula	Schuh	Sr. Director - Planning, Design & Construction	Northern Kentucky University	Region
Lisa	Wilson	Project Manager	Terracon	Region

5. NONPROFIT ORGANIZATIONS

First Name	Last Name	Title	Agency	Jurisdiction
Matt	Adkins	Executive Director	Carroll County Community Development Corporation	Carroll County
Kelly Joe	Aylor	Regional Preparedness Coordinator	Kentucky Public Health	Region
Stella	Barber	Disaster Coordinator	Northern Kentucky Health	Region
Simon	Boxall	Local Government Specialist	Northern Kentucky Area Development District	Region
Susan	Brown	Conservation Education Specialist	Boone County Conservation District	Boone County
Nicole	Clements	Watershed Coordinator	Banklick Watershed Council	Region
Chris	Courtney	Associate Director - Local Gov Services	Northern Kentucky Area Development District	Region
Kate	Dean	Regional Childcare Administrator	Statewide Childcare Awareness	Region
Emily	Goddard	Associate Director - Local Gov Services	Northern Kentucky Area Development District	Region
Alaina	Hagenseker	Local Government Services Manager	Northern Kentucky Area Development District	Region
AnneMarie	Hoopess	Program Assistant, Public Affairs & Women's Initiative	Northern Kentucky Chamber of Commerce	Region
Don	Jacobs	Pendleton Community Health Department-Environmental	Three River District Health Department	Pendleton County
Tara	Johnson-Noem	Executive Director	Northern Kentucky Area Development District	Region
Katie Jo	Kirkpatrick	Workforce Development Specialist	Northern Kentucky Area Development District	Region
David	Lilly	Chairman	Meeting the Needs	Owen County
Jasper	Olsen	Soil Conservation Technician	Boone County Conservation District	Boone County
Andy	Pape	Program Manager & Volunteer Coordinator	Red Cross of Central & Southern Ohio	Region
Angie	Perkins	Controller/Business Manager	Northern Kentucky Cooperative for Educational Services	Region
Madeline	Pruszenski	River Basin Coordinator	Division of Water	Region
Kimberly	Rossetti	VP Economic Development	BE NKY	Region
Bob	Schrage	Consultant	Northern Kentucky Area Development District	Region
Brian	Storz	0	Licking River Basin	Region
Savannah	Sullivan	Climate Action Director	Green Umbrella	Region
Alicia	Webb-Edgington	President and CEO	Life Learning Center, LLC	Kenton County
Breanna	White	Community Development Specialist	Northern Kentucky Area Development District	Region

First Name	Last Name	Title	Agency	Jurisdiction
Tami	Wilson	VP of Public Affairs	Northern Kentucky Chamber of Commerce	Region

3. INCORPORATING PUBLIC COMMENT INTO THE PLANNING PROCESS

PUBLIC SUPPORT FOR THE DRAFT PLAN

Upon completing the Northern Kentucky Regional Hazard Mitigation Plan, the NKADD staff published the draft plan for public comment. The draft plan was posted on the NKADD website and shared on its social media platforms. The county's emergency managers and their agencies also publicized the public comment period through their newsletters and social media platforms. After a three-week public comment period, comments received were included. Once the received comments were incorporated into the draft, the plan was forwarded to the state for review. While the state was reviewing the draft, NKADD staff started the process of asking all 60 jurisdictions (eight counties and fifty-two (52) cities) in Northern Kentucky to approve and adopt the Northern Kentucky Regional Hazard Mitigation plan. The multi-jurisdictional plan adoption process is further explained in Element F – Plan Adoption.

4. SUPPORTING DATA AND ADDITIONAL RESOURCES USED

NKADD staff researched and reviewed relevant studies, reports, and technical information obtained through local communities and State and Federal agencies. The background material included information received from local and national data sources related to natural hazards and Geographic Information Systems models. As appropriate, these materials were reviewed by the local and regional committees, incorporated into the planning process, and documented throughout the Plan. Currently, our communities do not have any existing Mitigation or Community Rating System (CRS) plans due to the fact that five of the jurisdictions have only recently (Fall 2015) been accepted into the CRS program, and no other jurisdiction within the planning area participates in the CRS program. Mitigation activities and projects are taking place in the region on a limited basis. Local mitigation activities were reviewed and were incorporated into the regional plan as appropriate.

Northern Kentucky ADD staff reviewed relevant mitigation material, including current mitigation studies and reports as the Comprehensive Economic Development Strategies Plan (CEDS) completed by the Northern Kentucky ADD. NKADD staff researched and reviewed relevant studies, reports, technical information, and GIS information.

Resources were found containing information on natural hazards, historical damage from natural hazards, vulnerable areas and assets, mitigation actions and mitigation projects. As appropriate, these materials were incorporated into the plan and are documented throughout the plan.

JURISDICTIONAL PLANS

The following items were reviewed in the preparation of this plan:

Jurisdiction	County Emergency Operations Plan	Comprehensive Plan	Land Use Plan	Zoning Ordinances
Boone County	Yes	Yes	Yes	Yes
Florence	Yes	Yes	Yes	Yes
Union	Yes	Yes	Yes	Yes
Walton	Yes	Yes	Yes	Yes
Campbell County	Yes	Yes	Yes	Yes
Alexandria	Yes	Yes	Yes	Yes
Bellevue	Yes	Yes	Yes	Yes
California	Yes	No	No	No
Cold Spring	Yes	Yes	Yes	Yes
Crestview	Yes	Yes	Yes	Yes
Dayton	Yes	No	Yes	Yes
Fort Thomas	Yes	Yes	Yes	Yes
Highland Heights	Yes	Yes	Yes	Yes
Melbourne	Yes	Yes	Yes	Yes
Mentor	Yes	No	No	No
Newport	Yes	Yes	Yes	Yes
Silver Grove	Yes	Yes	Yes	Yes
Southgate	Yes	Yes	Yes	Yes
Wilder	Yes	Yes	Yes	Yes
Woodlawn	Yes	Yes	Yes	Yes
Carroll County	Yes	No	No	No
Carrollton	Yes	Yes	Yes	Yes
Ghent	Yes	No	No	No
Prestonville	Yes	No	No	No
Sanders	Yes	No	No	No
Worthville	Yes	No	No	No
Gallatin County	Yes	Yes	Yes	Yes
Glencoe	Yes	Yes	Yes	Yes
Sparta	Yes	No	No	No
Warsaw	Yes	Yes	Yes	Yes
Grant County	Yes	Yes	Yes	Yes
Corinth	Yes	Yes	Yes	Yes
Crittenden	Yes	Yes	Yes	Yes
Dry Ridge	Yes	Yes	Yes	Yes
Williamstown	Yes	Yes	Yes	Yes

Jurisdiction	County Emergency Operations Plan	Comprehensive Plan	Land Use Plan	Zoning Ordinances
Kenton County	Yes	Yes	Yes	Yes
Bromley	Yes	Yes	Yes	Yes
Covington	Yes	Yes	Yes	Yes
Crescent Springs	Yes	Yes	Yes	Yes
Crestview Hills	Yes	Yes	Yes	Yes
Edgewood	Yes	Yes	Yes	Yes
Elsmere	Yes	Yes	Yes	Yes
Erlanger	Yes	Yes	Yes	Yes
Fairview	Yes	No	Yes	Yes
Ft. Mitchell	Yes	Yes	Yes	Yes
Ft. Wright	Yes	Yes	Yes	Yes
Independence	Yes	Yes	Yes	Yes
Kenton Vale	Yes	No	Yes	Yes
Lakeside Park	Yes	Yes	Yes	Yes
Ludlow	Yes	Yes	Yes	Yes
Park Hills	Yes	Yes	Yes	Yes
Ryland Heights	Yes	Yes	Yes	Yes
Taylor Mill	Yes	Yes	Yes	Yes
Villa Hills	Yes	Yes	Yes	Yes
Owen County	Yes	No	No	No
Gratz	Yes	No	No	No
Owenton	Yes	Yes	No	Yes
Pendleton County	Yes	Yes	Yes	Yes
Butler	Yes	Yes	Yes	No
Falmouth	Yes	Yes	Yes	Yes

Jurisdictions' Land Use Plans and Zoning Ordinances are included in the countywide plan unless indicated otherwise.

Campbell County's Comprehensive Plan pertains to the Unincorporated Campbell County and the cities of Crestview, Melbourne, Silver Grove, Southgate, and Woodlawn.

OTHER REGIONAL PLANS

- Northern Kentucky ADD Comprehensive Economic Development Strategy - The NKADD Comprehensive Economic Development Strategy (CEDS) is prepared and maintained by the Northern Kentucky Area Development District. It includes an economic analysis of the region and exhaustive lists of information and action plans in areas including the following:

Economy, Education, Workforce Development, Infrastructure, Livable Community, Environment, Health, Housing, Aging, Transportation, and Water/Wastewater

The CEDS also includes a list of projects organized by jurisdiction. This document proved to be a valuable source for the vulnerability assessment phase of the plan and for identifying existing and proposed projects to include in the Northern Kentucky Hazard Mitigation Plan.

- Kentucky Agricultural Emergency Management Plan - The State Department of Agriculture created these plans. The contact is the Office of the State Veterinarian. These response plans are specifically related to the agricultural community. The plans reference food, safety, animal emergencies, and environmental emergencies in addition to natural hazards.
- Northern Kentucky ADD Wastewater Management Plan - The NKADD Water/Wastewater Management Plan includes information about area water resources, water lines, and wastewater. It consists of an infrastructure inventory, plans, and projects for counties and cities. Water quality, flood management, water management and land use, and environmental resources are discussed as well.
- OKI Regional Transportation Plan - This plan is utilized as a resource document for the entire region while developing goals and objectives for the transportation system, identifying, and evaluating needs, reviewing, and documenting projects, and throughout the prioritization/ranking process.
- Kentucky Public Service Commission Ike and Ice Report - After the September 2008 windstorm caused by the remnants of Hurricane Ike and the January 2009 ice storm, the Kentucky Public Service Commission (PSC) initiated a review of utility performance. One of the topics addressed included disaster preparedness, including a comprehensive look at the feasibility and advisability of burying many or all above-ground electric lines, possible approaches to system hardening, revisions to construction standards, vegetation management, and cost recovery.

2. RISK ASSESSMENT

1. IDENTIFYING HAZARDS

The Northern Kentucky Regional Hazard Mitigation Plan is a multi-jurisdictional plan that includes eight (8) counties and 52 incorporated cities. The following regional risk assessment element looks at the entire region, while the appendix contains country-specific risk assessments for easy reference by the counties and cities. The NKADD staff and the hazard mitigation planning committee members used FEMA's National Risk Index to research the natural hazards that could potentially affect the region. An initial list of natural hazards was composed and subsequently narrowed to include only those hazards that pose a significant threat. These judgments were based on historical evidence, probability statistics, and input from committee members and the public. The planning committee members considered and identified the following natural hazards as high, moderate, low, or no potential threat. The hazards were ranked by county and averaged for the region.

High	Moderate	Low	None
Flooding/Riverine Flooding/Flash Flooding	Tornadoes	Earthquake	Avalanche
Thunderstorms/Hail/ Straight Line Winds/Strong Wind	Server Winter Storms/Winter Weather/Cold Wave/Ice Storm	Drought/Extreme Heat/Heat Wave	Coastal Flooding
	Landslide	Hurricane/Hurricane Wind	Tsunami
		Wildfires	Volcanic Activity
		Dam/Levee Failure	
		Fog	

HAZARDS CONSIDERED THREATS TO THE NKADD REGION

Hazard	Data Considered	Why Identified as a Risk
Flooding/Riverine Flooding/Flash Flooding	Review of Past Disaster Damage Local Emergency Management Office Records Public Input Review of FIRMS Review of Previous Projects in Jurisdictions National Climatic Data Center	Affects the region frequently. Geographical features show many streams and rivers. Maps indicate many flood-prone areas. Review of existing reports
Thunderstorms/Hail/ Straight Line Winds/Strong Wind	Review of Past Disaster Damages Planning Committees and Public Input National Climatic Data Center	Historical events affect entire the region and all jurisdictions

Hazard	Data Considered	Why Identified as a Risk
Tornado	Review of Past Disaster Damage Review of Past Tornado Events from NOAA Storm Prediction Center Public Input Wind Zone Map of the United States National Climatic Data Center	Numerous Past Events NOAA Storm Prediction Center information shows all jurisdictions affected. Local Records identified events. Wind Zone Maps identify the region in the Highest Wind Zone Area of +250 mph
Severe Winter Storms/Winter Weather/Cold Wave/Ice Storm	Review of Past Disaster Damages from FEMA Planning Committees and Public Input News Articles National Climatic Data Center	Many past events in the Region Widespread – Affects ALL Jurisdictions Variety of events, including Snow and Ice Storms
Landslide	Input from organizations that are responsible for road and utility maintenance and repair. Hazard areas identified by the Kentucky Geological Survey	Local Input identified many areas that are affected. Maps show moderate to high-risk potential in the region. High costs associated with repairing infrastructure.
Earthquakes	Review of Past Disaster Damage Public Input Historical records USGS Earthquake potential models	Earthquake potential maps show the region to be within an area of potent risk. Historical records show earthquakes have occurred near the NKADD region.
Hurricane/Hurricane Wind	Planning Committees and Public Input	Hurricane after-effects frequently are experienced in the region.
Dam/Levee Failure	Kentucky Division of Water dam inventory National Performance of Dams Program US Army Corps of Engineers classifications	Each county has one or a few dams that are high risk of loss of life and property.

HAZARDS NOT CONSIDERED THREATS TO THE NKADD REGION

Hazard	Data Considered	Why Identified as No Risk
Drought/Extreme Heat/Heat Wave	Planning Committees and Public Input	Only 2 events of Extreme Heat and No recorded events of drought. Drought has the potential for crop damage/loss, but no information was found.
Wildfires	Review of Maps from the Division of Forestry of Fire Danger Class	No damage to property or loss of life due to wildfire.

Hazard	Data Considered	Why Identified as No Risk
	Public Input Review of Damages	Only 1 minor historical event of disasters in area.
Fog	Local Input	While Fog is a risk to drivers, Fog does not directly cause property damage.
Avalanche	United States Avalanche Centers	There are no recorded events of avalanches in the NKADD region.
Coastal Flooding	National Oceanic and Atmospheric Administration	There are no coastal sea areas in the NKADD region.
Tsunami	National Climatic Data Center Tsunami Hazard Maps	Tsunamis only affect the West Coast and the Caribbean
Volcanic Activity	Kentucky Geological Survey United State Geological Survey Local and Public Input	There are no active volcanoes near the NKADD region. No historical occurrences.

JURISDICTIONS AFFECTED BY EVENTS

Once all data was collected and analyzed, staff created a comprehensive list of all jurisdictions and the events that have accrued. This data complements the information on the historical event tables in this element's Regional Risk Assessment – Profiling Hazard section. As seen below, some hazards have happened at least once in every jurisdiction in previous years. However, for a few hazards, like tornados, earthquakes, and wildfires, only a few communities have experienced them.

Jurisdiction/ Event	Flooding/ Riverine Flooding/ Flash Flooding	Thunderstorms/ Hail/ Straight Line Winds/ Strong Wind	Tornado	Severe Winter Storms/ Winter Weather/ Cold Wave/ Ice Storm	Landslide	Earthquakes	Hurricane/ Hurricane Wind	Dam/ Levee Failure	Drought/ Extreme Heat/ Heat Wave	Wildfires
Boone County	X	X	X	X					X	
Florence	X	X		X					X	
Union	X	X		X					X	
Walton	X	X							X	
Campbell County	X	X	X	X					X	
Alexandria	X	X		X					X	
Bellevue	X	X		X					X	
California	X	X		X					X	
Cold Spring	X	X		X					X	
Crestview	X								X	
Dayton	X	X		X					X	

Jurisdiction/ Event	Flooding/ Riverine Flooding/ Flash Flooding	Thunderstorms/ Hail/ Straight Line Winds/ Strong Wind	Tornado	Severe Winter Storms/ Winter Weather/ Cold Wave/ Ice Storm	Landslide	Earthquakes	Hurricane/ Hurricane Wind	Dam/ Levee Failure	Drought/ Extreme Heat/ Heat Wave	Wildfires
Fort Thomas	X	X		X					X	
Highland Heights	X	X		X					X	
Melbourne		X		X					X	
Mentor		X							X	
Newport	X	X		X					X	
Silver Grove	X	X							X	
Southgate	X	X		X					X	
Wilder	X			X					X	
Woodlawn									X	
Carroll County	X	X	X	X					X	
Carrollton	X	X		X					X	
Ghent	X	X		X					X	
Prestonville	X	X	X	X					X	
Sanders	X	X							X	
Worthville	X	X							X	
Gallatin County	X	X	X	X					X	
Glencoe	X	X		X					X	
Sparta	X	X		X					X	
Warsaw	X	X	X	X					X	
Grant County	X	X	X	X					X	
Corinth	X	X		X					X	
Crittenden		X	X	X					X	
Dry Ridge	X	X	X	X					X	
Williamstown	X	X		X					X	
Kenton County	X	X	X	X					X	
Bromley	X	X		X					X	
Covington	X	X		X					X	
Crescent Springs	X	X		X					X	
Crestview Hills	X	X		X					X	
Edgewood	X								X	
Elsmere		X		X					X	
Erlanger	X	X		X					X	
Fairview									X	
Ft. Mitchell	X	X		X					X	
Ft. Wright	X	X							X	
Independence	X	X		X					X	

Jurisdiction/ Event	Flooding/ Riverine Flooding/ Flash Flooding	Thunderstorms/ Hail/ Straight Line Winds/ Strong Wind	Tornado	Severe Winter Storms/ Winter Weather/ Cold Wave/ Ice Storm	Landslide	Earthquakes	Hurricane/ Hurricane Wind	Dam/ Levee Failure	Drought/ Extreme Heat/ Heat Wave	Wildfires
Kenton Vale				X					X	
Lakeside Park	X	X							X	
Ludlow	X	X							X	
Park Hills	X	X		X					X	
Ryland Heights	X	X	X	X					X	
Taylor Mill		X		X					X	
Villa Hills	X			X					X	
Owen County	X	X	X	X					X	
Gratz	X	X		X					X	
Owenton	X	X		X					X	
Pendleton County	X	X	X	X					X	
Butler	X	X	X	X					X	
Falmouth	X	X		X					X	

In addition to profiling hazards and identifying locations where events are likely to occur, this section identifies what can potentially be affected by possible hazard events. Using the hazard area maps found in the profile in the previous section, we map and describe vulnerability to these hazards in terms of types and numbers of existing buildings, infrastructure and critical facilities located in each county.

The information was collected from a variety of resources including the HAZUS Kentucky Data, the National Climatic Data Center, and the NKADD GIS data and information. The information was collected, mapped, and summarized by the NKADD staff and reviewed and analyzed by the county sub-committees for ultimate inclusion in the plan. This section was prepared using the best data available for identifying types and numbers of existing buildings, infrastructure, and critical facilities in each county.

The County PVA offices in Boone, Campbell, Kenton, and Pendleton Counties have or are currently developing spatial GIS information. Existing data has been included in this Plan when available and new data will be included in future updates of this plan as it becomes available.

Committee members for each jurisdiction reviewed the maps showing the locations of critical facilities to determine the vulnerabilities of each community. Committee members did not specify areas for certain hazards, namely, tornados, severe thunderstorms, severe winter storms, or earthquakes, because the committees have determined these hazards to potentially affect all areas within each jurisdiction. These hazards are not limited to any particular area based on the historical documentation.

These particular hazards can affect any jurisdiction, at any time, making every asset vulnerable. For this reason, maps were created for flood hazards and high-risk dams.

HAZARD RISK SUMMARY

Hazard	Historical Events	Estimated Damage	Annual Frequency	Estimated Annualized Loss	Probability	Risk Index Rating
Flooding	477	\$54,897,000	18.35	\$38,736,492.60	100%	
Landslide	No Data Available	Currently Unpredictable	Unpredictable	Unknown	Unpredictable	
Tornado	57	\$65,897,500	0.86	\$862,295.11	100%	
Thunderstorm/Wind	1009	\$55,287,250	15.29	\$12,806,436.01	100%	
Hail	317	\$190,250	0.21	\$600.16	100%	
Severe Winter Storm	575	\$6,005,000	22.12	\$5,107,803.25	100%	
Dam Failure	2	Unknown	0.05	Unknown	Unpredictable	
Earthquake	+/- 20	None	Unpredictable	\$0.00	Unpredictable	
TOTAL	2437	182277000		57513627.13		

a. REGIONAL RISK ASSESSMENT – PROFILING HAZARDS

FLOODING/FLASH FLOODING

Flooding is the most frequent and costly natural hazard in the United States. It poses severe problems in portions of the NKADD region and has been identified as the highest regional threat. Floods result from excessive precipitation and are classified under two categories: general floods, which are caused by precipitation over a given geographical area and for an extended period of time and flash floods, which are the result of heavy localized precipitation in a short time period over a particular location.

General floods are long-term events and may last for several days. The primary types of general flooding are riverine, coastal, and urban flooding.

There are a multitude of reasons that floods may occur, with each type of flooding having a variety of environmental effects post-flood and are generally grouped into several types³. Types seen in the Northern Kentucky region include:

- **Regional Flooding** can occur seasonally when winter or spring rains, coupled with melting snow, fill river basins with too much water too quickly. The ground may be frozen, reducing infiltration into the soil and thereby increasing runoff. Extended wet periods during any part of the year can create

³ As defined by NOAA National Severe Storms Laboratory's Serve Weather 101 – Floods - <https://www.nssl.noaa.gov/education/svrwx101/floods/types/>

saturated soil conditions, after which any additional rain runs off into streams and rivers until river capacities are exceeded.

- A **river or riverine flood** occurs when water levels rise over the top of riverbanks due to excessive rain from tropical systems making landfall, persistent thunderstorms over the same area for extended periods of time, combined rainfall and snowmelt, or an ice jam.
- A **flash flood** is caused by heavy or excessive rainfall in a short period of time, generally less than six hours. Flash floods are usually characterized by raging torrents after heavy rains that rip through riverbeds, urban streets, or mountain canyons. They can occur within minutes or a few hours of excessive rainfall. They can also occur even if no rain has fallen, for instance, after a levee or dam has failed, or after a sudden release of water by a debris or ice jam.
- **Inland flooding** occurs when moderate precipitation accumulates over several days, intense precipitation falls over a short period, or a river overflow because of an ice or debris jam or dam or levee failure.
- **Debris, landslides, and mudflow flooding** are created by the accumulation of debris, mud, rocks, and logs in a channel, forming a temporary dam. Flooding occurs upstream as water becomes stored behind the temporary dam and then becomes a flash flood when the dam is breached and rapidly washes away. Landslides can create large waves on lakes or embankments and can be deadly.

TYPE OF STRUCTURE AND NUMBER OF STRUCTURES WITHIN THE FLOODPLAIN

Type of Structure Occupancy Class	Northern Kentucky		
	Total Number of Structures	Structures in Hazard Area Number	Percent
Residential	175058	6468	3.69%
Commercial	5021	404	8.05%
Industrial	569	72	12.65%
Agricultural	6065	532	8.77%
Religious	417	19	4.56%
Government	787	140	17.79%
Education	229	9	3.93%
TOTAL	188146	7644	4.06%

LOCATION AND EXTENT OF PREVIOUS EVENTS

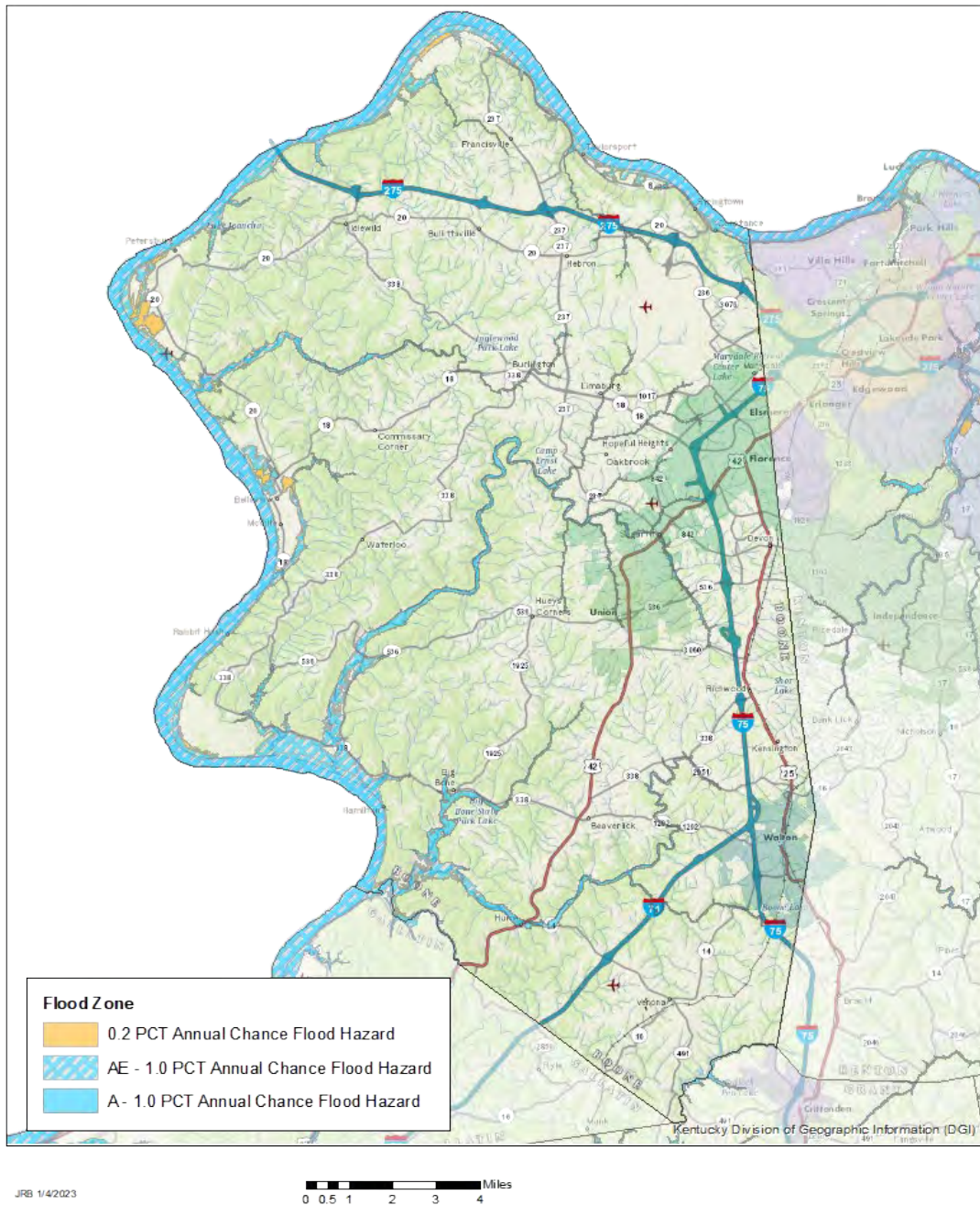
Flooding of areas alongside rivers and streams is natural and inevitable; however, the potential effects are often ignored. Development of areas within mapped floodplains continues to occur. As such development occurs, it increases loss potential and danger to people who live and work in these areas. Immediate attention has been given to improving floodplain management practices in local jurisdictions throughout the region. County's Floodplain Managers work with planning agencies, local governments,

and emergency managers to incorporate floodplain management principles into redevelopment and future development within the region.

The maps below show the estimated one percent (1%) annual chance flood, one percent (1%) annual chance flood (moderate or FIRM) and the 0.2 percent annual chance (or 500-year) flood. While there is not much difference between the 500-year and 100-year floodplain, there are some areas that will be affected by larger historic event. It is important to keep in mind that the maps do not include flash flooding, where many problems can be anticipated from such a historic event that would cause a 500-year flood.

Flood

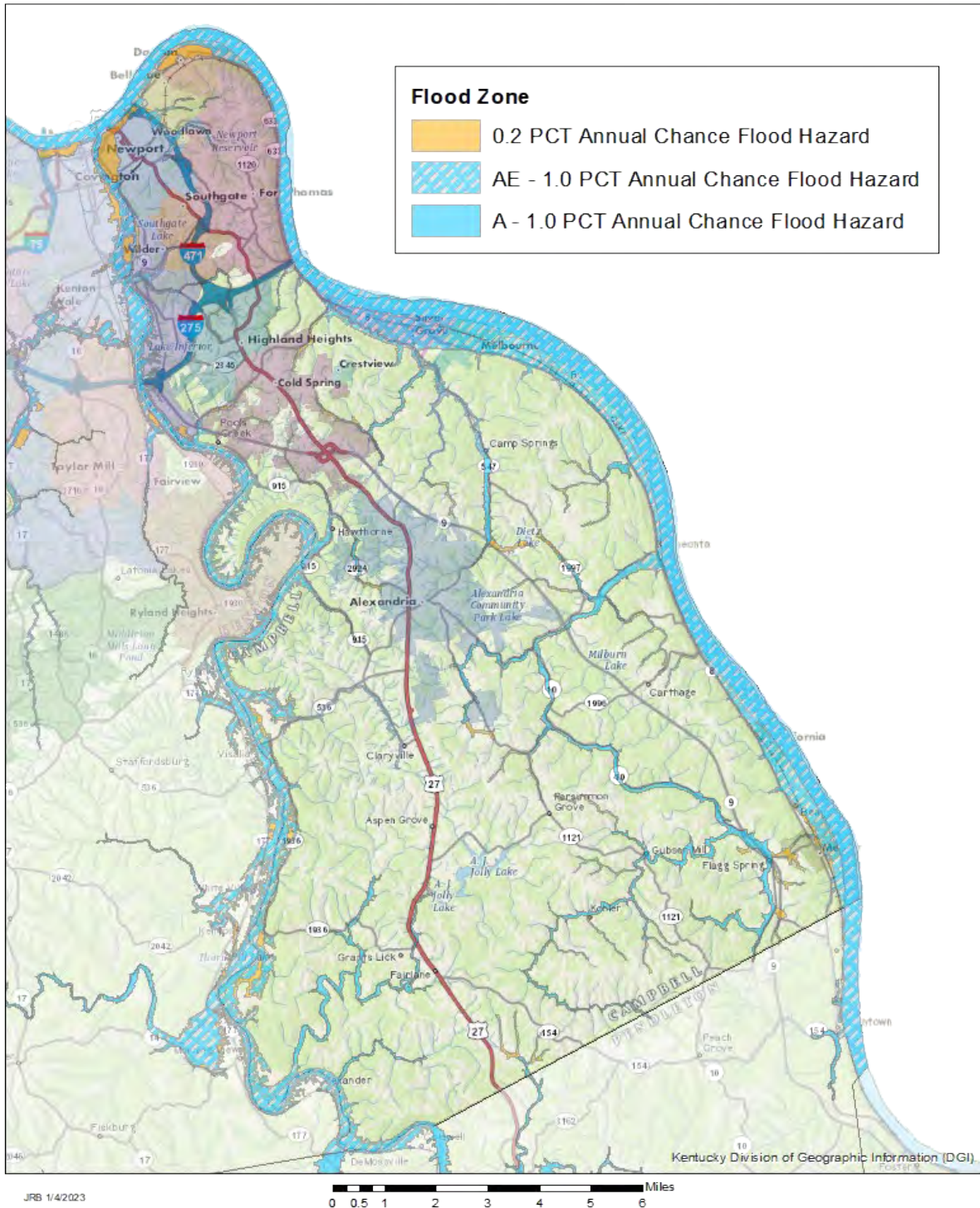
Boone County



JRB 1/4/2023

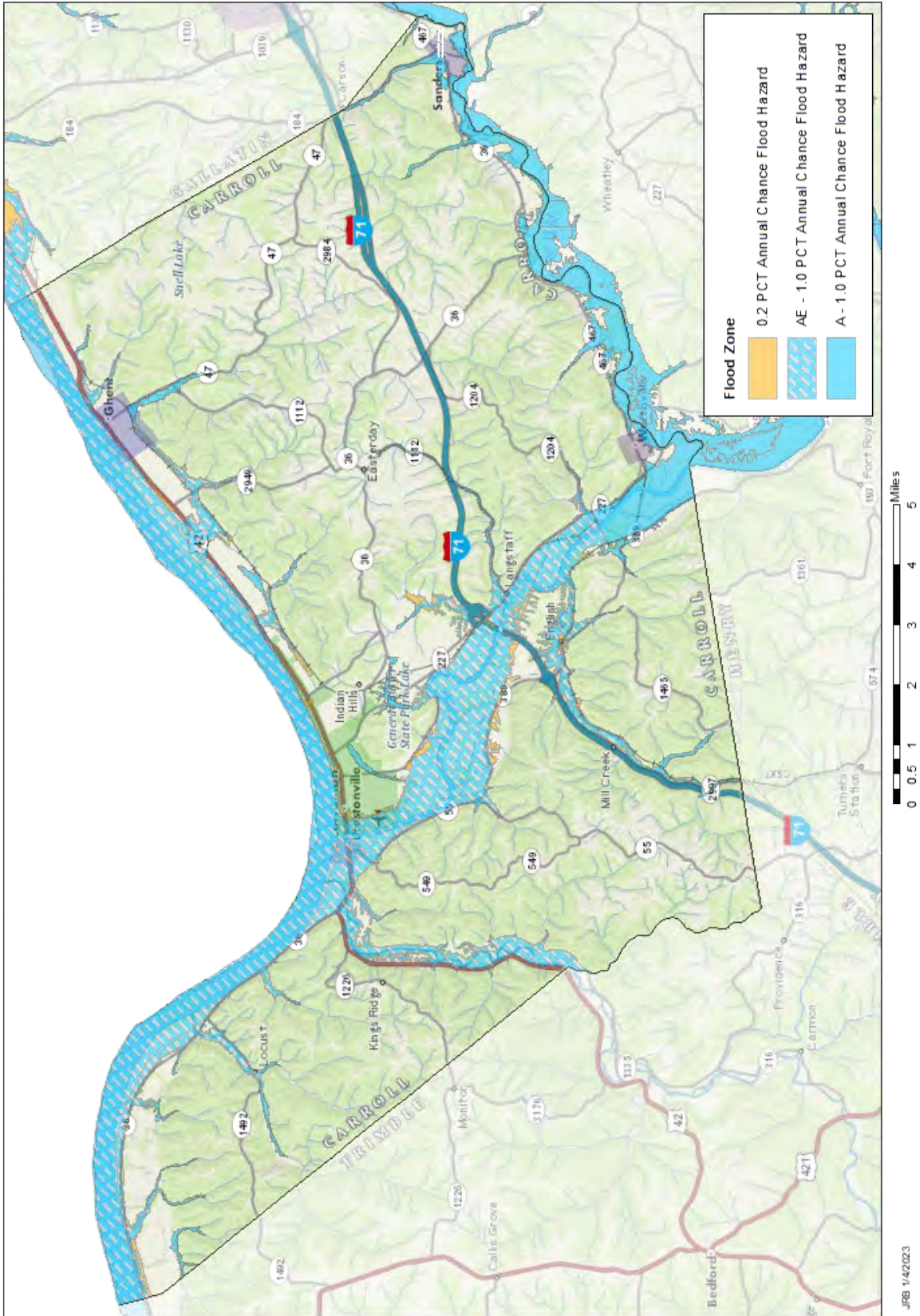
Flood

Campbell County



Flood

Carroll County

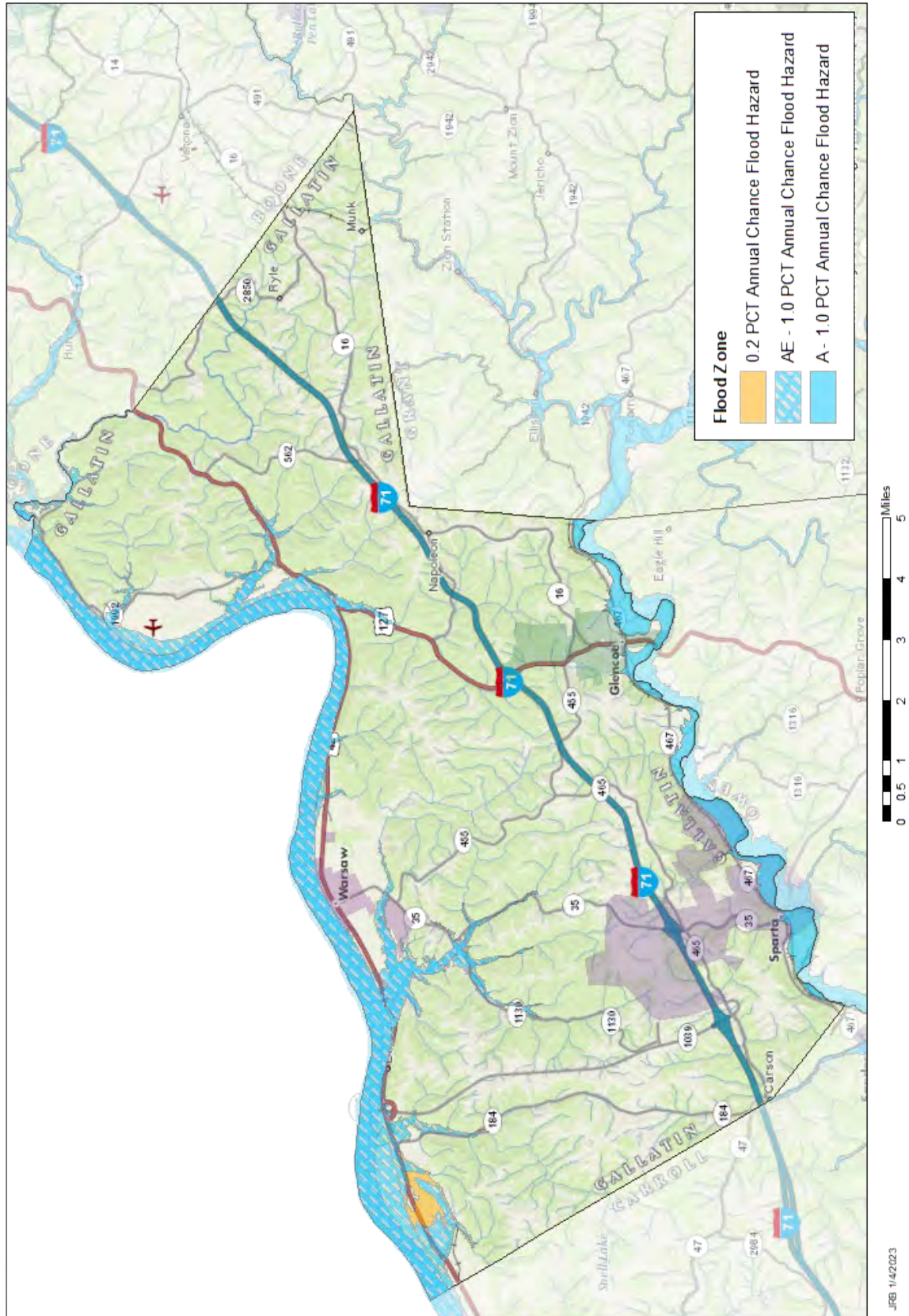


JRB 1/4/2023



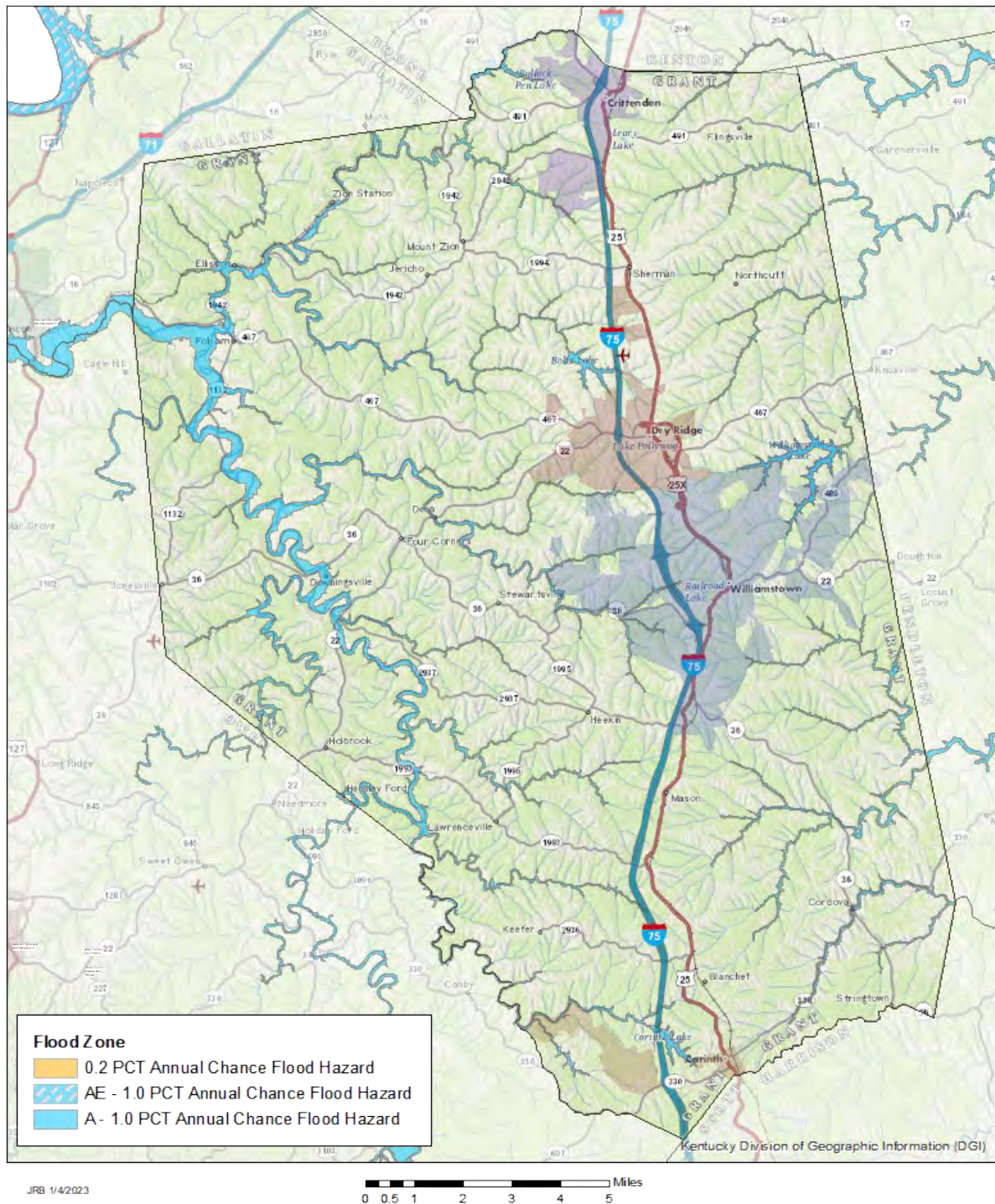
Gallatin County

Flood



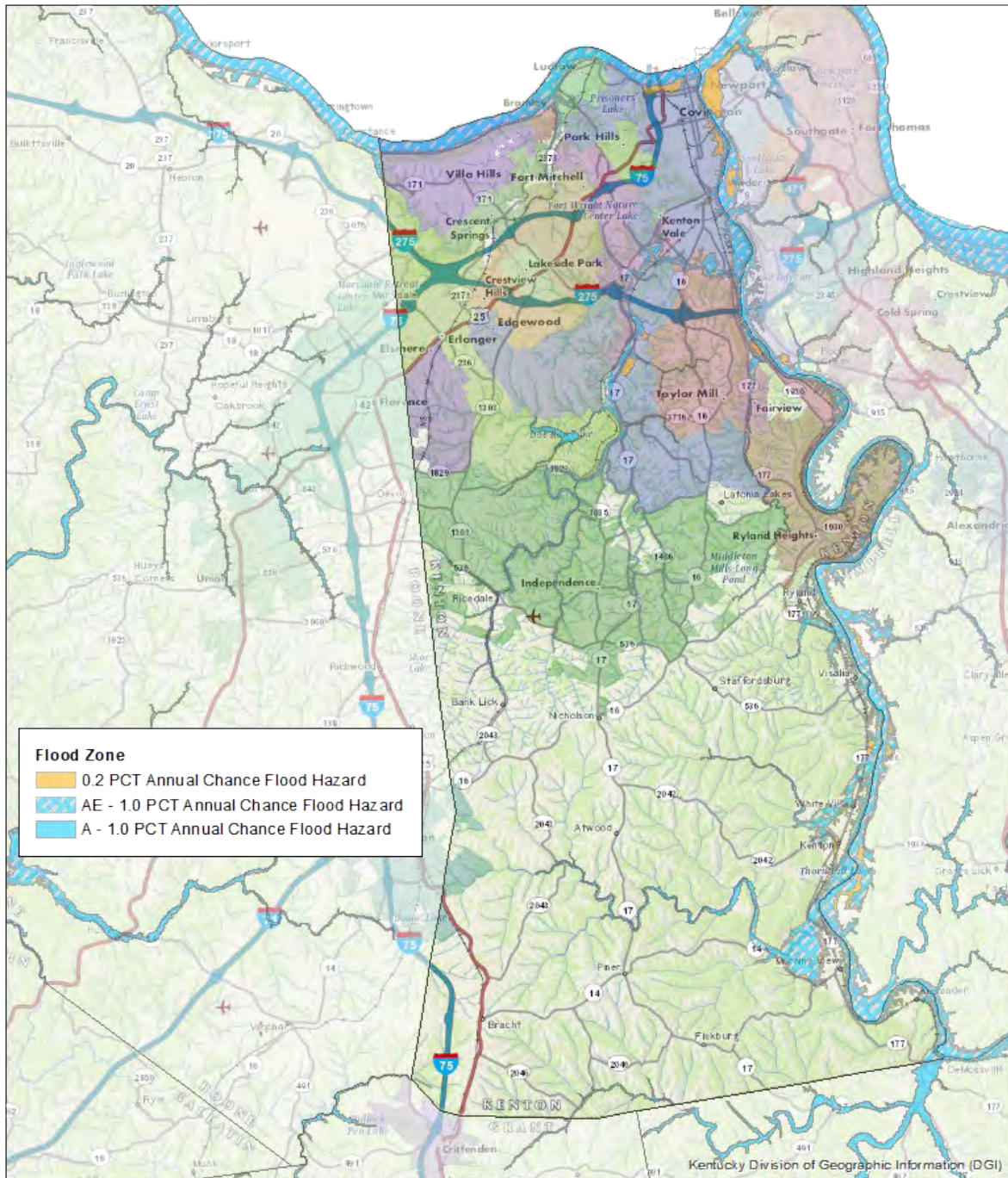
Flood

Grant County



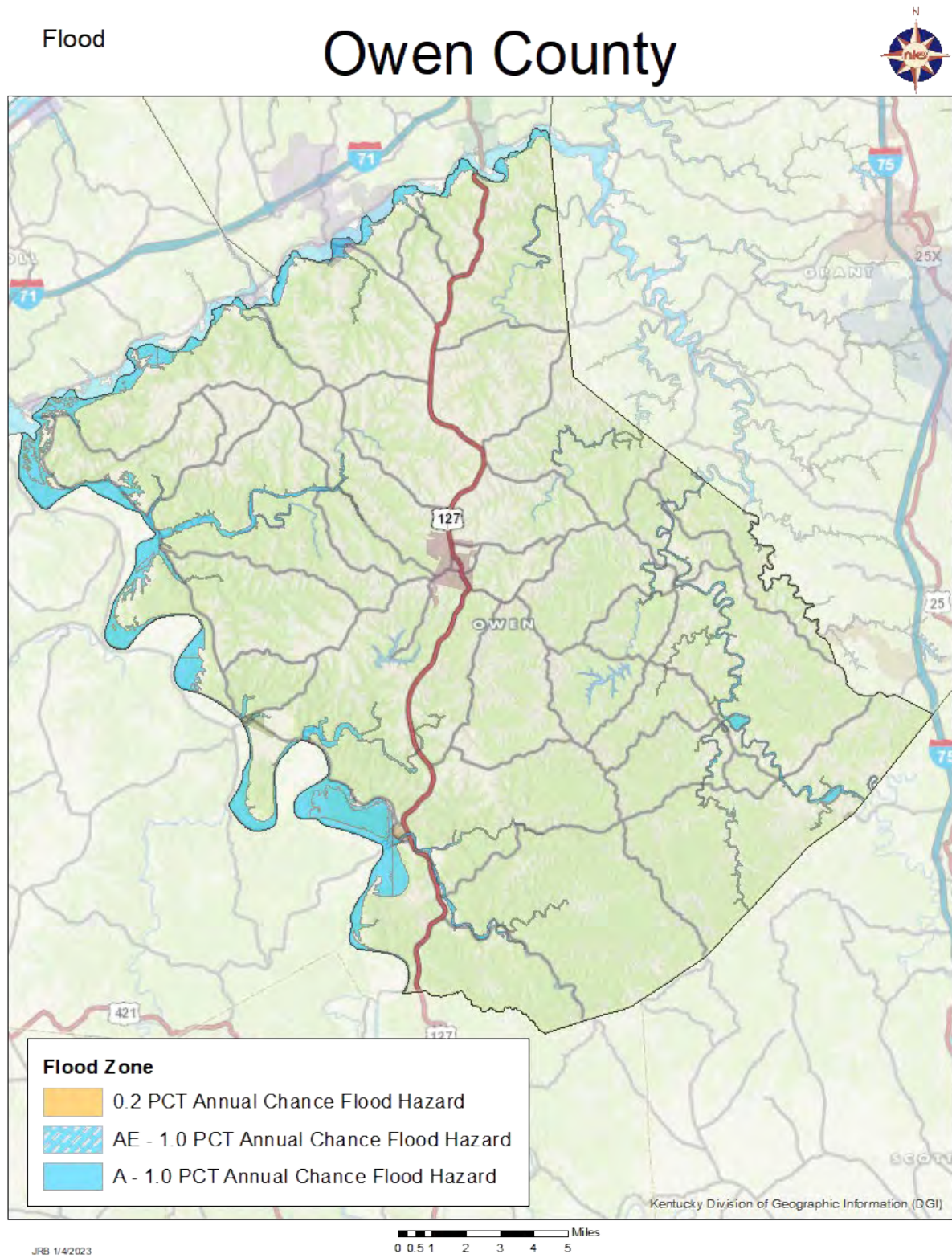
Flood

Kenton County



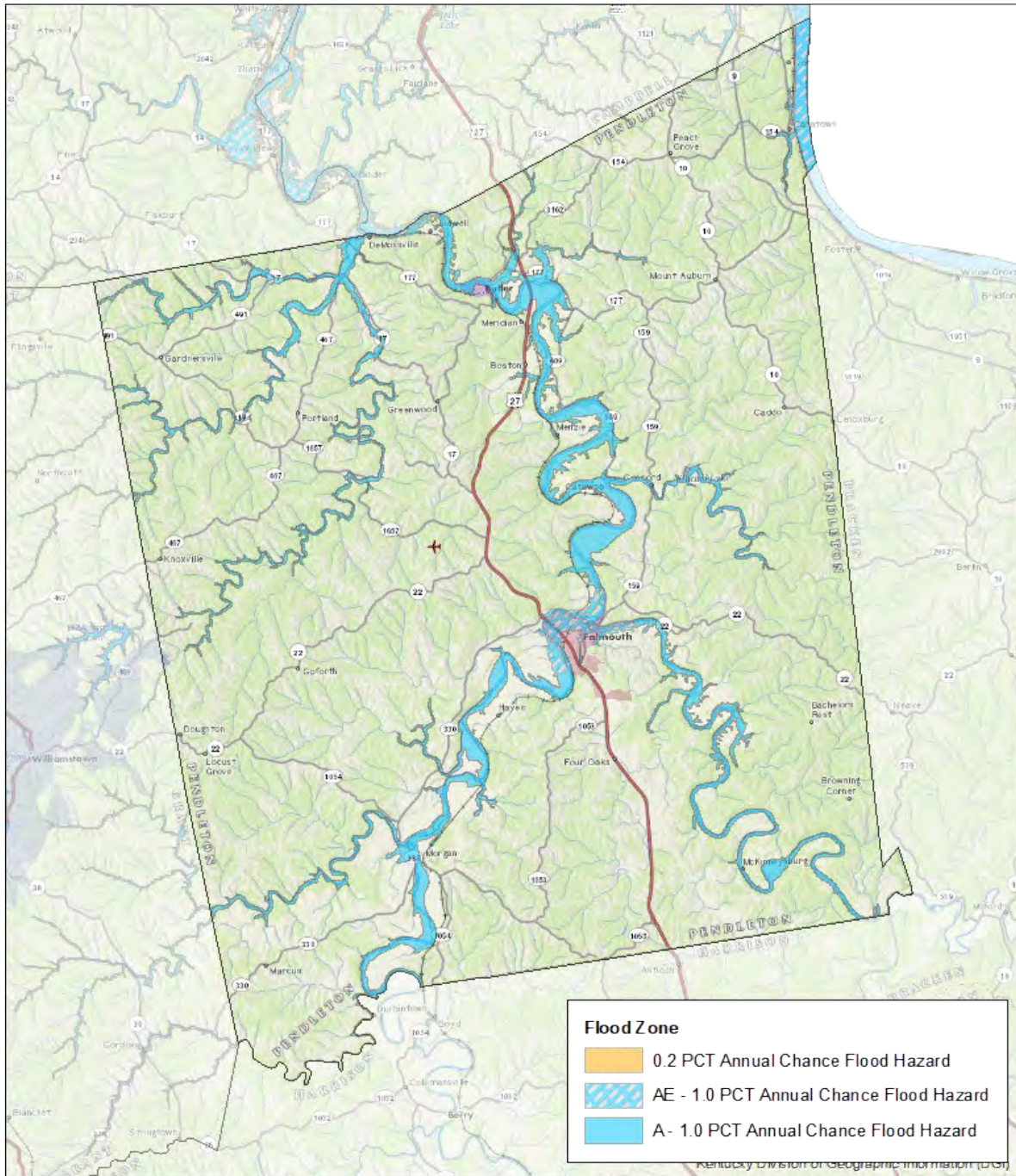
JRB 1/4/2023

0 0.5 1 2 3 4 5 Miles



Flood

Pendleton County



JRB 1/4/2023

0 0.5 1 2 3 4 5 Miles

FLOOD SEVERITY CATEGORY

The National Weather Service characterizes flood severity to communicate the impact of flooding more effectively into three categories.

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

HISTORICAL FLOODING/RIVERINE FLOODING/FLASH FLOODING EVENTS

In researching regional flooding-related events, the NKADD staff reviewed the NCDC Storm Event Database, NFIP claims, NOAA storm events and spoke with local emergency management professionals to understand the extent of the flooding events. Most of the data collected contained general information on location, date, event type, deaths/injuries, and damages. When information on the extent of the events was not found, NKADD staff conducted additional research and contacted local officials to gain a greater understanding of the extent of the flooding related events.

Jurisdiction	Date	Event Type	Event Extent
Boone County	8/30/2005	Flood	The remnants of Hurricane Katrina moved through the Ohio Valley, producing a steady, soaking rain. Many locations received three to four inches of rain throughout the day, causing several roads to flood and creeks to rise out of their banks.
Florence	7/20/2018	Flood	Standing water was reported at the intersection of Bluegrass Road and Empire Drive.
Union	2/28/2021	Flood	Gunpowder Road was closed due to flooding.
Walton	5/24/2020	Flash Flood	A portion of Salem Creek Road was underwater due to rapid rises on McCoy's Fork.
		Flooding	Flooding in Whispering Trails neighborhood where the road became impassable and at least 29 homes have flooded in the development.
Campbell County	11/15/2005	Flood	A large area of heavy rain ahead of a warm front moved across northern Kentucky during the morning. Several roads were flooded across the southern Cincinnati suburbs south to near Warsaw as a result of two to three inches of rain.
Alexandria	9/9/2018	Flood	A couple of roads were closed due to high water.
Bellevue	6/16/2019	Flash Flood	High water was reported at several locations in Fort Thomas.
California	7/18/2001	Flash Flood	Church basement flooded
	2018	Flood	2018 River crested at 57 feet

Jurisdiction	Date	Event Type	Event Extent
Cold Spring	2/12/2019	Flood	A couple of roads were closed in the county due to high water.
Crestview			
Dayton	5/10/2003	Flash Flood	Fifty homes were flooded with two determined to be uninhabitable. Numerous roads were closed due to high water.
	2021	Flood	Earth Movement behind homes in Bellevue, affecting Dayton behind Harrison Avenue. Belmont Lake/Grant Park subdivision. Creek next to Sgt. Park—rain comes out on Covert Run at Ft. Thomas—storm runoff. Entire road was damaged from flooding and, thus landslide.
Fort Thomas	6/21/2011	Flash Flood	Four to six inches of flowing water was reported over roadways due to heavy rain.
Highland Heights	8/16/2016		A mudslide was reported on I-275 East at mile marker 76.4. Thunderstorms with heavy rain developed ahead of a weak cold front.
Melbourne			
Mentor		Flood	Issues with flooding when water gets to 52ft-57ft
Newport	5/19/2020	Flash Flood	State Route 9 was closed due to a landslide near the Wilder/Newport border.
Silver Grove	7/30/2009	Flash Flood	Water was reported to be flowing over Lower Tug Fork Road due to heavy rainfall.
	2018	Flood	2018 Ohio River Flood - Starts to cause problems at 52ft. The park is underwater at 60ft. Eventually, the city became an island. Water was cut off at both ends of the city with no access road out.
Southgate	2/17/2022	Flood	River Road was closed due to high water. Rain overspread the region through the day ahead of a low-pressure system moving through the Ohio Valley. Rainfall amounts of 1.5 to 2.5 inches produced widespread flooding.
Wilder	5/19/2020	Flash Flood	State Route 9 was closed due to a landslide near the Wilder/Newport border. The Licking River floods only at the boat landing at the public park. 14-16 inches of mud each time it floods. They have seen flooding of 10 to 15 feet along the Three Mile Creek.
Woodlawn			
Carroll County	5/19/2005	Flood	Thunderstorms produced two to three inches across Carroll and Owen counties during the evening. This caused high water on roads and flooding of basements to several homes near Carrollton.
Carrollton	6/218/2021	Flood	High water resulted in a brief closure of Schuerman Street.
Ghent	6/25/2002	Flash Flood	Several creeks and streams went out of their banks across the southern part of the county. High water was reported on a couple of roads.

Jurisdiction	Date	Event Type	Event Extent
Prestonville	5/20/2017	Flash Flood	Water was reported flowing over roads and surrounding some homes in the Carrollton area.
Sanders	3/1/2021	Flood	High water was reported on roads in the Sanders area.
Worthville	9/9/2018	Flood	High water was reported over State Route 36 at McDaniel Street.
Gallatin County	7/20/2005	Flood	Scatter afternoon thunderstorms produced two inches of rain over Gallatin County during the afternoon. The heavy rain caused flooding of roads across the county.
Glencoe	2/28/2021	Flood	Multiple roads were closed due to high water throughout the county, including U.S. Route 42 and State Route 467. A mudslide was also reported along U.S. Route 42 E. Holds Branch Dredge Creek
Sparta	9/9/2018	Flood	Rising water on Two Mile Creek forced a few residents to be evacuated from homes on Old Sparta Road.
Warsaw	2/7/2019	Flood	High water affected a few roads.
Grant County	8/30/2005	Flood	The remnants of Hurricane Katrina moved through the Ohio Valley, producing a steady, soaking rain. Many locations received three to four inches of rain throughout the day, causing several roads to flood and creeks to rise out of their banks.
Corinth	4/4/2011	Flash Flood	A road was covered by moving water from a swollen creek.
Crittenden			
Dry Ridge	5/24/2020	Flash Flood	High water and flooding were reported along I-75 near Barnes Road.
Williamstown	4/28/2021	Flood	High water was reported on Cynthiana Road.
Kenton County	5/7/2002	Flash Flood	Cody Road and Pioneer Park Road were covered with water.
Bromley	7/15/2019	Flood	Sleepy Hollow Road was closed due to high water.
Covington	2/24/2018	Flash Flood	Multiple roads were closed throughout the county due to high water.
Crescent Springs	5/10/2003	Flash Flood	A trailer park was flooded, and residents were forced to evacuate. Numerous homes sustained basement flooding across the northern half of the county.
Crestview Hills	7/6/2013	Flash Flood	A stream flooded Cody Road out of its banks due to heavy rainfall. A railroad overpass picture suggests the water depth exceeded 6 feet. There two areas that flooded were Lookout Farm and Shinkle Road and Horsebranch Road and Right Fork.
Edgewood	5/8/2002	Flash Flood	Several roads were closed by high water. The flooding forced a couple of evacuations on Old State Route 17 in Edgewood.
Elsmere			
Erlanger	8/27/2021	Flash Flood	Several inches of water were flowing across Narrows Road.
Fairview			

Jurisdiction	Date	Event Type	Event Extent
Ft. Mitchell	7/15/2019	Flash Flood	Rushing water was reported over several streets in the Edgewood area.
Ft. Wright	7/29/2016	Flood	Numerous roads were flooded in Kenton County due to heavy rain.
Independence	2/28/2021	Flood	Numerous roads were closed due to high water throughout the county.
Kenton Vale			
Lakeside Park	5/26/2015	Flood	High water was reported on southbound Interstate 71/75 near the Buttermilk Pike exit.
Ludlow	5/20/2022	Flood	High water was reported along West 4th Street.
Park Hills	6/30/2020	Flood	Five inches of water was flowing down the street and sidewalks.
Ryland Heights	5/24/2020	Flash Flood	Decoursey Pike was closed due to high water.
Taylor Mill			
Villa Hills	8/28/2016	Flash Flood	Flooded basements were reported in Villa Hills and Fort Mitchell.
Owen County	4/4/2014	Flood	Heavy rainfall occurred along and ahead of a cold front moving across the region. Flooding and flash flooding occurred as a result of the heavy rain. Some of this flooding lingered into the evening. Several roads remained closed around Eagle Valley Campground due to high water caused by earlier heavy rainfall.
	5/2/2016	Flash Flood	One death on Teresita Road at the cross section of Georgetown Road and Indian Creek Road.
Gratz	8/4/2009	Flash Flood	Water was crossing Highway 355 due to flash flooding caused by heavy rainfall.
Monterey	1/24/2002	Flash Flood	Several roads were flooded with swift-moving water in and around town.
Owenton	5/14/2022	Flood	High water was reported in downtown Owenton.
Pendleton County	10/18/2004	Flood	A low-pressure system tracked through the Ohio Valley, producing heavy rain across northern Kentucky. Three to five inches fell across the area, with numerous roads flooding and impassable. Several homes sustained flooding in the basement in the southern Cincinnati metro area, across Boone and Kenton counties.
Butler	4/28/2021	Flood	High water was reported on Taylor Street.
Falmouth	6/17/2019	Flash Flood	A portion of a road was washed out near the intersection of Main Street and Reservoir Hill Road.

A complete list of historical Flooding/Riverine Flooding/Flash Flooding events can be found in Appendix 10.

A few of the jurisdictions provided information on county and city-maintained roads that are prone to flash flooding. This list should be viewed as active, as it is continually updated. Also, the entirety of these roads is not prone to flash flooding, only parts.

Roads that frequently experience flash floods:

Road Name	Jurisdiction
Ashby Fork Road	Boone County
Ashford Drive	Boone County
Big Bone Church Road	Boone County
Briargate Drive	Boone County
Cayton Road	Boone County
Carr Road	Boone County
Cedarwood Drive	Boone County
Clarkston Lane	Boone County
Dale Williamson Road	Boone County
Dickerson Road	Boone County
Easton Lane	Boone County
Lower Easton Lane	Boone County
Elijah Creek Road	Boone County
Gunpowder Road	Boone County
Hill Road	Boone County
Jasons Bluff	Boone County
Kite Lane	Boone County
Limaburg Creek Road (South)	Boone County
Longbranch Road	Boone County
Lower River Road	Boone County
Mary's Court	Boone County
Middle Creek	Boone County
Mineola Pike	Boone County
Mudlick Road	Boone County
Priscilla Lane	Boone County
South Fork Road	Boone County
South Fork Church Road	Boone County
Sycamore Lane (Hebron)	Boone County
Utterback Drive	Boone County
Victory School Road	Boone County
Victory School House Road	Boone County
Waterloo Road	Boone County
U.S. 42	KYTC
KY 338	KYTC
KY 536	KYTC
KY 2852	KYTC
KY 2951	KYTC
KY 3060	KYTC

Road Name	Jurisdiction
KY 20	KYTC
Church Hill Drive	City of Union
Whispering Trails	City of Union
Church Street	City of Walton
Old Stephenson Mill Road	City of Walton
Aulick Road	Campbell County
Branch Lick Road	Campbell County
Craft Road	Campbell County
Eight Mile Road	Campbell County
Flatwoods Drive	Campbell County
Koehler Road -low water crossing	Campbell County
Lee's Road	Campbell County
Owl Creek Road	Campbell County
Tarvin Road	Campbell County
Ten Mile Road	Campbell County
Uhl Road	Campbell County
Upper and Lower Tug Fork Road	Campbell County
Vineyard Drive	Campbell County

PROBABILITY OF FUTURE OCCURRENCES

Flood Profile Risk Table	
Location:	Areas near rivers, creeks and storm water drainage areas are most susceptible
Period of Occurrence:	River flooding - January through May Flash flooding - Anytime, but primarily in the summer months
Number of Events (1996-2022):	477
Annual Rate of Occurrence:	18.35
Probability of Future Events:	100%
Warning Time:	River flooding - 3 to 5 days Flash flooding - minutes to several hours
Potential Impacts:	Impacts on human life, health, and public safety. Utility damages and outages, infrastructure damage (transportation and communication systems), structural damage, fire, damaged or destroyed critical facilities, and hazardous material releases. Can lead to economic losses such as unemployment, decreased land values, and agribusiness losses. Floodwaters are a public safety issue due to contaminants and pollutants.

Flood Profile Risk Table	
Recorded losses:	\$54,897,000
Annualized Loss:	\$38,736,492.60
Extent (Scale):	Flash Flood 6/25/2009 Damages: 0 deaths, 0 injuries, \$60,000

NCDC Storm Events Database, collected 11/09/2022

THUNDERSTORMS/STRAIGHT LINE WINDS/STRONG WIND

Thunderstorms often produce extremely severe winds that may cause major damage. Although the intensity of the winds in thunderstorms is less than tornados, they cover a broader geographic area and can leave a much wider damage path. Thunderstorms also occur much more frequently than tornados.

Thunderstorm activity can range from mild to severe. Severe thunderstorms can produce winds in excess of 58 miles per hour, $\frac{3}{4}$ inch diameter hail and/or tornado activity. Four significant considerations when comparing severe thunderstorms and tornadoes: thunderstorms are easier for the science community to predict; tornadoes are typically stronger, more intense storms; thunderstorms typically cover a broader, larger area; and thunderstorms occur far more frequently than tornadoes in Northern Kentucky.

Straight-line winds are common with the gust front of a thunderstorm or originate with a downburst from a thunderstorm. These events can cause considerable damage, even in the absence of a tornado. The winds can reach 130 km/h (80 mph) and can last for periods of twenty minutes.

Thunderstorm Types:

- **Single Cell (pulse storms).** Typically lasts 20-30 minutes. Pulse storms can produce severe weather elements such as downbursts, hail, some heavy rainfall, and occasionally weak tornadoes. This storm is light to moderately dangerous to the public and moderately to highly dangerous to aviation.
- **Multicell Cluster.** These storms consist of a cluster of storms in varying stages of development. Multicell storms can produce moderate size hail, flash floods and weak tornadoes. This storm is moderately dangerous to the public and moderately to highly dangerous to aviation.
- **Multicell Line.** Multicell line storms consist of a line of storms with a continuous, well developed gust front at the leading edge of the line. Also known as squall lines, these storms can produce small to moderate size hail, occasional flash floods and weak tornadoes. This storm is moderately dangerous to the public and moderately to highly dangerous to aviation.
- **Supercell.** Even though it is the rarest of storm types, the supercell is the most dangerous because of the extreme weather generated. Defined as a thunderstorm with a rotating updraft, these storms can produce strong downbursts, large hail, occasional flash floods, and weak to violent tornadoes. This storm is extremely dangerous to the public and aviation.

- **Storms with Straight-line Winds.** Straight-line winds are convective wind gusts, outflow and downbursts that are produced by the downward momentum in the downdraft of a thunderstorm. An environment conducive to strong straight-line wind is one in which the updrafts and thus downdrafts are strong, the air is dry in the middle troposphere and the storm has a fast forward motion. If these winds meet or exceed 58 miles per hour then the storm is classified as severe by the National Weather Service.
- A **downdraft** is a small-scale column of air that rapidly sinks toward the ground.
- A **downburst** is a result of a strong downdraft. A downburst is a strong downdraft with horizontal dimensions larger than 4 km (2.5 mi) resulting in an outward burst of damaging winds on or near the ground. (Imagine the way water comes out of a faucet and hits the bottom of the sink.) Downburst winds may begin as a microburst and spread over a wider area, sometimes producing damage like a strong tornado. Although usually associated with thunderstorms, downbursts can occur with showers too weak to produce thunder.
- A **microburst** is a small, concentrated downburst that produces an outward burst of damaging winds at the surface. Microbursts are generally small (less than 4km across) and short-lived, lasting only 5-10 minutes, with maximum windspeeds up to 168 mph. There are two kinds of microbursts: wet and dry. A wet microburst is accompanied by heavy precipitation at the surface. Dry microbursts, common in places like the high plains and the intermountain west, occur with little or no precipitation reaching the ground.
- A **gust front** is the leading edge of rain-cooled air that clashes with warmer thunderstorm inflow. Gust fronts are characterized by a wind shift, temperature drop, and gusty winds out ahead of a thunderstorm. Sometimes the wind pushes up air above them, forming a shelf cloud or detached roll cloud.
- A **derecho** is a widespread, long-lived windstorm that is associated with a band of rapidly moving showers or thunderstorms. A typical derecho consists of numerous microbursts, downbursts, and downburst clusters. By definition, if the wind damage swath extends more than 240 miles (about 400 kilometers) and includes wind gusts of at least 58 mph (93 km/h) or greater along most of its length, then the event may be classified as a derecho.

THUNDERSTORMS/STRAIGHT LINE WINDS/STRONG WIND EVENTS SEVERITY CATEGORY

The Beaufort Scale was originally developed in 1805 by Sir Francis Beaufort as a system for estimating wind strength without the use of instruments. It is currently still in use for this same purpose as well as to tie together various components of weather (wind strength, sea state, observable effects) into a unified picture.

Force	Speed in MPH	Land Conditions
0	<1	Calm, smoke rises vertically
1	1-3	Light air, direction of wind shown by smoke drift only
2	4-7	Light breeze, wind felt on face, leaves rustle, vanes moved by wind

Force	Speed in MPH	Land Conditions
3	8-12	Gentle breeze, leaves and small twigs in constant motion, wind extends light flag
4	13-18	Moderate breeze, raises dust, loose paper, small branches move
5	19-24	Fresh breeze, small trees in leaf begin to sway
6	25-31	Strong breeze, large branches in motion, umbrellas used with difficulty
7	32-38	Near gale, whole trees in motion, inconvenience felt walking against the wind
8	39-46	Gale, breaks twigs off trees, impedes progress
9	47-54	Strong gale, slight structural damage occurs
10	55-63	Storm, trees uprooted, considerable damage occurs
11	64-73	Violent storm, widespread damage
12	74+	Hurricane, extreme destruction

HISTORICAL THUNDERSTORMS/STRAIGHT LINE WINDS/STRONG WIND EVENTS

Jurisdiction	Date	Event Type	Event Extent or Magnitude
Boone County	3/30/2022	High Wind	50 MPH
Florence	6/13/2022	Thunderstorm Wind	45
Union	3/14/2019	Thunderstorm Wind	45
Walton	6/18/2021	Thunderstorm Wind	50
Campbell County	3/30/2022	High Wind	50
Alexandria	5/20/2022	Thunderstorm Wind	50
Bellevue			
California	7/9/2020	Thunderstorm Wind	50
Cold Spring	7/20/2018	Thunderstorm Wind	50
Crestview			
Dayton			
Fort Thomas	7/5/2012	Thunderstorm Wind	50
Highland Heights	6/8/2022	Thunderstorm Wind	50
Melbourne			
Mentor			
Newport	7/30/2019	Thunderstorm Wind	50
Silver Grove			
Southgate	7/6/2022	Thunderstorm Wind	50
Wilder			
Woodlawn			
Carroll County	3/30/2022	High Wind	50
Carrollton	6/22/2022	Thunderstorm Wind	50
Ghent	5/10/2020	Thunderstorm Wind	50
Prestonville	6/6/2022	Thunderstorm Wind	50

Jurisdiction	Date	Event Type	Event Extent or Magnitude
Sanders			
Worthville	11/17/2013	Heavy Rain	Highway 467 was closed in a low-lying location due to high water caused by heavy rainfall.
Gallatin County	3/30/2022	High Wind	50
Glencoe	5/19/2022	Thunderstorm Wind	45
Sparta	7/8/2016	Thunderstorm Wind	50
Warsaw	4/12/2019	Thunderstorm Wind	61
Grant County	12/9/2009	High Wind	50
Corinth	8/27/2021	Thunderstorm Wind	50
Crittenden	8/29/2022	Thunderstorm Wind	45
Dry Ridge	8/12/2021	Thunderstorm Wind	50
Williamstown	4/3/2018	Thunderstorm Wind	56
Kenton County	3/30/2022	High Wind	50
Bromley	7/6/2022	Thunderstorm Wind	50
Covington	6/17/2019	Thunderstorm Wind	50
Crescent Springs	4/26/2016	Thunderstorm Wind	50
Crestview Hills	4/8/2020	Thunderstorm Wind	50
Edgewood			
Elsmere	4/8/2020	Thunderstorm Wind	50
Erlanger	4/8/2020	Thunderstorm Wind	50
Fairview			
Ft. Mitchell	4/8/2020	Thunderstorm Wind	50
Ft. Wright	4/8/2020	Thunderstorm Wind	50
Independence	6/8/2022	Thunderstorm Wind	50
Kenton Vale			
Lakeside Park	4/8/2020	Thunderstorm Wind	50
Ludlow	4/8/2020	Thunderstorm Wind	50
Park Hills			
Ryland Heights	10/15/2021	Thunderstorm Wind	50
Taylor Mill	4/8/2020	Thunderstorm Wind	50
Villa Hills			
Owen County	12/9/2009	High Wind	50
Gratz	6/26/2018	Thunderstorm Wind	50
Monterey	6/16/2019	Thunderstorm Wind	50
Owenton	1/11/2020	Thunderstorm Wind	50
Pendleton County	3/30/2022	High Wind	50
Butler	8/27/2021	Thunderstorm Wind	50
Falmouth	6/22/2022	Thunderstorm Wind	50

A complete list of historical Thunderstorms/Straight Line Winds/Strong Wind Events can be found in Appendix 11.

PROBABILITY OF FUTURE OCCURRENCES

Thunderstorm/Straight Line Wind Profile Risk Table	
Location:	All areas in NKADD are susceptible
Period of Occurrence:	Any time of the year, but especially April to June
Number of Events (1956-2022):	1009
Annual Rate of Occurrence:	15.29
Probability of Future Events:	100%
Warning Time:	Minutes to hours
Potential Impacts:	Impacts to human life, health and public safety are possible. Utility damage and failure, infrastructure damage, structural damage, fire, damaged or destroyed critical facilities, and hazardous material releases are additional impacts.
Recorded losses:	\$55,287,250
Annualized Loss:	\$12,806,436.01
Extent (Scale):	Thunderstorm Wind 4/20/2011 Scale: 87 kts. EG Damages: 0 deaths, 0 injuries, \$150,000 High Wind (Straight Line Wind) 9/14/2008 Scale: 64 kts. EG Damages: 0 deaths, 0 injuries, \$12,900,000

NCDC Storm Events Database, collected 11/09/2022

HAIL

Hail is commonly associated with severe storms. While severe storms and super cell storms usually produce the most damaging hail occurrences, many non-super cell storms have produced golf ball size hail. Storms which produce hail are more frequent during the late spring and early summer months.

HAIL EVENTS SEVERITY CATEGORY

Although there is no scientific classification of hail, NOAA provides the following comparisons to identify hail sizes with common items.

NOAA Hail Size Comparison	
Non-Severe Sizes	
Pea	¼ inch diameter
Marble	½ inch diameter
Severe Sizes	
Dime/Penny	¾ inch diameter
Nickel	7/8-inch diameter
Quarter	1 inch diameter
Ping-Pong Ball	1 ½ inch diameter
Golf Ball	1 ¾ inch diameter
Tennis Ball	2 ½ inch diameter
Baseball	2 ¾ inch diameter
Teacup	3-inch diameter
Grapefruit	4-inch diameter
Softball	4 ½ inch diameter

HISTORIC HAIL EVENTS

Jurisdiction	Date	Event Type	Event Extent or Magnitude
Boone County			
Florence	4/8/2020	Hail	0.75
Union	10/19/2016	Hail	1
Walton	2/21/2016	Hail	0.75
Campbell County			
Alexandria	4/8/2020	Hail	0.75
Bellevue	4/8/2020	Hail	1
California	10/19/2016	Hail	1.75
Cold Spring			
Crestview			
Dayton	9/4/2015	Hail	0.88
Fort Thomas	4/25/2012	Hail	1.25
Highland Heights	5/23/2019	Hail	1
Melbourne	4/6/2001	Hail	0.75
Mentor	3/15/2012	Hail	0.75
Newport	9/5/2018	Hail	0.75
Silver Grove	4/11/2007	Hail	0.75
Southgate	7/9/2020	Hail	0.75
Wilder			
Woodlawn			
Carroll County			

Jurisdiction	Date	Event Type	Event Extent or Magnitude
Carrollton	4/26/2016	Hail	0.88
Ghent	4/8/2020	Hail	1.75
Prestonville	5/21/2014	Hail	1
Sanders	3/25/2021	Hail	1.25
Worthville	3/2/2012	Hail	4.25
Gallatin County			
Glencoe	11/9/2000	Hail	0.88
Sparta	5/1/2012	Hail	2.75
Warsaw	5/1/2012	Hail	2.5
Grant County			
Corinth	7/5/2012	Hail	0.88
Crittenden	5/19/2017	Hail	1
Dry Ridge	4/8/2015	Hail	1.25
Williamstown	4/29/2017	Hail	1
Kenton County			
Bromley			
Covington	5/22/2018	Hail	0.88
Crescent Springs	4/25/2012	Hail	0.88
Crestview Hills			
Edgewood			
Elsmere			
Erlanger	3/14/2019	Hail	1
Fairview			
Ft. Mitchell	4/25/2012	Hail	0.88
Ft. Wright			
Independence	10/19/2016	Hail	1
Kenton Vale			
Lakeside Park			
Ludlow			
Park Hills	5/17/2019	Hail	0.75
Ryland Heights			
Taylor Mill	10/26/2010	Hail	1
Villa Hills			
Owen County			
Gratz	7/12/2011	Hail	0.88
Monterey	7/17/2007	Hail	0.75
Owenton	6/30/2015	Hail	1
Pendleton County			
Butler	11/14/2011	Hail	0.75

Jurisdiction	Date	Event Type	Event Extent or Magnitude
Falmouth	7/27/2012	Hail	0.75

A complete list of historical Hail Events can be found in Appendix 12.

PROBABILITY OF FUTURE OCCURRENCES

Hail Profile Risk Table	
Location:	All areas in NKADD are susceptible
Period of Occurrence:	Any time of the year, but especially April to June
Number of Events (1956-2022):	317
Annual Rate of Occurrence:	0.21
Probability of Future Events:	100%
Warning Time:	Predicting hail is difficult. Most advance warning comes from knowledge of conditions present that could produce hail; it is minutes to an hour at best.
Potential Impacts:	Impacts to human life, health and public safety are possible. Utility damage and failure, infrastructure damage, structural damage, fire, damaged or destroyed critical facilities, and hazardous material releases are additional impacts.
Recorded losses:	\$190,250
Annualized Loss:	\$600.16
Extent (Scale):	Hail 6/25/2009 Scale: 1.75 inches Damages: 0 deaths, 0 injuries, \$30,000

NCDC Storm Events Database, collected 11/09/2022

TORNADO

A tornado is a mobile, destructive vortex of violently rotating winds having the appearance of a funnel-shaped cloud and advancing beneath a large storm system. It is spawned by a thunderstorm (or sometimes as a result of a hurricane) and produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Peak months of tornado activity are usually April, May, and June. However, tornadoes have occurred every month and at all times of the year. They tend to occur in the afternoons and evenings.

The NKADD region is within wind zone four of the Design Wind Speeds map in the FEMA publication "Taking Shelter from the Storm: Building a Safe Room Inside Your House." This wind classification places the region in the high-risk category for tornadoes. According to National Severe Storms Laboratory

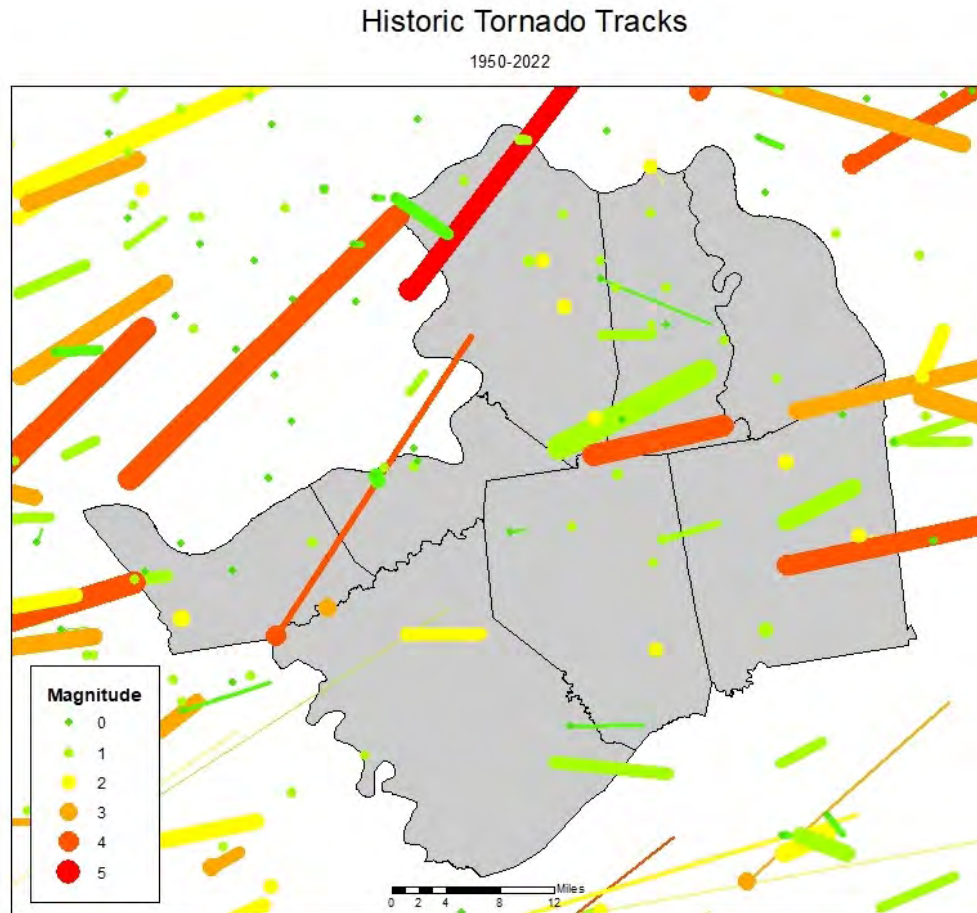
probability statistics for tornados, the NKADD region is likely to experience between ten to fifteen F2 or greater tornado days per century.

Types of Tornadoes and Tornado Severity Category

The magnitude of a tornado is determined by the Enhanced-Fujita Scale, an updated version of the Fujita-Pearson Scale. The six categories for the EF scale are listed below, in order of increasing intensity. For the actual EF scale in practice, damage indicators (the type of structure which has been damaged) are predominately used in determining the tornado intensity. There are 28 damage indicators, and together they consider the quality of construction.

Scale	Wind speed (Estimated) ^[5] mph	Relative frequency	Potential damage
EF0	65–85	53.5%	Minor or no damage. Peel surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF0.
EF1	86–110	31.6%	Moderate damage. Roofs severely stripped; mobile homes overturned or severely damaged; loss of exterior doors; windows and other glass broken.
EF2	111–135	10.7%	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136–165	3.4%	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations are severely damaged.
EF4	166–200	0.7%	Extreme damage. Well-constructed and whole frame houses completely leveled; cars and other large objects thrown, and small missiles generated.
EF5	>200	<0.1%	Total destruction of buildings. Strong framed, well-built houses leveled off foundations and swept away; steel-reinforced concrete structures are critically damaged; tall buildings collapse or have severe structural deformations; some cars, trucks and train cars can be thrown approximately 1 mile.

<http://www.spc.noaa.gov/efscale/ef-scale.html>

LOCATION AND EXTENT OF PREVIOUS EVENTSHISTORICAL TORNADO EVENTS

Jurisdiction	Date	Event Type	Event Extent TOR F Scale
Boone County	6/18/2021	Tornado	EF1
Campbell County	3/2/2012	Tornado	EF3
Carroll County	3/2/2012	Tornado	EF1
Prestonville	3/2/2012	Tornado	EF1
Gallatin County	4/8/2020	Tornado	EF0
Warsaw	4/8/2020	Tornado	EF0
Grant County	4/8/2020	Tornado	EF1
Crittenden	3/2/2012	Tornado	EF3
Dry Ridge	1/12/2023	Tornado	EF0
Kenton County	4/8/2020	Tornado	EF0
Ryland Heights	4/23/2011	Tornado	EF1
Owen County	10/7/2014	Tornado	EF1
Pendleton County	4/8/2020	Tornado	EF1

Jurisdiction	Date	Event Type	Event Extent TOR F Scale
Butler	5/8/1996	Tornado	F2

A complete list of historical Tornado events can be found in Appendix 13.

PROBABILITY OF FUTURE OCCURRENCES

Tornado Profile Risk Table	
Location:	All areas in NKADD are susceptible
Period of Occurrence:	Spring, Summer, Fall
Number of Events (1956-2022):	57
Annual Rate of Occurrence:	0.86
Probability of Future Events:	100%
Warning Time:	Minutes to hours
Potential Impacts:	Utility damage and outages, infrastructure damage (transportation and communication systems), structural damage, fire, damaged or destroyed critical facilities, and hazardous material releases. Impacts on human life, health, and public safety.
Recorded losses:	\$65,897,500.00
Annualized Loss:	\$862,295.11
Extent (Scale):	Tornado (Pendleton) 4/23/1968 Scale: F4 Damages: 4 deaths, 350 injuries, \$25,000,000

NCDC Storm Events Database, collected 11/09/2022

SEVERE WINTER STORMS/WINTER WEATHER/COLD WAVE/ICE STORM

A winter storm can range from moderate snow over a few hours to blizzard conditions with blinding wind-driven snow, sleet and/or ice that lasts several days. Some winter storms may be large enough to affect several states while others may affect only a single community. All winter storms are accompanied by low temperatures and blowing snow, which can reduce visibility.

A severe winter storm is defined as an event that drops four or more inches of snow during a 12-hour period or 6 or more inches during a 24-hour span. All severe winter storms make driving and walking extremely hazardous. The aftermath of a severe winter storm can impact a community or region for days, weeks, or months.

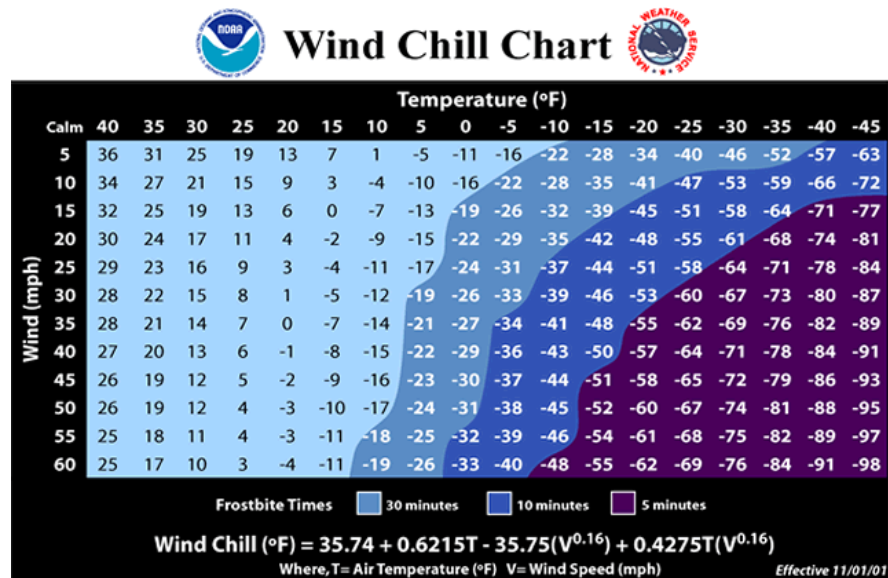
Blizzards are the most dangerous of all winter storms. They are characterized by temperatures below twenty degrees Fahrenheit and winds of at least 35 miles per hour. In addition to temperatures and

winds, to be classified as a blizzard, a storm must have sufficient falling or blowing snow. Blizzard snow reduces visibility to less than one-quarter mile for at least three hours. With high winds and heavy snow, these severe storms can punish residents throughout much of the United States during the winter months each year.

An ice storm occurs when freezing rain falls from clouds and freezes immediately on impact. Ice storms occur when the surface cold air overrides warm, moist air at higher altitudes. As the warm air descends over the cold air, precipitation, which falls as rain at high altitudes, becomes super cooled and freezes as it passes through the cold air mass below. In extreme cases, ice may accumulate inches thick, though just a thin coating is often enough to cause severe damage. The weight of ice can produce tree loss, and damage to power lines, and even structures.

SEVERE WINTER STORMS/WINTER WEATHER/COLD WAVE/ICE STORM SEVERITY CATEGORY

In researching regional winter storm events, the NKADD staff reviewed the NCDL Storm Event Database, NFIP claims, NOAA storm events and spoke with local emergency management professionals to understand the extent of the winter events. Most of the data collected contained general information on location, date, event type, deaths/injuries, and



damages. When information on the extent of the events were not found, NKADD staff conducted additional research and contacted local officials to gain a greater understanding of the extent of the winter weather related events.

HISTORICAL SEVERE WINTER STORMS/WINTER WEATHER/COLD WAVE/ICE STORM EVENTS

Jurisdiction	Date	Event Type	Event Extent
Boone County	1/22/2023	Winter Storm	A spotter located two miles north of Union measured 5.6 inches of snow, as did the Cincinnati/Northern Kentucky airport KCVG.
Florence	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous

Jurisdiction	Date	Event Type	Event Extent
			conditions for persons traveling and those without sufficient shelter.
Union	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Walton			
Campbell County	1/22/2023	Winter Weather	In Alexandria, a social media post recorded 4 inches of snow. This was the highest snow total indicated across the county.
Alexandria	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Bellevue	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
California	2/15/2021	Winter Storm	The observer northwest of California measured 1.7 inches of snow accumulation.
Cold Spring	1/12/2019	Winter Weather	A spotter measured 2.5 inches of snow in Cold Spring.
Crestview			
Dayton	12/29/2017	Winter Weather	A post from Dayton showed that 1.5 inches of snow fell there.
Fort Thomas	2/8/2021	Winter Storm	A public report from Fort Thomas all had 10 inches of snow.
Highland Heights	3/11/2022	Winter Weather	Observers south of Highland Heights both measured 1.8 inches.
Melbourne	2/8/2017	Winter Weather	The observer east of Melbourne measured a half inch of snow.
Mentor			
Newport	2/6/2020	Winter Weather	An observer near Newport measured 0.8 inches.
Silver Grove			
Southgate	2/8/2021	Winter Storm	A spotter in Southgate reported 10 inches of snow.
Wilder	1/28/2022	Winter Weather	The observer near Wilder measured 1.5 inches of snow.
Woodlawn			
Carroll County	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Carrollton	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.

Jurisdiction	Date	Event Type	Event Extent
Ghent	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Prestonville	2/10/2021	Winter Weather	Seven tenths of an inch of snow fell across the Ohio River in Vevay, IN. It is estimated that an inch or two was common across the county.
Sanders			
Worthville			
Gallatin County	3/11/2022	Winter Weather	The CoCoRaHS observer northwest of Glencoe measured an inch of snow.
Glencoe	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Sparta	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Warsaw	2/3/2022	Winter Weather	The observer measured 1.3 inches of sleet fell in Warsaw.
Grant County	2/3/2022	Ice Storm	Based on surrounding reports and a declared level 2 snow emergency, ice accumulated in a significant manner across the county.
Corinth	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Crittenden	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Dry Ridge	1/28/2022	Winter Weather	The observer measured 2 inches north-northwest of Dry Ridge.
Williamstown	1/6/2022	Winter Weather	The observer in Williamstown measured 1.7 inches of snow.
Kenton County	3/11/2022	Winter Weather	An inch of snow was measured by the CoCoRaHS observer west of Ryland Heights.
Bromley	1/22/2023	Winter Storm	A report from Villa Hills indicated that 4.5 inches of snow had fallen.
Covington	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Crescent Springs	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Crestview Hills			

Jurisdiction	Date	Event Type	Event Extent
Edgewood			
Elsmere	2/3/2022	Winter Storm	The observer south of Covington measured 3 inches of snow. Transportation due to the snow and sleet was crippled for several hours.
Erlanger	1/28/2022	Winter Weather	The observer west of Ryland Heights measured 3.3 inches of snow.
Fairview			
Ft. Mitchell	2/8/2021	Winter Storm	By daybreak, an NWS employee in Fort Mitchell measured 8 inches of accumulation, as did a social media report from Erlanger.
Ft. Wright			
Independence	4/20/2021	Winter Weather	A public report from Independence estimated two inches of accumulation.
Kenton Vale	11/14/2018	Ice Storm	A quarter inch of ice was measured in both Latonia Lakes and in Kenton Vale.
Lakeside Park			
Ludlow			
Park Hills	1/30/2019	Extreme Cold/Wind Chill	Wind chills north of Park Hills dropped to 31 below zero.
Ryland Heights	3/11/2022	Winter Weather	An inch of snow was measured by the CoCoRaHS observer west of Ryland Heights.
Taylor Mill	4/20/2021	Winter Weather	A post from Taylor Mill indicated that 3.2 inches of snow fell there. A public report from Independence estimated two inches of accumulation.
Villa Hills	1/22/2023	Winter Storm	A report from Villa Hills indicated that 4.5 inches of snow had fallen.
Owen County	2/10/2021	Winter Storm	At least a quarter inch of a glaze of ice was reported in Owenton.
Gratz	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Monterey	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.
Owenton	2/10/2021	Winter Storm	At least a quarter inch of a glaze of ice was reported in Owenton.
Pendleton County	2/3/2022	Ice Storm	Based on surrounding reports and a declared level 2 snow emergency, ice accumulated in a significant manner across the county.

Jurisdiction	Date	Event Type	Event Extent
Butler	12/22/2022	Winter Storm	A combination of snow, blowing snow, and bitter wind chills created dangerous conditions for persons traveling and those without sufficient shelter.
Falmouth	12/22/2022	Extreme Cold/Wind Chill	Wind chills fell below 25 below zero.

A complete list of historical Server Winter Storms/Winter Weather/Cold Wave/Ice Storm events can be found in Appendix 14.

PROBABILITY OF FUTURE OCCURRENCES

Severe Winter Storm Profile Risk Table	
Location:	All areas in NKADD are susceptible
Period of Occurrence:	Most likely in December, January, or February
Number of Events (1996-2022):	575
Annual Rate of Occurrence:	22.12
Probability of Future Events:	100%
Warning Time:	No official warnings
Potential Impacts:	Extreme cold Impacts on human life, health, and public safety. Rivers and lakes freeze causing transportation issues. Energy consumption goes up and depending on the time of year extreme cold can have large impacts on agriculture. Cold temperatures can also cause ruptured pipes and stressed on engines and motors.
Recorded losses:	\$6,005,000
Annualized Loss:	\$5,107,803.25
Extent (Scale):	Winter Storm 1/6/1996 Damages: 0 deaths, 0 injuries, \$400,000

NCDC Storm Events Database, collected 11/09/2022

LANDSLIDE

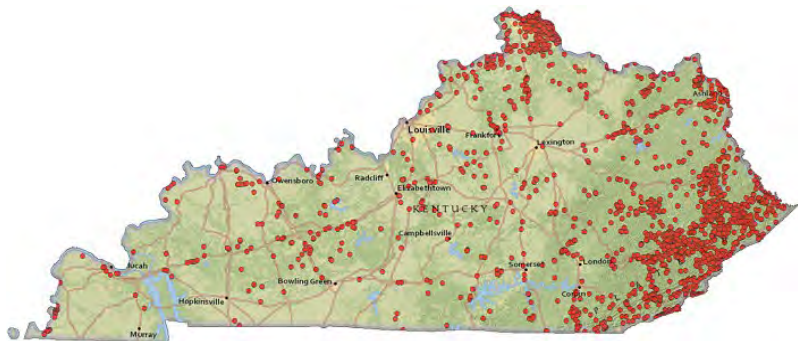
A landslide is the movement of a mass of earth or rock from a higher elevation to a lower level under the influence of gravity. Landslides can be large or small, slow, or fast. Slumping landslides that occur along roadways are typical in the region where steep slopes, thick colluvial soils, and loading or undercutting of the slope by road construction create slope instability. Landslides have a significant social and economic impact on the Northern Kentucky region, and the costs of landslide prevention and remediation in this area are reportedly among the highest in the nation. Landslides regularly close sections of Ky. 8 after sudden movement of the steep slopes along the riverside route washes mud and trees onto the highway. To date however, it has been difficult to quantify the cost of landslide damage

because of the variety and degree of applicability of accessible records available providing information on the extent of repair and replacement costs or the costs associated with the implementation of procedures to prevent landslide damage (U.S. Geologic Survey).

Much of the economic loss is borne by federal, state, and local agencies responsible for disaster assistance, flood insurance, and highway maintenance and repair. Private costs involve mainly damage to land and infrastructures. A severe landslide can result in financial ruin for the property owners because landslide insurance (except for debris flow coverage) or other means of spreading the costs of damage are unavailable.

TYPES OF LANDSLIDES AND LANDSLIDE SEVERITY CATEGORY

- **Slides** of soil or rock involve downward displacement along one of more failure surfaces. The material from the slide may be broken into pieces or remain a single, intact mass. Sliding can be rotational, where movement involves turning about a specific point. Sliding can be translational, where movement is down slope on a path roughly parallel to the failure surface. The most common example of a rotational slide is a slump, which has a strong, backward rotational component and a curved, upwardly concave failure surface.
- **Flows** are characterized by shear strains distributed throughout the mass of material. They are distinguished from slides by high water content and distribution of velocities resembling that of viscous fluids. Debris flows are common occurrences in much of North America. These flows are a form of rapid movement in which loose soils, rocks, and organic matter, combined with air and water, form slurry that flows downslope. The term “debris avalanche” describes a variety of very rapid to extremely rapid debris flows associated with volcanic hazards. Mudflows are flows of fine-grained materials, such as sand, silt, or clay, with high water content and less than 50 percent gravel.
- **Lateral spreads** are characterized by large elements of distributed, lateral displacement of materials. They occur in rock, but the process is not well-documented, and the movement rates are very slow. Lateral spreads can occur in fine-grained, sensitive soils such as quick clays, particularly if remolded or disturbed by construction and grading. Loose, granular soils commonly produce lateral spread through liquefaction. Liquefaction can occur spontaneously, presumably because of changes in pore-water pressures, or in response to vibrations such as those produced by strong earthquakes.
- **Falls** occur when masses of rock or other material detach from a steep slope or cliff and descend by free fall, rolling, or bouncing. These movements are rapid to extremely rapid and are commonly triggered by earthquakes. Topples consist of forward rotation of rocks or other materials about a

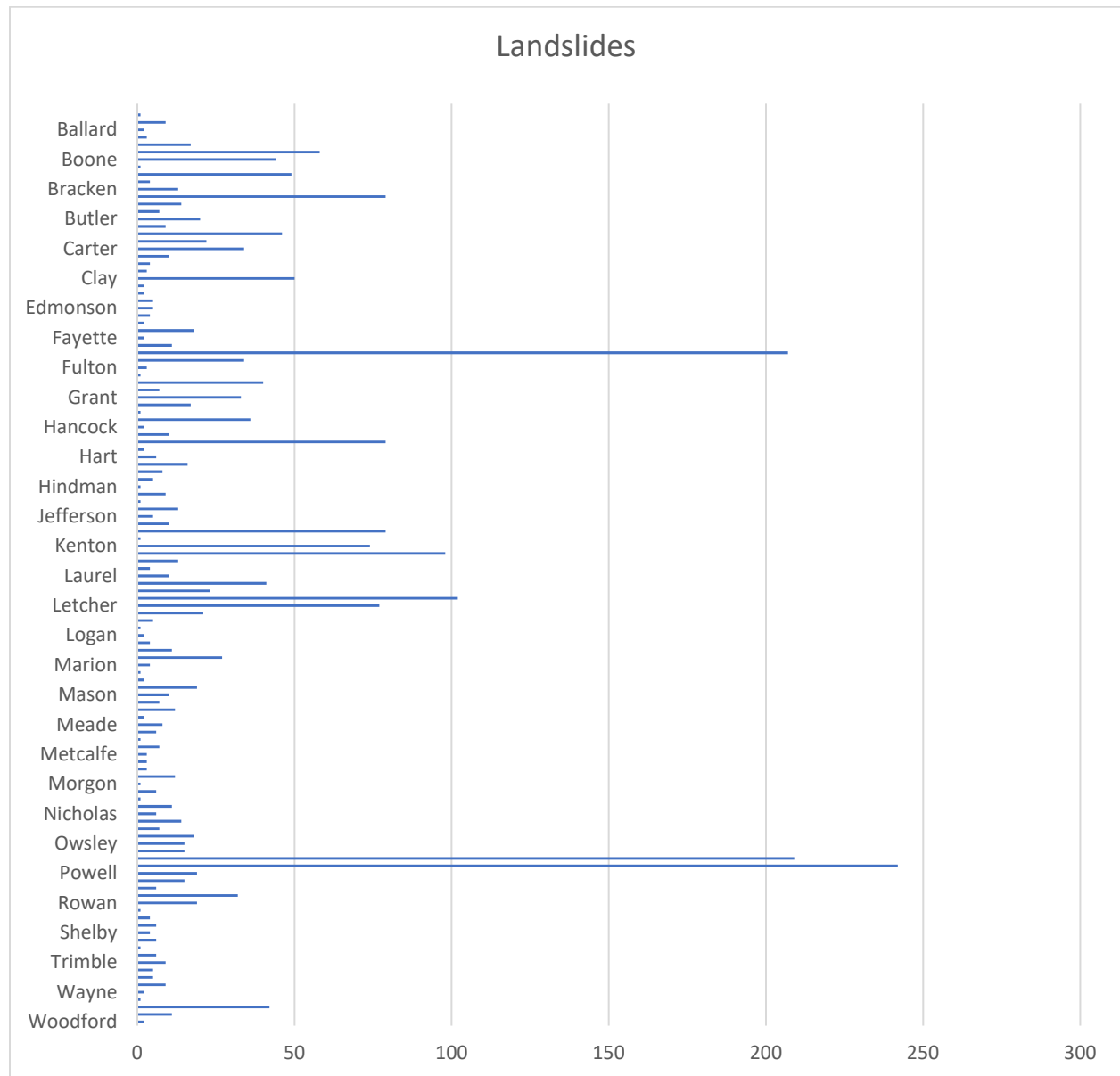


Source: Kentucky Geological Survey, University of Kentucky
<http://www.uky.edu/KGS/geologichazards/landslide.htm>

pivot point on a hill slope. Toppling may culminate in abrupt falling, sliding, or bouncing, but the movement is tilting without resulting in collapse.

LOCATION AND EXTENT OF PREVIOUS EVENTS

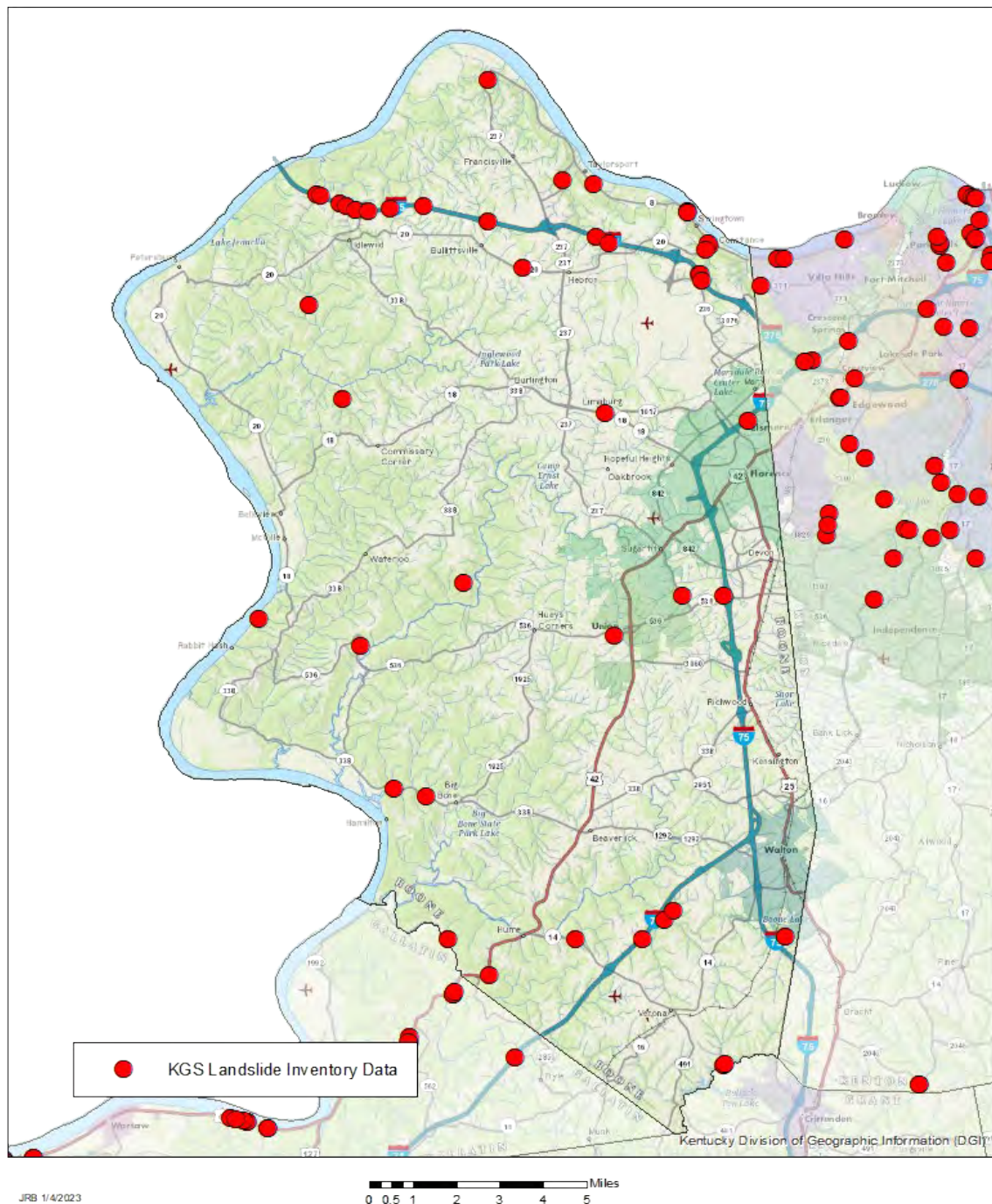
The following map was created by the Kentucky Geological Survey depicts selected locations of landslides throughout the state. The Northern Kentucky region experiences a vast amount landslide compared to the rest of the state, particularly when considering that the eastern region that experiences numerous landslides also have mines. The graph provides a more detailed county by county look at landslides throughout the commonwealth.



The County landslide maps were created using information from KYTC, PDSKC (formerly NKAPC), KGS, and other sources. Each county in the region has generally similar soil and topography, so we can estimate that they experience the same issues.

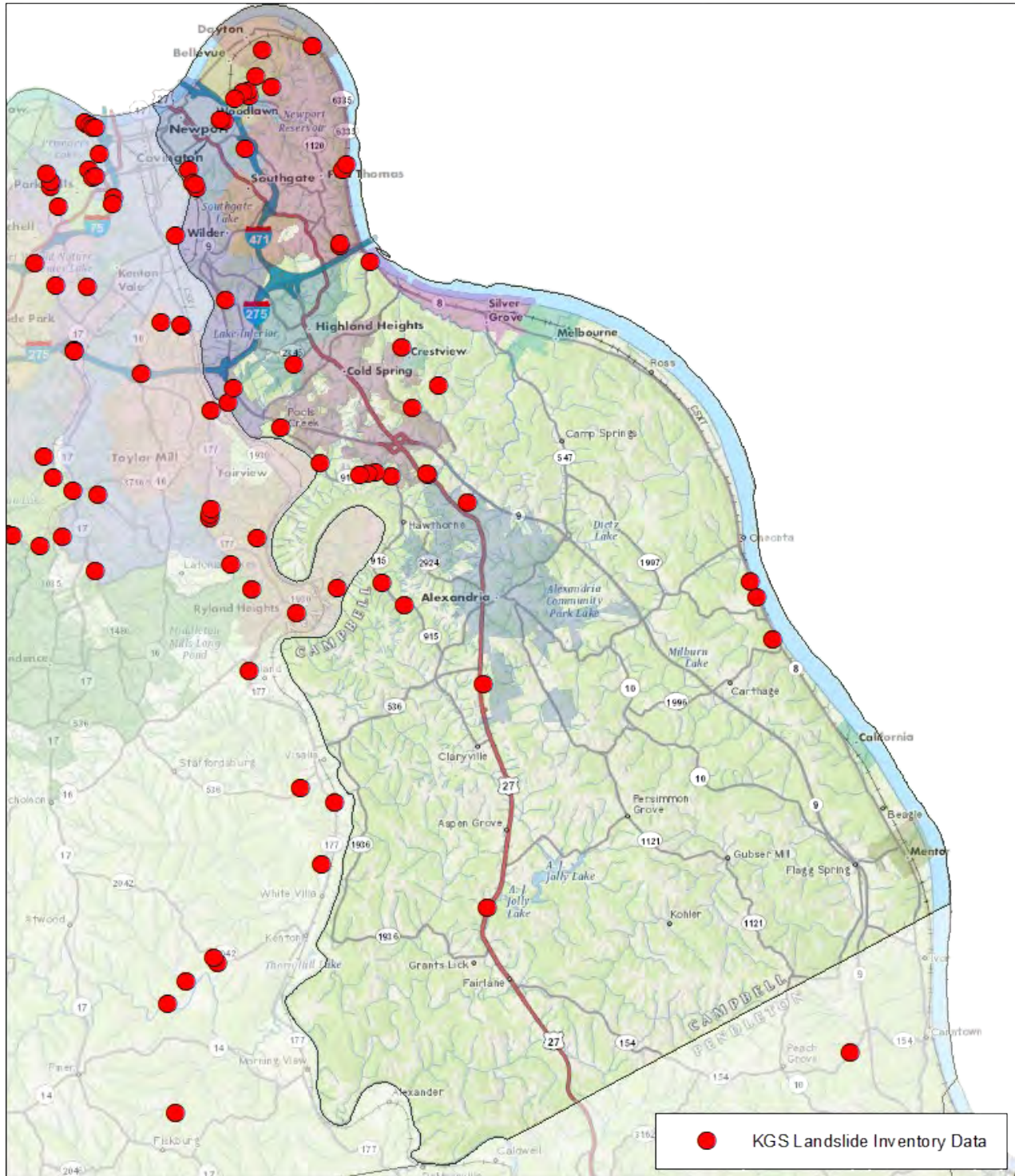
Landslides

Boone County

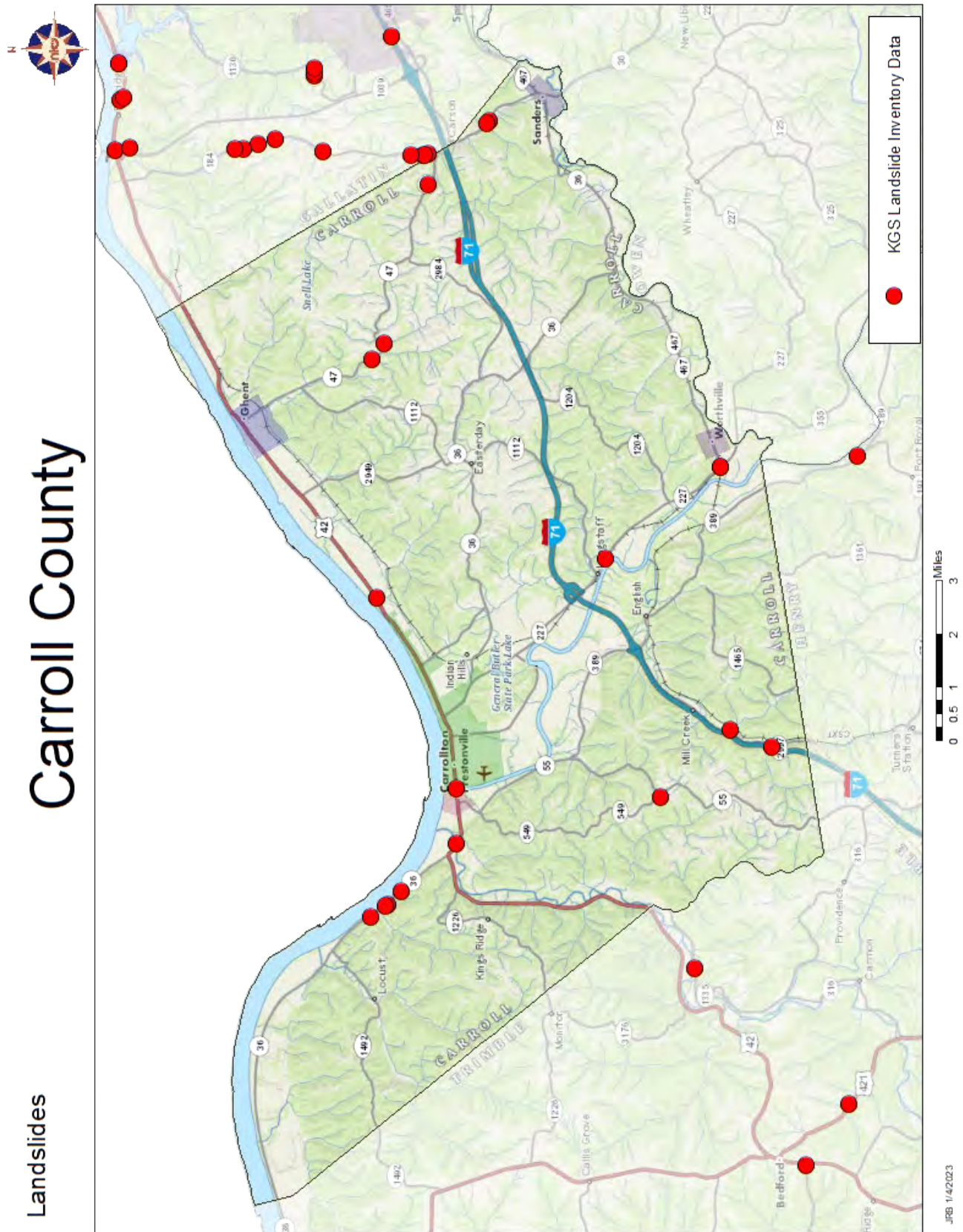


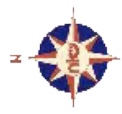
Landslides

Campbell County



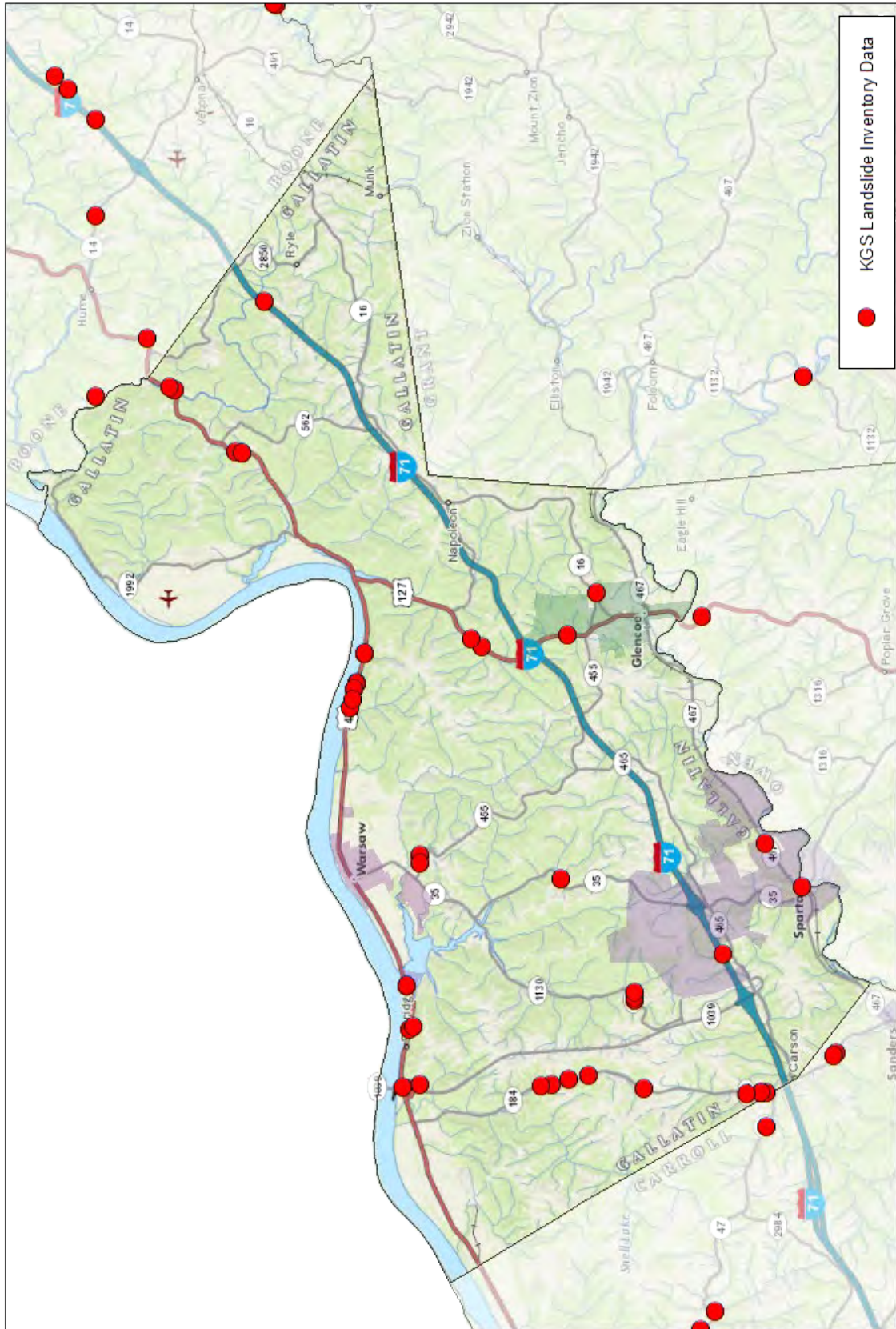
JRB 1/4/2023





Gallatin County

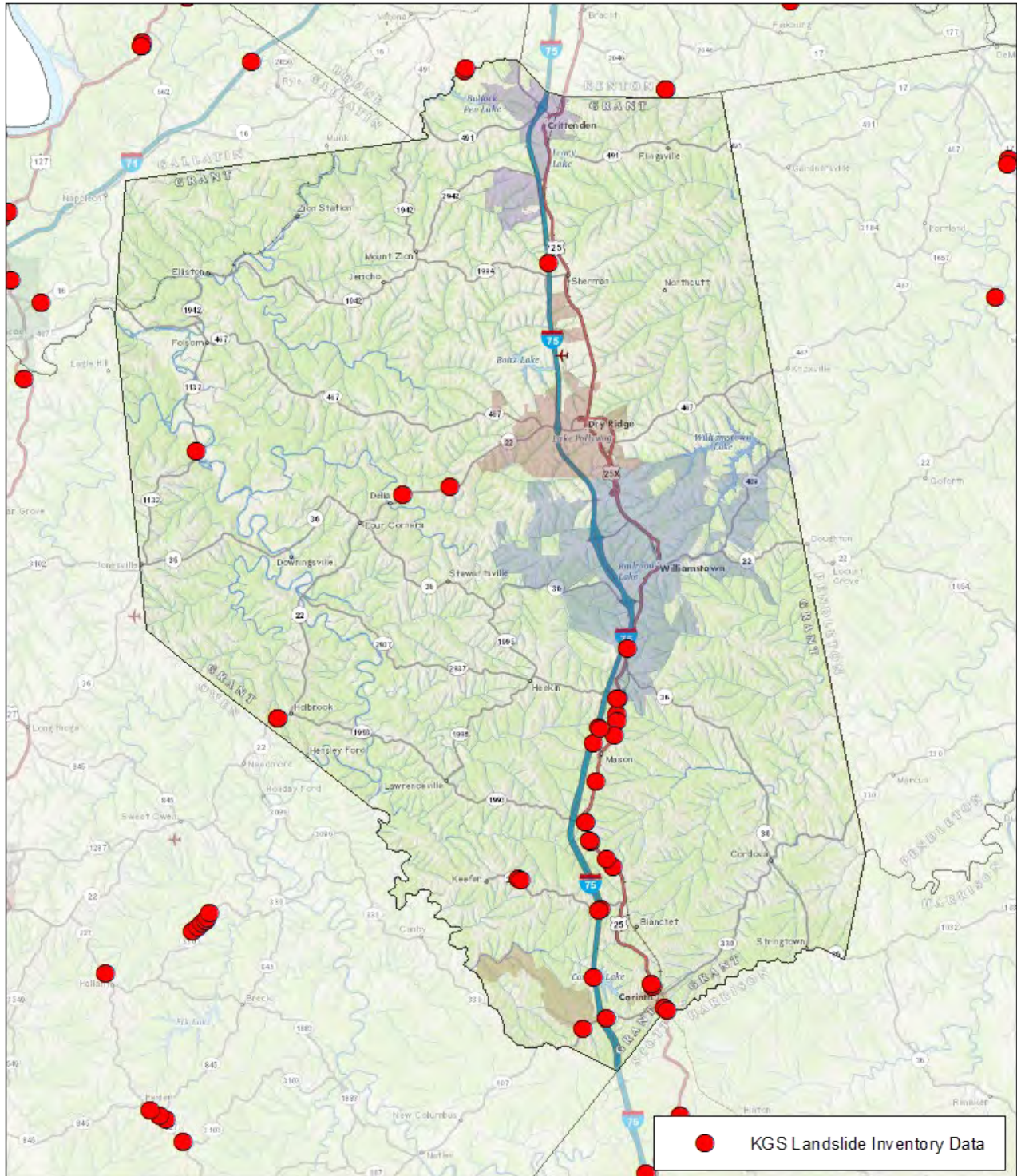
Landslides



JFB 1/4/2023

Landslides

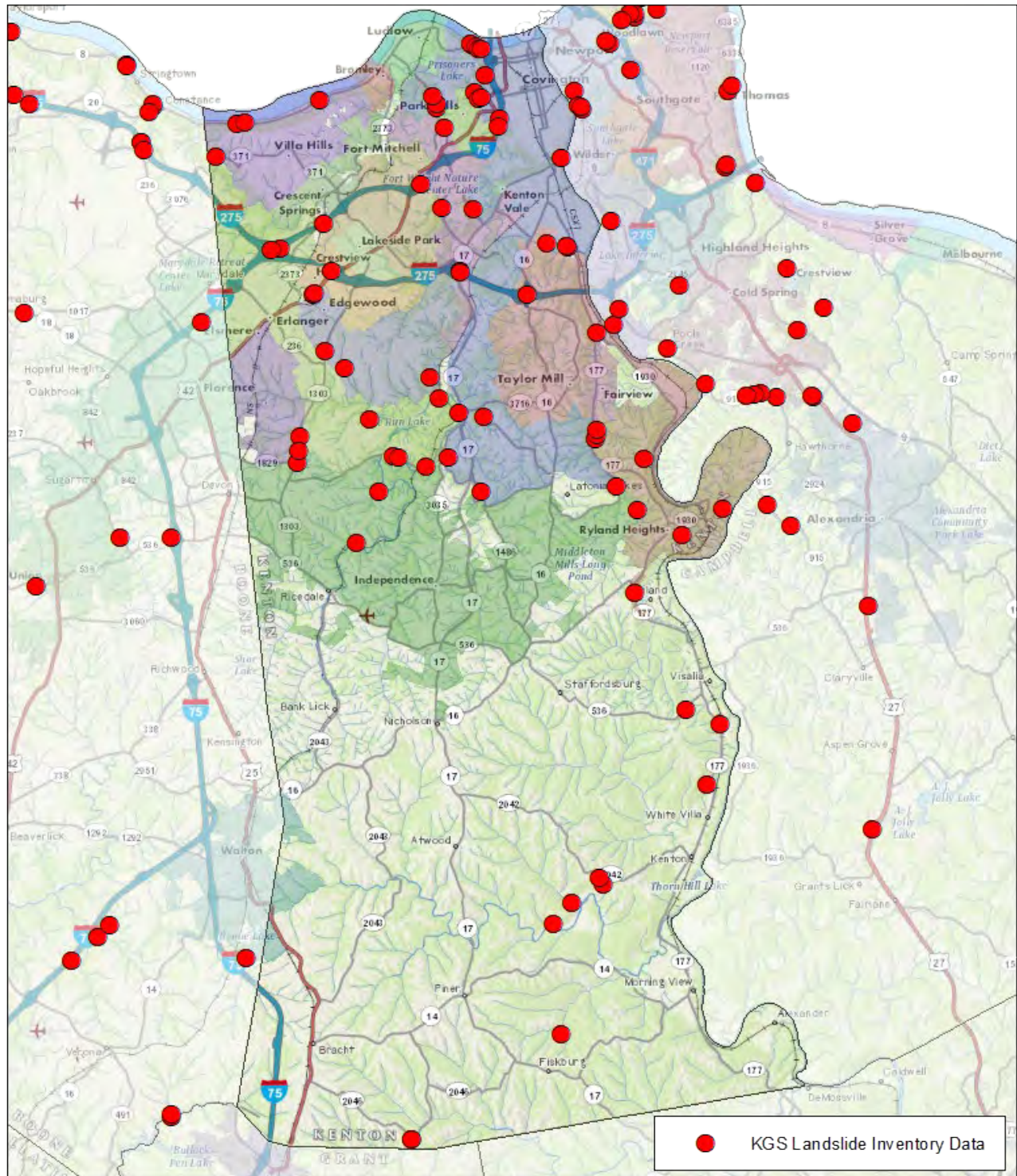
Grant County



JRB 1/4/2023

Landslides

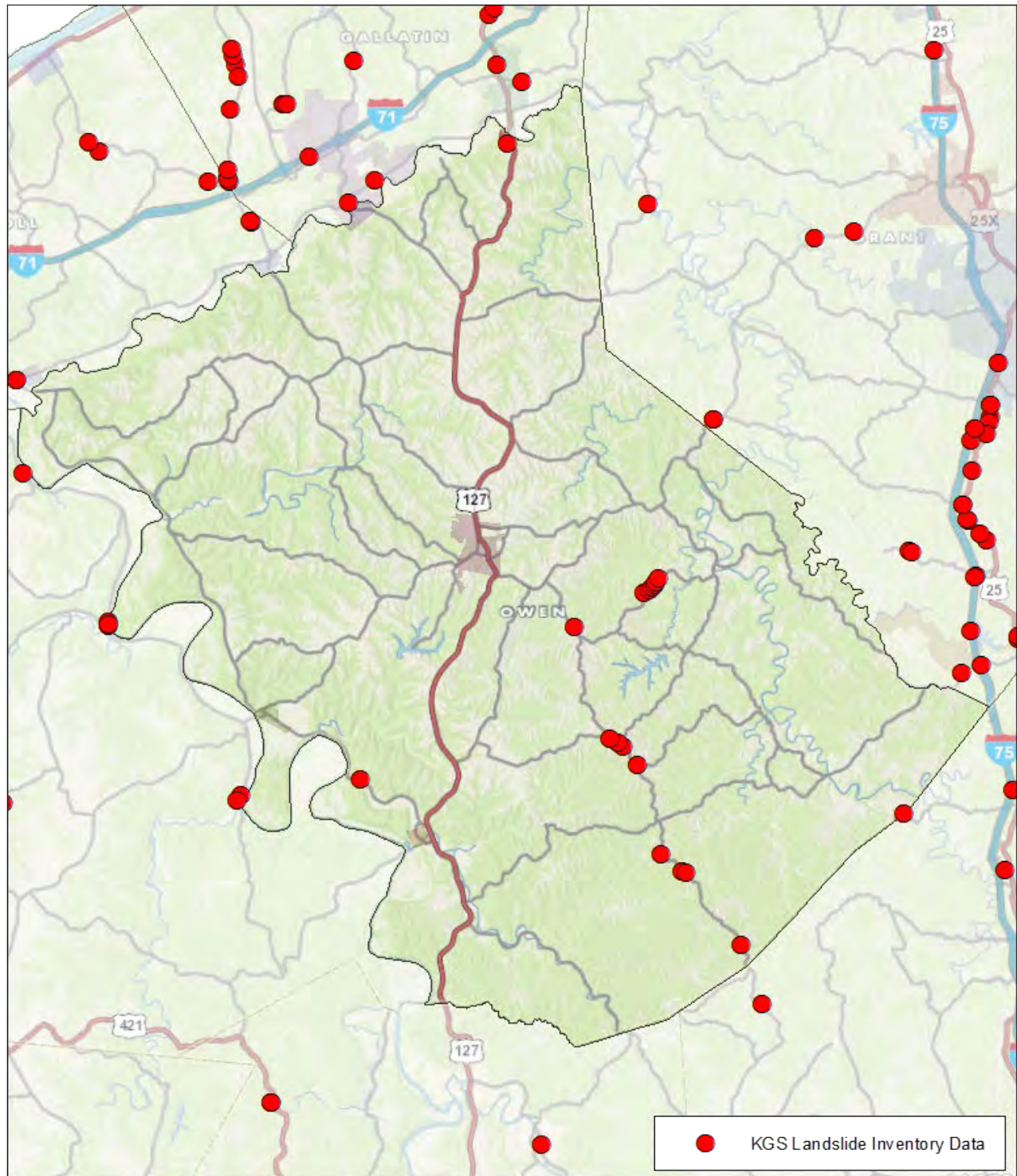
Kenton County



JRB 1/4/2023

Landslides

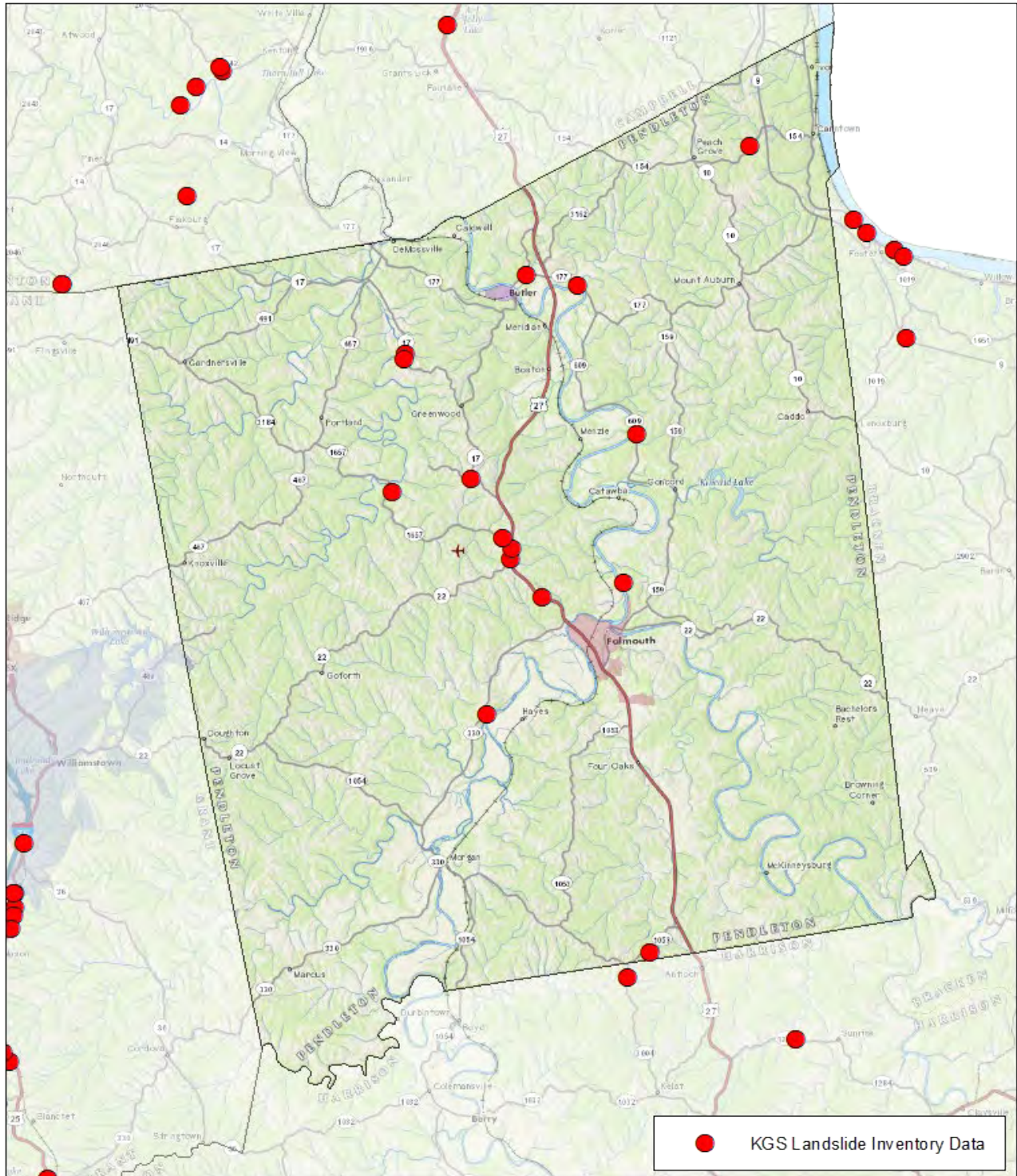
Owen County



JRB 1/4/2023

Landslides

Pendleton County



JRB 1/4/2023

The table shows county roads in Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton Counties primarily in KYTC's jurisdiction that have issues with landslides. It does not account for local city or county roads because that data was unavailable.

In Campbell County, the most landslide prone road is KY 8. There are multiple sections in Campbell County that frequently experience slides. Some of these slides are due to repeated flooding, but often it is due to the geography and soil types on which the road is located. Maintenance is the most cost-effective way for KYTC to handle these slides now. Reconstruction can cost millions of dollars, without a guarantee that it will not slide again. The need for slide repairs is constant each year. The County Road Department and Planning Office estimate the County will need to spend about \$100,000 each year for the next 10 years on slide related repairs on county roads.

County	Project ID	Route Label	Project Summary Link
Boone	L-001-1981	I-75	Summary
Boone	L-001-1996	US-42	Summary
Boone	L-001-1997	KY-18	Summary
Boone	L-001-2018	KY-536	Summary
Boone	L-002-1982	KY-18	Summary
Boone	L-003-1982	KY-18	Summary
Boone	L-003-1988	KY-338	Summary
Boone	L-004-2001	I-275	Summary
Boone	L-005-2001	I-275	Summary
Boone	L-006-1974	I-75	Summary
Boone	L-006-1980	KY-16	Summary
Boone	L-006-1983	I-75	Summary
Boone	L-006-2001	I-275	Summary
Boone	L-007-1980	I-275	Summary
Boone	L-007-2001	I-275	Summary
Boone	L-007-2010	CR-1329	Summary
Boone	L-008-2001	I-275	Summary
Boone	L-008-2012	KY-8	Summary
Boone	L-009-2001	I-275	Summary
Boone	L-009-2013	KY-2846	Summary
Boone	L-010-1982	I-75	Summary
Boone	L-010-2001	I-275	Summary
Boone	L-010-2013	KY-338	Summary
Boone	L-011-1985	I-71	Summary
Boone	L-011-2001	I-275	Summary
Boone	L-011-2012	KY-8	Summary

County	Project ID	Route Label	Project Summary Link
Boone	L-013-1986	US-42	Summary
Boone	L-015-2022	KY-237	Summary
Boone	L-016-1992	KY-1548	Summary
Boone	L-017-1997	I-275	Summary
Boone	L-018-1996	US-42	Summary
Boone	L-024-1992	KY-1548	Summary
Boone	L-031-1995	US-42	Summary
Boone	L-034-1996	I-75	Summary
Boone	L-045-1997	U-9999	Summary
Boone	L-046-1997	U-9999	Summary
Boone	L-047-1997	U-9999	Summary
Boone	L-048-1997	U-9999	Summary
Boone	L-058-1991	I-275	Summary
Boone	L-078-2021	KY-237	Summary
Boone	L-080-2018	KY-20	Summary
Boone	L-081-2018	KY-20	Summary
Boone	L-082-2018	KY-237	Summary
Boone	L-083-2018	KY-237	Summary
Campbell	L-002-1974	I-275	Summary
Campbell	L-002-1997	KY-8	Summary
Campbell	L-004-1986	KY-1998	Summary
Campbell	L-005-2005	KY-8	Summary
Campbell	L-006-1976	KY-9	Summary
Campbell	L-006-1985	KY-1998	Summary
Campbell	L-009-1983	US-27	Summary
Campbell	L-009-2015	US-27	Summary
Campbell	L-010-1977	I-471	Summary
Campbell	L-010-2006	KY-709	Summary
Campbell	L-010-2012	KY-445	Summary
Campbell	L-013-2000	KY-8	Sum
Campbell	L-013-2012	US-27	Summary
Campbell	L-014-2012	I-471	Summary
Campbell	L-015-1993	KY-9	Summary
Campbell	L-019-2011	US-27	Summary
Campbell	L-020-2007	KY-8	Summary
Campbell	L-021-1975	KY-8	Summary
Campbell	L-026-1996	US-27	Summary

County	Project ID	Route Label	Project Summary Link
Campbell	L-027-1997	US-27	Summary
Campbell	L-028-1997	KY-8	Summary
Campbell	L-029-1997	KY-8	Summary
Campbell	L-035-1991	US-27	Summary
Campbell	L-035-1996	KY-8	Summary
Campbell	L-039-1990	US-27	Summary
Campbell	L-039-1996	KY-536	Summary
Campbell	L-040-1992	KY-9	Summary
Campbell	L-051-1991	KY-546	Summary
Campbell	L-141-2020	KY-2826	Summary
Campbell	L-143-2020	KY-2926	Summary
Campbell	L-144-2020	KY-2926	Summary
Carroll	L-001-1977	KY-227	Summary
Carroll	L-001-1988	KY-36	Summary
Carroll	L-002-1985	I-71	Summary
Carroll	L-002-1998	KY-227	Summary
Carroll	L-005-1975	I-71	Summary
Carroll	L-005-2014	KY-36	Summary
Carroll	L-009-1997	U-9999	Summary
Carroll	L-011-1999	US-42	Summary
Carroll	L-011-2006	US-42	Summary
Carroll	L-013-1984	I-71	Summary
Carroll	L-013-1985	I-71	Summary
Carroll	L-013-1992	I-71	Summary
Carroll	L-015-1995	KY-227	Summary
Carroll	L-019-1982	KY-227	Summary
Carroll	L-025-2007	US-42	Summary
Carroll	L-030-1997	KY-47	Summary
Gallatin	L-001-2009	I-71	Summary
Gallatin	L-007-1996	US-42	Summary
Gallatin	L-007-2012	KY-16	Summary
Gallatin	L-008-1976	U-9999	Summary
Gallatin	L-008-1978	U-9999	Summary
Gallatin	L-008-1996	US-42	Summary
Gallatin	L-012-1985	I-71	Summary
Gallatin	L-016-1995	US-42	Summary
Gallatin	L-034-1997	US-42	Summary

County	Project ID	Route Label	Project Summary Link
Gallatin	L-043-1994	US-42	Summary
Grant	L-001-2005	US-25	Summary
Grant	L-003-2017	KY-22	Summary
Grant	L-004-1981	I-75	Summary
Grant	L-005-1974	I-75	Summary
Grant	L-006-1997	US-25	Summary
Grant	L-007-1983	I-75	Summary
Grant	L-007-1985	I-75	Summary
Grant	L-009-1973	I-75NB	Summary
Grant	L-010-1992	US-25	Summary
Grant	L-011-1981	I-75	Summary
Grant	L-011-1984	I-75	Summary
Grant	L-011-1992	US-25	Summary
Grant	L-011-2013	KY-2936	Summary
Grant	L-012-2013	KY-22	Summary
Grant	L-013-2013	US-25	Summary
Grant	L-013-2014	US-25	Summary
Grant	L-014-2013	KY-22	Summary
Grant	L-014-2014	US-25	Summary
Grant	L-015-2014	KY-330	Summary
Grant	L-016-2014	KY-1132	Summary
Grant	L-025-1992	US-25	Summary
Grant	L-026-1992	US-25	Summary
Grant	L-028-2013	I-75	Summary
Grant	L-031-2016	US-25	Summary
Grant	L-032-2016	US-25	Summary
Grant	L-033-2016	US-25	Summary
Grant	L-034-2016	US-25	Summary
Grant	L-035-2016	US-25	Summary
Grant	L-036-2016	US-25	Summary
Grant	L-037-2016	US-25	Summary
Grant	L-038-2016	US-25	Summary
Grant	L-039-2016	US-25	Summary
Grant	L-040-2016	US-25	Summary
Grant	L-041-2016	US-25	Summary
Grant	L-042-2016	US-25	Summary
Grant	L-043-2016	US-25	Summary

County	Project ID	Route Label	Project Summary Link
Grant	L-044-2016	US-25	Summary
Grant	L-045-2016	US-25	Summary
Grant	L-046-2016	US-25	Summary
Grant	L-047-2016	US-25	Summary
Grant	L-048-2016	US-25	Summary
Grant	L-049-2016	US-25	Summary
Grant	L-120-2019	I-75	Summary
Kenton	L-001-1975	KY-17	Summary
Kenton	L-001-1992	KY-8	Summary
Kenton	L-002-1975	I-275	Summary
Kenton	L-003-1978	I-75	Summary
Kenton	L-003-1986	I-75	Summary
Kenton	L-003-1996	KY-1072	Summary
Kenton	L-004-1977	I-75	Summary
Kenton	L-005-1976	KY-8	Summary
Kenton	L-006-1975	I-75	Summary
Kenton	L-006-1978	I-75	Summary
Kenton	L-007-1976	KY-1829	Summary
Kenton	L-009-2006	KY-1303	Summary
Kenton	L-009-2012	KY-8	Summary
Kenton	L-010-1974	KY-1930	Summary
Kenton	L-010-1975	I-75	Summary
Kenton	L-010-1984	US-25	Summary
Kenton	L-010-1990	KY-8	Summary
Kenton	L-011-1990	KY-8	Summary
Kenton	L-012-1992	KY-177	Summary
Kenton	L-013-2007	KY-1303	Summary
Kenton	L-014-2008	KY-1072	Summary
Kenton	L-016-1993	KY-7965	Summary
Kenton	L-016-2010	KY-1303	Summary
Kenton	L-017-1975	I-275	Summary
Kenton	L-017-1992	KY-1072	Summary
Kenton	L-019-1992	I-275	Summary
Kenton	L-019-1996	KY-1072	Summary
Kenton	L-020-1996	KY-1072	Summary
Kenton	L-021-2007	KY-1303	Summary
Kenton	L-023-1992	KY-1072	Summary

County	Project ID	Route Label	Project Summary Link
Kenton	L-024-1990	KY-8	Summary
Kenton	L-024-2016	KY-3187	Summary
Kenton	L-025-1991	KY-8	Summary
Kenton	L-026-1990	I-75	Summary
Kenton	L-026-1991	KY-8	Summary
Kenton	L-027-1990	US-25	Summary
Kenton	L-029-1991	KY-8	Summary
Kenton	L-030-1991	KY-8	Summary
Kenton	L-031-1990	I-75	Summary
Kenton	L-031-1996	KY-177	Summary
Kenton	L-034-1990	I-275	Summary
Kenton	L-035-1990	KY-8	Summary
Kenton	L-036-1990	KY-8	Summary
Kenton	L-038-1990	KY-8	Summary
Kenton	L-043-1997	U-9999	Summary
Kenton	L-046-1990	KY-8	Summary
Owen	L-003-1983	KY-608	Summary
Owen	L-003-2016	KY-227	Summary
Owen	L-004-2016	KY-227	Summary
Owen	L-005-2016	KY-227	Summary
Owen	L-006-2016	KY-227	Summary
Owen	L-007-2016	KY-330	Summary
Owen	L-008-2016	KY-330	Summary
Owen	L-009-2016	KY-330	Summary
Owen	L-010-2016	KY-330	Summary
Owen	L-011-2016	KY-330	Summary
Owen	L-014-2011	KY-355	Summary
Owen	L-015-2012	KY-330	Summary
Owen	L-020-2013	KY-227	Summary
Owen	L-025-2013	KY-227	Summary
Owen	L-026-2013	KY-227	Summary
Owen	L-027-2013	KY-227	Summary
Pendleton	L-004-1984	US-27	Summary
Pendleton	L-006-2002	US-27	Summary
Pendleton	L-007-2005	CR-1068	Summary
Pendleton	L-011-2000	KY-177	Summary
Pendleton	L-023-2016	KY-1053	Summary

County	Project ID	Route Label	Project Summary Link
Pendleton	L-053-2017	KY-330	Summary
Pendleton	L-053-2018	KY-22	Summary
Pendleton	L-054-2017	KY-330	Summary
Pendleton	L-054-2018	KY-22	Summary
Pendleton	L-055-2017	KY-1853	Summary
Pendleton	L-055-2018	KY-177	Summary
Pendleton	L-056-1997	U-9999	Summary
Pendleton	L-056-2018	KY-177	Summary
Pendleton	L-057-1997	U-9999	Summary
Pendleton	L-057-2018	KY-3185	Summary
Pendleton	L-058-1997	U-9999	Summary
Pendleton	L-061-1991	US-27	Summary
Pendleton	L-075-2021	KY-1053	Summary
Pendleton	L-076-2021	KY-491	Summary
Pendleton	L-103-2019	KY-1657	Summary
Pendleton	L-104-2019	KY-1657	Summary
Pendleton	L-105-2019	KY-17	Summary
Pendleton	L-106-2019	KY-177	Summary
Pendleton	L-107-2019	KY-609	Summary
Pendleton	L-108-2019	KY-154	Summary

PROBABILITY OF FUTURE OCCURRENCES

Landslide Profile Risk Table	
Location:	Many areas in NKADD are susceptible, particularly in steep slope with slippery soils. Developed areas are more susceptible than undeveloped areas.
Period of Occurrence:	Anytime, but chance increases after heavy rain, snow/ice melt, or construction activities.
Number of Events (1975-2022):	dozens - from road cracking to washouts, the exact number is difficult to calculate for all local, county, and state roads
Annual Rate of Occurrence:	No Data Available
Probability of Future Events:	Unpredictable
Warning Time:	Anytime, but chance increases after heavy rain, snow/ice melt, or construction activities.

Landslide Profile Risk Table	
Potential Impacts:	Economic losses such as decreased land values, infrastructure damage, and agro-business losses. May cause minimal to severe property damage and destruction.
Recorded losses:	Currently Unpredictable
Annualized Loss:	Unknown
Extent (Scale):	No current measurement to compare severity of events. Some small slides cause a lot of property damage, while some large slides cause minimal damage.

Kentucky Geological Survey, collected 11/17/2022

EARTHQUAKES

An earthquake is a shaking of the ground caused by the sudden release of accumulated strain by an abrupt shift of rock along a fracture in the Earth or by volcanic or magmatic activity, or other sudden stress changes in the Earth (USGS). These fractures are called faults. Fault lines are found anywhere that two or more tectonic plates come together. The tectonic plates are always slowly moving, but they get stuck at their edges due to friction. When the stress on the edge overcomes the friction, there is an earthquake that releases energy in waves that travel through the earth's crust and cause it to shake.

The magnitude of earthquakes is measured on the Richter scale. The scale is based on a logarithmic scale so for each whole number increase on the scale, the amplitude of the ground motion recorded by a seismograph goes up ten times. In other words, a magnitude 5.0 earthquake would result in ten times the level of ground shaking as a magnitude 4.0 earthquake. Each year thousands of earthquakes occur, but most are under a magnitude 2.5 or too small to be felt by most people.

TYPES OF EARTHQUAKES AND EARTHQUAKES SEVERITY CATEGORY

Plate boundaries are characterized into four (4) distinct types:

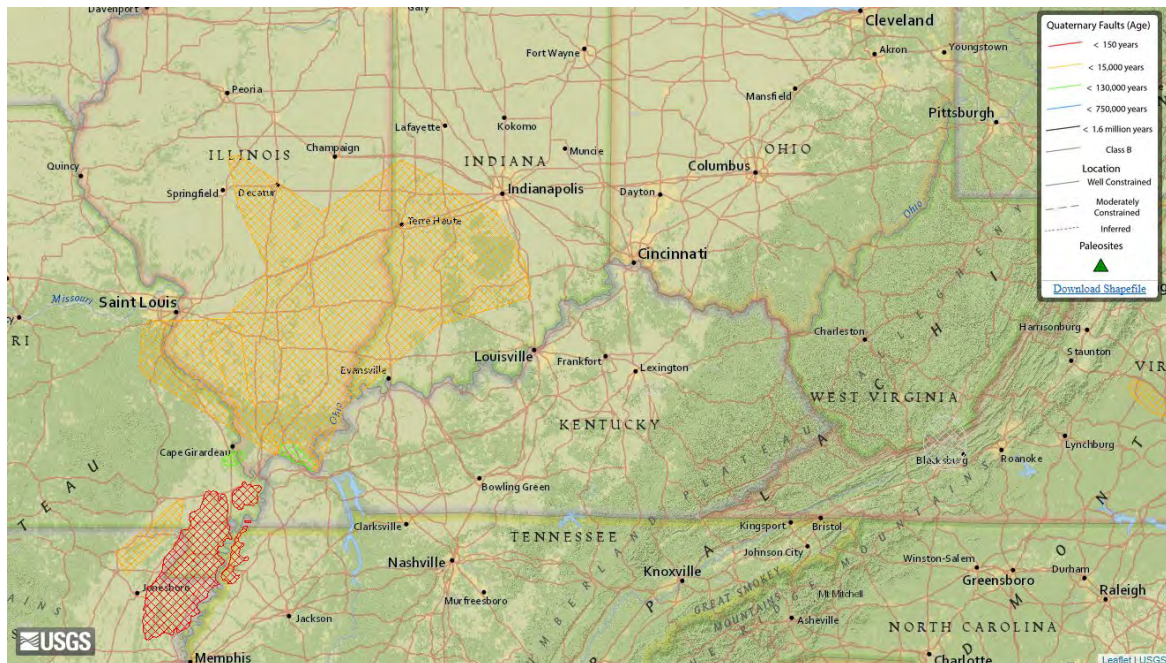
- Divergent boundaries – a new crust is created as two plates move away from another.
- Convergent boundaries – areas where two plates come together and thus lose crust as one plate slides under another.
- Transform boundaries – two plates slide horizontally past one another without creating or destroying boundaries.
- Plate boundary zones – broad belts without well-defined boundaries or plate interaction

The Richter Scale

Magnitude	Earthquake Effects	Estimated Number Each Year
2.5 or less	Usually not felt, but can be recorded by seismograph	900,000
2.5 to 5.4	Often felt, but only causes minor damage	30,000
5.5 to 6.0	Slight damage to buildings and other structures	500
6.1 to 6.9	May cause a lot of damage in very populated areas	100
7.0 to 7.9	Major earthquake. Serious damage	20
8.0 or greater	Great earthquake. Can totally destroy communities near the epicenter.	One every 5 to 10 years

Source: <http://www.geo.mtu.edu/UPSeis/magnitude.html>

Earthquakes affect large areas and cause varying amounts of damage that make them difficult to document on a local level. Because of the varying reports of effects and damage caused, historical data is only available on a state level.



USGS Interactive Fault Map, Collected 06/12/2023. The orange area is the Wabash Valley liquefaction. The red area is the New Madrid seismic zone. The bright green areas are the Fluorspar Area fault complex, and the Thebes Gap faults.

The county hazard mitigation planning committees all agree that earthquakes do pose a threat to the NKADD region. In recent years, communities in Gallatin and Carroll Counties have experienced small under 3.2 magnitude events.

PROBABILITY OF FUTURE OCCURRENCES

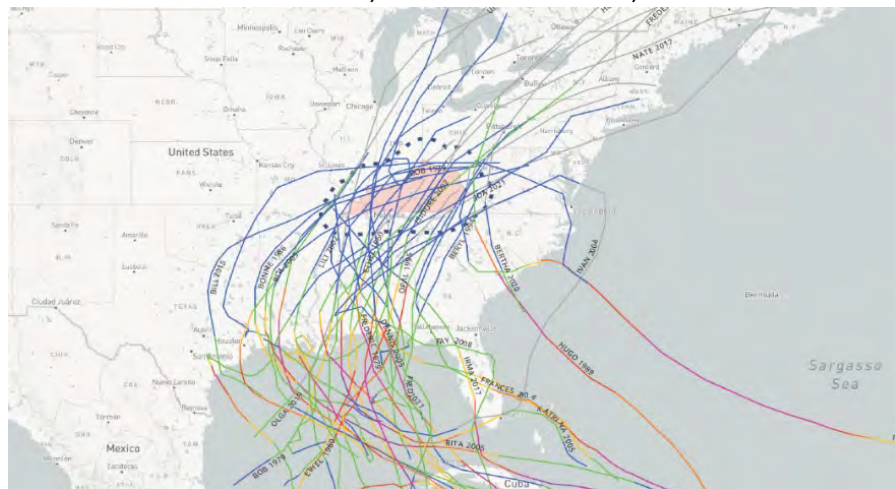
Earthquake Profile Risk Table	
Location:	All areas of NKADD are susceptible.
Period of Occurrence:	Anytime of the year, anytime of the day
Number of Events (1811-2022):	+/- 20
Annual Rate of Occurrence:	Unpredictable
Probability of Future Events:	Unpredictable
Warning Time:	Almost non-existent
Potential Impacts:	Earthquakes can heavily impact human life, health, and public safety. Large events can cause infrastructure damage, utility damage, and critical facilities damage. Secondary events often trigger landslides, dam failure/flooding, and may facilitate the release of hazardous materials from containment structures.
Recorded losses:	None
Annualized Loss:	\$0.00
Extent (Scale):	Year: 1980 Scale: 5.1 Damage: \$1,000,000 in Maysville, unknown in NKADD area

US Geological Survey, collected 11/17/2022

HURRICANE/HURRICANE WIND

Hurricanes are enormous storms that originate in the Atlantic Ocean and threaten the southeastern coast of the United States. They do not always make landfall, but their extreme levels of water and speed of winds make them very dangerous. Hurricanes can result in high winds, tornadoes, storms, and flooding. They pose a significant threat to the environment, manmade structures, and human lives.

Since the power of hurricanes continues long after they make landfall, regions such as northern Kentucky frequently experience hurricanes after affects in the form of strong storms, damaging winds, and flooding. Hurricanes can cause straight line winds that blow through



Source: NOAA Historical Hurricane Map

Northern Kentucky in excess of 60 mph. Such activity resulted in widespread damage “from trees being blown down on power lines.” Straight line winds, which can also accompany thunderstorms, can be powerful enough to cause severe damage.

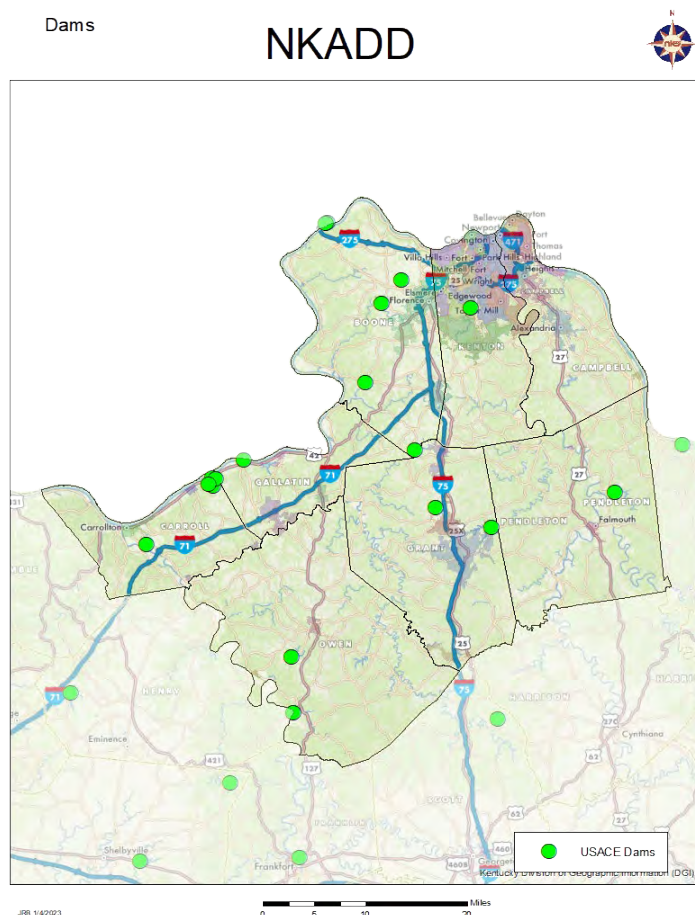
Flooding is also a serious consideration that can result in the aftermath of a hurricane. Hurricanes or consequent storms that travel inland can cause storm surge flooding, which can occur very rapidly onto areas of land that typically remain dry.

DAM/LEEVE FAILURE

Dam failures cause flooding much different from natural flooding. A flood from a dam failure may arrive before any warning or evacuation can occur and the resulting wall-of-water makes evacuation based on limited environmental cues very problematic. The failure of large dams' results in flooding with enough energy to damage or destroy residences and other structures.

TYPES OF DAMS AND DAM FAILURE SEVERITY CATEGORY

- **Manmade dams** may be classified by 1) the type of materials used; 2) the methods used in construction; 3) the slope or cross-section of the dam; 4) the way the dam resists water pressure forces; 5) the means for controlling seepage; and 6) the purpose of the dam. Materials used for dams may include earth, rock, tailings from mining or milling, concrete, masonry, steel, timber, and miscellaneous materials such as plastic or rubber.
- **Embankment dams**, the most common type of dam in use today, are made from materials which include natural soil or rock, or waste materials obtained from mining or milling operations. An embankment dam is termed an “earth-fill” or “rock-fill” dam depending on whether it is comprised of compacted earth or of dumped rock. An embankment dam's ability to resist the reservoir



water pressure is primarily a result of the mass weight and the type and strength of the materials the dam is made from.

- **Concrete dams** may be categorized as gravity or arch dams according to the design used to resist the stress of reservoir water pressure. Concrete gravity dams use the mass weight of concrete and friction to resist reservoir water pressure. A buttress dam is a specific type of gravity dam in which the large mass of concrete is reduced, and the forces are diverted to the dam foundation through vertical or sloping buttresses.
- **Concrete arch dams** are typically thin in cross-section. The reservoir water forces acting on an arch dam are carried laterally into the abutments. The arch's shape may resemble a segment of a circle or an ellipse, and it may be curved in the vertical plane too. Such dams are usually constructed of a series of thin vertical blocks that are keyed together with barriers to stop water from flowing between the blocks.
- **Coal impoundments** are any structure associated with coal mining operations built to impound water and are either 20 feet high or capable of impounding 20-acre feet of water. Coal impoundments store coal slurry comprised of wastewater and impurities that result from coal washing and processing. A bulkhead or embankment is made of coarse coal refuse and acts as a dam. Behind it lies a pond of coal slurry. Sediment settles out of this turbid mixture, filling the pond, while wastewater is recycled back into the coal washing process. The sizes of the ponds and bulkheads vary, but pond basins are often hundreds of feet deep and hold millions of gallons of slurry. Coal impoundment failures have resulted in property damage, environmental contamination and, in one case, loss of life.

Signs of Potential Dam Failure:

- **Seepage.** The appearance of seepage on the downstream slope, abutments, or downstream area is cause for concern. If the water is muddy and is coming from a well-defined hole, material is probably being eroded from inside the embankment and a potentially dangerous situation can develop.
- **Erosion.** Erosion on the dam and spillway is one of the most evident signs of danger. The size of erosion channels and gullies can increase greatly with slight amounts of rainfall.
- **Cracks.** Cracks are of two types: traverse and longitudinal. Traverse cracks appear perpendicular to the axis of the dam and indicate settlement of the dam. Longitudinal cracks run parallel to the axis of the dam and may be the signal for a slide, or slump, on either face of the dam.
- **Slides and Slumps.** A massive slide can mean catastrophic failure of the dam. Slides occur for many reasons and their occurrence can mean a major reconstruction effort.
- **Subsidence.** Subsidence is the vertical movement of the foundation materials due to failure of consolidation. Rate of subsidence may be so slow that it can go unnoticed without proper inspection. Foundation settlement is the result of placing the dam and reservoir on an area lacking suitable strength, or over collapsed caves or mines.

- **Structural.** Conduit separations or ruptures can result in water leaking into the embankment and weakening the dam. Pipe collapse can result in hydraulic failures due to diminished capacity.
- **Vegetation.** A prominent danger signal is the appearance of "wet environment" types of vegetation such as cattails, reeds, mosses, and other wet area vegetation. These types of vegetation can be a sign of seepage.
- **Boils.** Boiling indicates seepage water exiting under some pressure and typically occurs in areas downstream of the dam.
- **Animal Burrows.** Animal burrows are a potential danger since such activity can undermine the structural integrity of the dam.
- **Debris.** Debris on dams and spillways can reduce the function of spillways, damage structures and valves, and destroy vegetative cover.

Types of Failures:

- **Hydraulic Failure.** Hydraulic failures result from the uncontrolled flow of water over the dam, around the dam and adjacent to the dam, and the erosive action of water on the dam and its foundation. Earth dams are particularly vulnerable to hydraulic failure since earth erodes at relatively small velocities.

Northern Kentucky Dam Inventory			
	Low	Significant	High
Boone	14	4	2
Campbell	1	3	7
Carroll	4	1	2
Gallatin	3	1	1
Grant	5	3	3
Kenton	11	2	5
Owen	9	2	0
Pendleton	3	0	1
Totals	50	16	21
Total Dams in Northern Kentucky			87

- **Seepage Failure.** All dams exhibit some seepage that must be controlled in velocity and amount. Seepage occurs both through the dam and the foundation. If uncontrolled, seepage can erode material from the foundation of an earth dam to form a conduit through which water can pass. This passing of water often leads to a complete failure of the structure, known as piping. [Source: https://nid.sec.usace.army.mil/#/](https://nid.sec.usace.army.mil/#/)
- **Structural Failure.** Structural failures involve the rupture of the dam or its foundation. This is particularly a hazard for large dams and for dams built of low strength materials such as silts, slag, fly ash, etc. Dam failures generally result from a complex interrelationship of several failure modes. Uncontrolled seepage may weaken the soil and lead to a structural failure. Structural failure may shorten the seepage path and lead to a piping failure. Surface erosion may lead to structural or piping failures.

According to the Kentucky Division of Water, High Hazard (C) Structures located such that failure may cause loss of life or serious damage to houses, industrial or commercial buildings, important public utilities, main highways, or major railroads. Moderate Hazard (B) Structures located such that failure may cause significant damage to property and project operation, but loss of human life is not envisioned. Low Hazard (A) Structures located such that failure would cause loss of the structure itself

but little or no additional damage to other property. Only High-Risk Dams are included in this vulnerability assessment, since they are the only dams that may affect loss of life and also affect important public health facilities such as utilities and transportation routes. The plan also includes maps showing how flood water would inundate areas if a dam were to fail.

DAM INVENTORYHAZARD POTENTIAL CLASSIFICATION

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed
Boone	Bluefield Dam	High	Private	Earth	25		
Boone	Northern Ky Airport Dam	High	Private	Roller-Compacted Concrete	33	1200	1999
Boone	Boone Lake Dam	Low	Private	Earth	27	310	1940
Boone	Boontucky Farm Dam	Low	Private	Earth	33	525	1968
Boone	Cincinnati - Northern Ky Airport Dam #3	Low	Local Government	Roller-Compacted Concrete	24	678	2005
Boone	Dr Ke Lanter Lake Dam	Low	Private	Earth	44	430	1973
Boone	Harold Bennett Dam	Low	Private	Earth	40	420	1967
Boone	Lakeview Farm Dam	Low	Private	Earth	55	615	1973
Boone	Matt Dedden Dam	Low	Private	Earth	32	300	2006
Boone	McDavid Lake Dam	Low	Private	Earth	26	570	1981
Boone	Schneider Lake Dam	Low	Private	Earth	55	408	
Boone	Steeplechase Dam (Upper)	Low	Private	Earth	24	300	1998
Boone	Traditions Golf Course Dam	Low	Private	Earth	55	450	1990
Boone	Wallace Farm Lake Dam	Low	Private	Earth	27	615	1959
Boone	Walton Reservoir (Boone) Dam	Low	Private	Earth	22	500	1940
Boone	Big Bone Lick State Park Dam	Low	State	Earth	70	490	1971
Boone	Camp Ernst Dam	Significant	Private	Earth	65	560	1950
Boone	Latonia Racetrack Dam	Significant	Private	Earth	38	800	1957

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed
Boone	Marydale Dam	Significant	Private	Earth	32	300	1956
Boone	East Bend Power Plant	Significant	Private	Earth	60	4000	1976
Campbell	Campbell County Lake Dam	High	Local Government	Earth	56	700	1962
Campbell	Claryville Lake Dam	High	Private	Earth	15	520	1940
Campbell	Dietz Lake Dam	High	Private	Earth	22	325	1960
Campbell	Lower Alexandria Dam	High	Local Government	Earth	58	400	1958
Campbell	Shadow Lake Dam	High	Private	Earth	63	200	1998
Campbell	Upper Alexandria Dam	High	Local Government	Earth	35	400	1930
Campbell	Newport Waterworks Road Detention Dam	High	Local Government	Earth	31	290	
Campbell	Milburn Lake	Low	Private	Earth	42	200	1972
Campbell	Covington Dam (North)	Significant	Local Government	Earth	22	350	1936
Campbell	Covington Dam (South)	Significant	Local Government	Earth	22	350	1936
Campbell	Newport Reservoir	Significant	Local Government	Earth	52	700	1873
Carroll	KU Ghent ATB 2	High	Private	Earth	222	4500	1994
Carroll	KU Ghent Station ATB 1	High	Private	Earth	52	6000	1972
Carroll	Kemper Dam (South)	Low	Private	Earth	28	305	1992
Carroll	Ku Ghent Sediment Pond	Low	Private	Earth	60	800	1994
Carroll	General Butler State Park Lake Dam	Low	State	Earth	24	385	1950

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed
Carroll	Kentucky River Lock and Dam 1	Low	Federal	Timber Crib		462	1839
Carroll	KU Ghent South Cooling Pond	Significant	Private	Other	17	6000	1994
Gallatin	Brereton Jones Dam	High	Private	Earth	60	420	2000
Gallatin	Gallatin Fish & Game Club Lake Dam	Low	Private	Earth	22	380	1947
Gallatin	Jesse James Bluffs Dam	Low	Private	Earth	40	1350	1979
Gallatin	Zalla Berling Dam	Low	Private	Earth	32	415	1995
Gallatin	Markland Locks and Dam	Significant	Federal	Concrete	0	1991	1964
Grant	Corinth Lake Dam	High	State	Earth	67	1100	1962
Grant	Boltz Lake Dam	High	State	Earth	62	600	1956
Grant	Bullock Pen Lake Dam	High	State	Earth	50	670	1953
Grant	Dry Ridge City	Low	Local Government	Earth	32	305	
Grant	Eagle Creek Country Club Lake Dam	Low	Private	Earth	46	410	1969
Grant	Eckerson Dam	Low	Private	Earth	27	200	1965
Grant	Rolfes Dam	Low	Private	Earth	28	170	1955
Grant	Lloyd Dam	Low	State	Earth	34	460	1967
Grant	MHT Lake Dam	Significant	Private	Earth	34	200	1993
Grant	Williamstown Lake Dam	Significant	Local Government	Earth	62	680	1957
Grant	Williamstown Reservoir Dam	Significant	Local Government	Earth	40	300	1947

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed
Kenton	Banklick Creek FRS No 3	High	Local Government	Earth	112	950	1980
Kenton	County Squire (Lower)	High	Private	Earth	39	325	1996
Kenton	County Squire (Upper)	High	Private	Earth	35	310	1996
Kenton	KYTC Bioretention Dam	High	State	Earth	44	380	2010
Kenton	Amsterdam Valley Retention Basin Dam	High	Local Government	Earth	30	347	
Kenton	Cavanaugh Farm Lake Dam	Low	Private	Earth	28		1976
Kenton	Crystal Lake Dam No 1	Low	Local Government	Earth	45	280	1980
Kenton	Crystal Lake Dam No 2	Low	Private	Earth	48	330	1980
Kenton	Independence Towne Centre Dam	Low	Private	Earth	35	800	1997
Kenton	Robert Loomis Lake Dam	Low	Private	Earth	28	320	1977
Kenton	Ryland Lakes Dam No 1	Low	Private	Earth	38	600	1959
Kenton	Ryland Lakes Dam No 2	Low	Private	Earth	34	450	1960
Kenton	Ryland Lakes Dam No 3	Low	Private	Earth	40	500	1920
Kenton	Thornhill Lake	Low	Private	Earth	13	400	1950
Kenton	Villa Hills	Low	Private	Earth	27	250	
Kenton	Walton Reservoir(Kenton) Dam	Low	Private	Earth	39	440	1955
Kenton	City of Fort Wright Dam	Significant	Local Government	Earth	39	120	2004
Kenton	Prospect Point Dam	Significant	Private	Earth	45	200	1975
Owen	Elk Lake Club Water Supply Dam	Low	Private	Earth	24	302	1959

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed
Owen	Et Reed Dam	Low	Private	Earth	29	390	1971
Owen	Kreutzjans Farm Lake Dam	Low	Private	Earth	58	350	
Owen	Lake Holiday Dam	Low	Private	Earth	44	1009	1969
Owen	Richard Detzel Dam	Low	Private	Earth	28	310	1977
Owen	Thomas Lakes (Lower) Dam	Low	Local Government	Earth	30	250	1940
Owen	Thomas Lakes (Upper) Dam	Low	Local Government	Earth	29	230	1940
Owen	Timberwood Lake Dam	Low	Private	Earth	30	450	1969
Owen	Kentucky River Lock and Dam 3	Low	Federal	Timber Crib		503	1844
Owen	Elk Lake Dam	Significant	Private	Earth	43	550	1959
Owen	Elmer Davis Lake Dam	Significant	State	Earth	68	520	1958
Pendleton	Kincaid Creek Dam	High	State	Earth	61	480	1961
Pendleton	Griffin Industries	Low	Private	Earth	45	450	1992
Pendleton	Mays Lake Dam	Low	Private	Earth	30	300	1970
Pendleton	Pendleton County Country Club	Low	Private	Earth	48	580	1994

Source: <https://nid.sec.usace.army.mil/#/>

DAM CONDITION AND EMERGENCY ACTION PLAN

County	Dam Name	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Boone	Bluefield Dam	Unsatisfactory	1/19/2022	NR	
Boone	Northern Ky Airport Dam	Satisfactory	1/19/2022	NR	

County	Dam Name	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Boone	Boone Lake Dam	Poor	9/21/2017	NR	
Boone	Boontucky Farm Dam	Not Rated		NR	
Boone	Cincinnati - Northern Ky Airport Dam #3	Satisfactory	10/24/2023	NR	
Boone	Dr Ke Lanter Lake Dam	Not Rated		NR	
Boone	Harold Bennett Dam	Not Rated		NR	
Boone	Lakeview Farm Dam	Not Rated		NR	
Boone	Matt Dedden Dam	Fair	10/5/2017	NR	
Boone	McDavid Lake Dam	Not Rated		NR	
Boone	Schneider Lake Dam	Not Rated		NR	
Boone	Steeplechase Dam (Upper)	Not Rated		NR	
Boone	Traditions Golf Course Dam	Not Rated		NR	
Boone	Wallace Farm Lake Dam	Not Rated		NR	
Boone	Walton Reservoir (Boone) Dam	Poor	10/5/2017	NR	
Boone	Big Bone Lick State Park Dam	Poor	7/20/2017	Yes	1/28/2013
Boone	Camp Ernst Dam	Fair	4/26/2017	NR	
Boone	Latonia Racetrack Dam	Poor	9/21/2017	NR	
Boone	Marydale Dam	Poor	9/21/2017	NR	
Boone	East Bend Power Plant	Satisfactory	10/5/2017	Yes	7/30/2015
Campbell	Campbell County Lake Dam	Poor	7/27/2023	NR	
Campbell	Claryville Lake Dam	Fair	7/27/2023	NR	
Campbell	Dietz Lake Dam	Fair	7/27/2023	NR	
Campbell	Lower Alexandria Dam	Poor	7/27/2023	NR	
Campbell	Shadow Lake Dam	Poor	5/18/2017	NR	
Campbell	Upper Alexandria Dam	Poor	7/27/2023	NR	
Campbell	Newport Waterworks Road Detention Dam	Fair	7/27/2023	Yes	7/1/2021
Campbell	Milburn Lake	Not Rated		NR	
Campbell	Covington Dam (North)	Satisfactory	5/18/2017	NR	

County	Dam Name	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Campbell	Covington Dam (South)	Satisfactory	5/18/2017	NR	
Campbell	Newport Reservoir	Satisfactory	5/18/2017	Yes	9/23/2014
Carroll	KU Ghent ATB 2	Satisfactory	10/24/2023	Yes	6/30/2014
Carroll	KU Ghent Station ATB 1	Satisfactory	8/29/2022	Yes	10/20/2014
Carroll	Kemper Dam (South)	Fair		NR	
Carroll	Ku Ghent Sediment Pond	Fair	8/30/2019	NR	
Carroll	General Butler State Park Lake Dam	Satisfactory		Yes	1/25/2013
Carroll	Kentucky River Lock and Dam 1	Not Available		Yes	
Carroll	KU Ghent South Cooling Pond	Satisfactory	8/29/2022	Yes	6/30/2014
Gallatin	Brereton Jones Dam	Fair	8/7/2023	NR	
Gallatin	Gallatin Fish & Game Club Lake Dam	Not Rated		NR	
Gallatin	Jesse James Bluffs Dam	Not Rated		NR	
Gallatin	Zalla Berling Dam	Not Rated		NR	
Gallatin	Markland Locks and Dam	Not Available		Yes	2/15/2022
Grant	Corinth Lake Dam	Poor	10/24/2023	NR	
Grant	Boltz Lake Dam	Poor	1/19/2023	Yes	7/8/2019
Grant	Bullock Pen Lake Dam	Satisfactory	6/1/2023	Yes	3/12/2019
Grant	Dry Ridge City	Fair	4/13/2017	NR	
Grant	Eagle Creek Country Club Lake Dam	Fair	4/13/2017	NR	
Grant	Eckerson Dam	Not Rated		NR	
Grant	Rolfes Dam	Poor	4/13/2017	NR	
Grant	Lloyd Dam	Not Rated		Yes	1/28/2013
Grant	MHT Lake Dam	Poor	6/1/2023	NR	
Grant	Williamstown Lake Dam	Fair	4/13/2017	NR	
Grant	Williamstown Reservoir Dam	Fair	4/13/2017	NR	
Kenton	Banklick Creek FRS No 3	Fair	1/19/2023	NR	
Kenton	County Squire (Lower)	Poor	1/19/2023	NR	

County	Dam Name	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Kenton	County Squire (Upper)	Fair	1/19/2023	NR	
Kenton	KYTC Bioretention Dam	Poor	2/22/2023	NR	
Kenton	Amsterdam Valley Retention Basin Dam	Satisfactory	2/6/2023	Yes	2/18/2020
Kenton	Cavanaugh Farm Lake Dam	Not Rated		NR	
Kenton	Crystal Lake Dam No 1	Not Rated		NR	
Kenton	Crystal Lake Dam No 2	Not Rated		NR	
Kenton	Independence Towne Centre Dam	Fair	4/26/2017	NR	9/23/2014
Kenton	Robert Loomis Lake Dam	Poor	10/5/2017	NR	
Kenton	Ryland Lakes Dam No 1	Poor	7/12/2017	NR	
Kenton	Ryland Lakes Dam No 2	Fair	7/12/2017	NR	
Kenton	Ryland Lakes Dam No 3	Poor	7/12/2017	NR	
Kenton	Thornhill Lake	Satisfactory	8/2/2017	NR	
Kenton	Villa Hills	Not Rated		NR	
Kenton	Walton Reservoir(Kenton) Dam	Not Rated		NR	
Kenton	City of Fort Wright Dam	Fair	2/16/2023	NR	
Kenton	Prospect Point Dam	Satisfactory	4/26/2017	NR	
Owen	Elk Lake Club Water Supply Dam	Poor	6/15/2017	NR	
Owen	Et Reed Dam	Not Rated		NR	
Owen	Kreutzjans Farm Lake Dam	Satisfactory	11/10/2021	NR	
Owen	Lake Holiday Dam	Not Rated		NR	
Owen	Richard Detzel Dam	Not Rated		NR	
Owen	Thomas Lakes (Lower) Dam	Poor	10/25/2016	NR	
Owen	Thomas Lakes (Upper) Dam	Poor	10/25/2016	NR	
Owen	Timberwood Lake Dam	Poor	2/20/2017	NR	
Owen	Kentucky River Lock and Dam 3	Not Available		Yes	
Owen	Elk Lake Dam	Poor	6/15/2017	Yes	
Owen	Elmer Davis Lake Dam	Poor	6/15/2017	Yes	1/25/2013

2/14/2024

County	Dam Name	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Pendleton	Kincaid Creek Dam	Fair	12/13/2022	NR	
Pendleton	Griffin Industries	Not Rated		NR	
Pendleton	Mays Lake Dam	Fair	5/18/2017	NR	
Pendleton	Pendleton County Country Club	Not Rated		NR	

Source: <https://nid.sec.usace.army.mil/#/>

HIGH RISK DAMS

There are 16 significant and 21 'high-risk' dams in the NKADD region that pose a threat to property and loss of life, however there are only 2 event histories in this region (explained in above profile risk table). High risk is defined primarily as a loss of life, and secondarily as a loss to commerce, recreation, etc. The condition of the dam is not considered in this particular risk definition.

Northern Kentucky Dam Inventory Significant Dams					
	Types of Ownership				
	Significant	Federal	State	Local Government	Private
Boone	4	0	0	0	4
Campbell	3	0	0	3	0
Carroll	1	0	0	0	1
Gallatin	1	1	0	0	0
Grant	3	0	0	2	1
Kenton	2	0	0	1	1
Owen	2	0	1	0	1
Pendleton	0	0	0	0	0
Totals	16	0	1	6	8

Source: <https://nid.sec.usace.army.mil/#/>

Northern Kentucky Dam Inventory High Potential Dams					
	Types of Ownership				
	High	Federal	State	Local Government	Private
Boone	2	0	0	0	2
Campbell	7	0	0	4	3
Carroll	2	0	0	0	2
Gallatin	1	0	0	0	1
Grant	3	0	3	0	0
Kenton	5	0	1	2	2
Owen	0	0	0	0	0
Pendleton	1	0	1	0	0
Totals	21	0	5	6	10

Source: <https://nid.sec.usace.army.mil/#/>

INUNDATION

Inundation maps are a key component of the EAP. Inundation maps show areas that may have to be evacuated in a dam emergency. The maps facilitate notification by displaying flood areas and estimated travel times for the floodwaters. The Kentucky Division of Water used GIS modeling to create High

Hazard Dams Inundation maps for the state. The Kentucky Dam Inundation Area Viewer is designed to help property owners, local municipalities, and other interested stakeholders to determine if properties of interest may be impacted by the failure of a high hazard dam regulated by the Kentucky Division of Water⁴. The viewer includes locations of regulated high hazard dams, modeled inundation areas, building footprints that fall within the inundation areas, and the FEMA National Flood Hazard 1% flood risk areas. The viewer also assists the dam owner and emergency management authorities when identifying critical infrastructure and population-at-risk sites that may require protective measures and warning and evacuation planning. High Hazard dams regulated by the Kentucky Division on Water are included in the viewer, however, High Hazard Dams regulated by the US Army Corps of Engineers, the division of Mine Reclamation and enforcement and other federal and state agencies are not currently represented.



EMERGENCY ACTION PLANS (EAPs)

During the 2023 Regular Session of the Kentucky Assembly, Senate Bill 277 was passed. The Senate Bill updated sections of KRS 151 to include the requirement of Emergency Action Plans (EAPs) for hazardous dams. The EAPs would create plans in case a dam should fail, potentially endangering lives and property downstream. Emergency action plans are documents maintained by dam owners that identify potential ways a dam could fail, identify the responsibilities for monitoring a dam and mandate a procedure for what to do in an emergency situation. In particular, according to the State Association of Dam Safety Officials (ASDSO), these plans include water inundation maps were a dam to fail and a flow chart of who to call in what priority in an emergency situation. In the Northern Kentucky Region, there are at least 13 government owned dams and 18 privately owned dams that are required by the new law to have a EAP but currently don't have an approved plan.

⁴ [Dam Inundation Area Viewer \(arcgis.com\)](https://arcgis.com)

Northern Kentucky Dam Inventory Potential High Hazard Dams With Emergency Action Plans						
	Significant	High	Government Owned		Privately Owned	
			Owned	EAP	Owned	EAP
Boone	4	2	0	0	6	0
Campbell	3	7	7	2	3	0
Carroll	1	2	0	0	3	0
Gallatin	1	1	1	1	1	0
Grant	3	3	5	2	1	0
Kenton	2	5	4	1	3	0
Owen	2	0	1	1	1	0
Pendleton	0	1	1	0	0	0
Totals	16	21	19	7	18	0

Source: <https://nid.sec.usace.army.mil/#/>

PROBABILITY OF FUTURE OCCURRENCES

Dam Failure Profile Risk Table	
Location:	Any area below a dam is susceptible
Period of Occurrence:	Dam Failure is often precipitated by another event such as flooding or earthquake
Number of Events (1978-2022):	2
Annual Rate of Occurrence:	0.05
Probability of Future Events:	Unpredictable
Warning Time:	Can see signs as early as years prior, but actual event warning time is minimal
Potential Impacts:	Impacts on human life and public safety. Economic loss, environmental damage, and disruption of lifeline facilities.
Recorded losses:	Unknown
Annualized Loss:	Unknown
Extent (Scale):	Embankment Slide Dam Failure: Yes 9/15/1978 Height: 18.6 meters Damages: None

National Performance of Dam Program, Dam Incident Database, collected 11/17/2022

LEVEE FAILURE

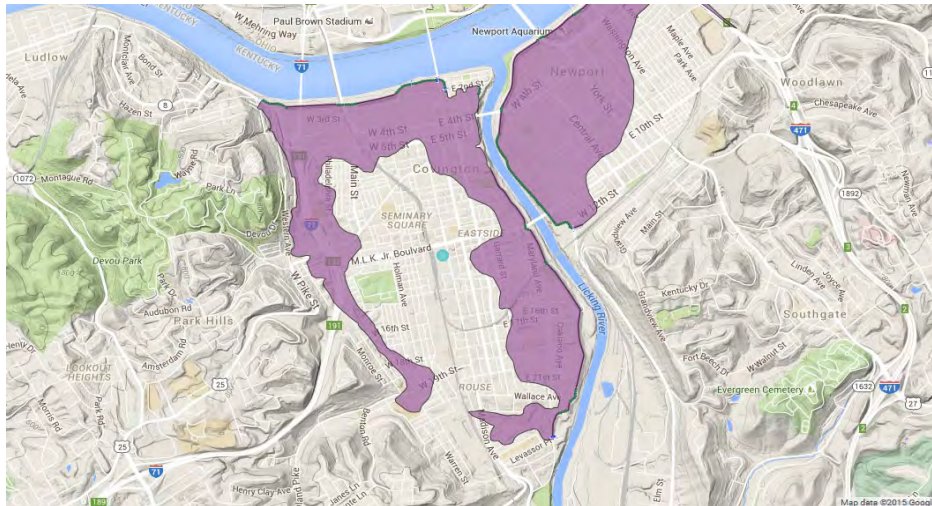
Levees are earthen embankments, floodwall, or structure along a water course whose purpose is flood risk reduction or water conveyance.

TYPES OF LEVEES

- Federally authorized levee: Typically designed and built by the Corps in cooperation with a local sponsor then turned over to a local sponsor to operate, maintain, repair, and replace the levee.
- Non-federally authorized levee: Designed and built by a non-federal agency, which is responsible for the operation, maintenance, repair, and replacement of the levee.
- Private or corporate-owned levee: Designed and built by a private citizen, company, or other public entity, which is responsible for the operation, maintenance, repair, and replacement of the levee. The Corps has no responsibility for private or corporate-owned levees.

LOCATION OF LEVEES IN NORTHERN KENTUCKY

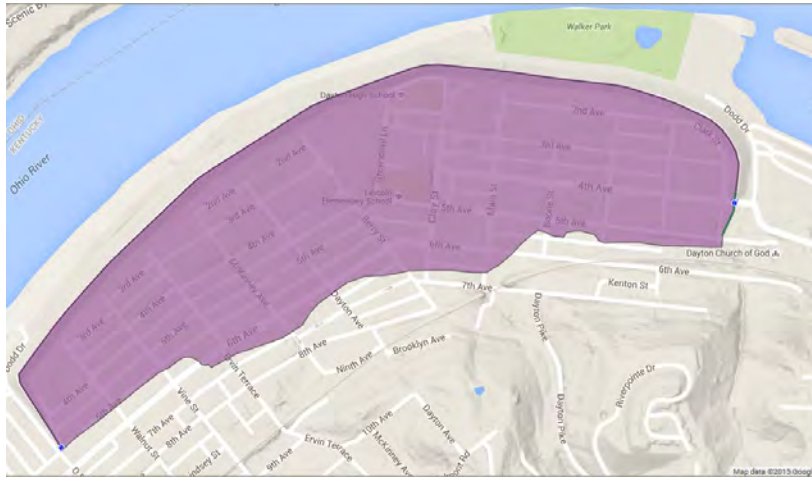
There are three levees in Northern Kentucky. The Covington levee is located in Kenton County and Campbell County has two, one in Dayton and one in Newport. Using the National Level Database as a resource, the Covington Levee System consists of approximately 9,250 linear feet of earth levee embankment, 5,750 linear feet of floodwall, 10 pump stations, and 40 drainage structures, with both flap gates and sluice gates. The top elevation of the flood risk reduction project is at elevation 509.6 to 517.1 (NAVD88), which provides risk reduction to an estimated 2,000-year return event.⁵ This levee system is considered high risk and is protecting \$2.81 billion of property value.



Covington Leveed Area (USACE, National Levee Database):

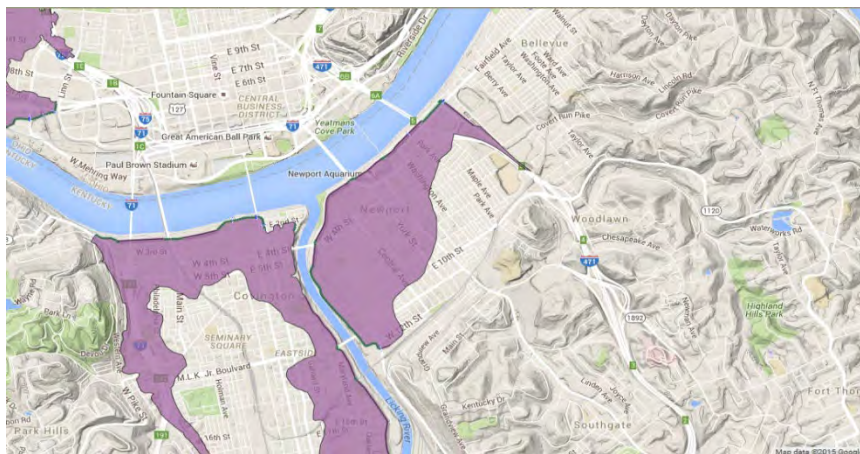
⁵ [National Levee Database \(army.mil\)](https://www.army.mil)

The Dayton Local Flood Protection Project consists of approximately 7729 lineal feet of earth levee embankment and 309 feet of concrete floodwall. In addition, there are two pumping plants with gravity drainage structures. The top elevation of the protective works is at Elevation 512.34 to 518.38 feet mean sea level, which provides approximately 1000-year protection (actually greater than 1000). The Dayton levee is considered low risk and is protecting \$235 million in property.



Dayton Leveed Area (USACE, National Levee

The Newport Local Flood Protection Project is located on the east (left) bank of the Ohio River and the right bank of the Licking River at their confluence. The levee system is 2.36 miles long with 1.05 miles of embankment and 1.27 miles of floodwall. The City of Newport is responsible for embankment maintenance and operation of closures. Sanitation District #1 (SD1) has been responsible for operating and maintaining the pumping stations and gate wells since July 1, 1995, under a Municipal Merger Agreement. This levee's risk is low.



Newport Leveed Area (USACE. National Levee

DROUGHT/EXTREME HEAT/HEAT WAVE

In researching regional flooding-related events, the NKADD staff reviewed the NCDC Storm Event Database, NFIP claims, NOAA storm events and spoke with local emergency management professionals to understand the extent of the flooding events. Most of the data collected contained general information on location, date, event type, deaths/injuries, and damages. When information on the extent of the events were not found, NKADD staff conducted additional research and contacted local officials to gain a greater understanding of the extent of the flooding related events.

DROUGHT/EXTREME HEAT/HEAT WAVE SEVERITY CATEGORY

Category	None	D0	D1	D2	D3	D4
Description	Normal or wet conditions	Abnormally Dry	Moderate Drought	Severe Drought	Extreme Drought	Exceptional Drought

HISTORICAL DROUGHT/EXTREME HEAT/HEAT WAVE EVENTS

Jurisdiction	Date	Event Type	Event Extent
Boone County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Florence			
Union			
Walton			
Campbell County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Alexandria			
Bellevue			
California			
Cold Spring			
Crestview			
Dayton			
Fort Thomas			
Highland Heights			
Melbourne			
Mentor			
Newport			
Silver Grove			
Southgate			
Wilder			
Woodlawn			
Carroll County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Carrollton			
Ghent			
Prestonville			

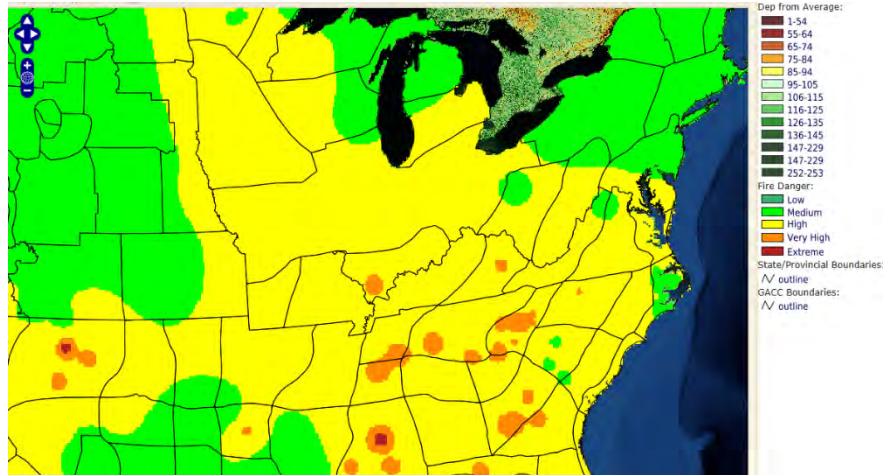
Jurisdiction	Date	Event Type	Event Extent
Sanders			
Worthville			
Gallatin County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Glencoe			
Sparta			
Warsaw			
Grant County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Corinth			
Crittenden			
Dry Ridge			
Williamstown			
Kenton County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Bromley			
Covington			
Crescent Springs			
Crestview Hills			
Edgewood			
Elsmere			
Erlanger			
Fairview			
Ft. Mitchell			
Ft. Wright			
Independence			
Kenton Vale			
Lakeside Park			
Ludlow			
Park Hills			
Ryland Heights			
Taylor Mill			
Villa Hills			
Owen County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Gratz			
Monterey			
Owenton			
Pendleton County	7/20/2019	Excessive Heat	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
Butler			
Falmouth			

A complete list of historical Drought/Extreme Heat/Heat Wave events can be found in Appendix 15.

WILDFIRES

A wildfire, also known as wildland fire, is a fire in an area of combustible vegetation that occurs in a rural area. Wildfires are particularly dangerous due to their ability to spread quickly and difficulty to control.

As seen in the map, wildfires can occur in any rural setting. In urban settings, there is typically not enough vegetation for a fire to spread. The Northern Kentucky area currently has a 'High' Fire Danger according to the Wildland Fire Assessment System interactive map. Due to the proximity of the rural counties in our area to even more rural and wooded areas,



the risk of wildfires is markedly increased. While droughts tend to make wildfires condition worse, they do not cause wildfires. Natural causes of wildfires include lightning, sparks from rock falls, spontaneous combustion, and volcanic eruption. Unnatural (human) causes of wildfires include arson, discarded cigarettes, power-line arcs and sparks from equipment.

FOG

Fog “is a collection of water droplets suspended in the atmosphere in the vicinity of the earth's surface that affects visibility” (Weather Channel). It is a common weather condition in which clouds lay close to the ground and vary in thickness depending on the density of the water droplets. Fog is common in the northeast, upper west coast, and Appalachian region. The NKADD region falls on the edge of the Appalachian fog area and encounters about 25-30 days per year with dense fog.

TYPES OF FOG

There are many varieties of fog, such as radiation, advection, and freezing.

- Radiation fog is the most common and is caused when moist air cools above the surface of the Earth. This fog, depending on the amount of wind, can become very thick.
- Advection fog forms when a cold surface encounters warm air, which means it can appear to move along or near the ground.
- Freezing fog occurs when water droplets in the air freeze in temperatures below freezing—this type may cause an additional hazard of frost or ice on roadways and bridges.

It does not cause direct damage, but fog can obscure vision to a greater or lesser degree.

b. ADDITIONAL HAZARD TO CONSIDER

INVASIVE SPECIES

In recent years, Northern Kentucky has seen a few invasive species that have invaded the regional ecosystem, mainly the Emerald Ash Borer. Other problematic species that can create damage include Bush Honeysuckle, Chinese Silvergrass, Garlic Mustard, Japanese Knotweed, Japanese Stiltgrass, Kudzu, Multi-Flora Rose, Oriental Bittersweet, Purple Loosestrife, and Winged Burningbush (KY Division of Forestry). Invasive species are harmful to the environment and have the potential of creating additional hazardous situations during a hazardous event. As the invasive emerald ash borer beetle infect and kill native trees, the infected and dead trees increase the amount of damage during wind, rain, and winter storms, just to name a few.

MAN MADE HAZARDOUS EVENTS

The Northern Kentucky region is a crossroads for many forms of transportation, home to international companies and producer of countless goods and services. Because of this, there are potential manmade hazardous events that could have lasting environmental consequences to our region. While this plan does not address them specifically, each county's Emergency Operations Plan (EOP) does address and details responses. There are potential situations where man-made hazardous events to coincide with natural disasters. Regional emergency management organizations are working together to create effective and efficient solutions to these potential concerns.

2. VULNERABILITY ASSESSMENT

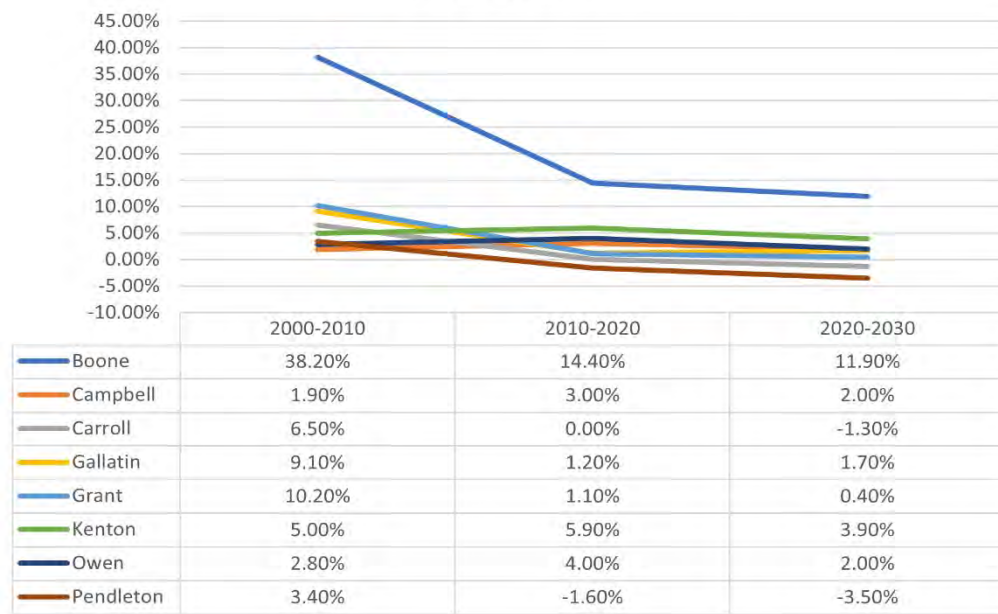
a. VULNERABILITY OF ASSETS

OUR COMMUNITIES

The region's population as a whole has consistently grown over the last 20 years at a similar rate as the national average. While within the region some areas are growing more quickly than others. Since 2000, Boone County has continued to see double-digit growth, while Pendleton County's population growth has been negative. Boone County is projected to have the most growth over the next ten years, with Pendleton County's population continuing to decline quickly. Carroll County saw growth between 2000 and 2010 however saw zero net growth during 2010-2020 and have a negative growth projection for 2020-2030. The other counties in the region's population growth projections for 2020-2030 are relatively small. In this future growth, diverse populations will account for a more significant percentage of the total population.

However, the region is predicted to be affected by slowing population growth and an aging population. The region will experience issues meeting employment demand if the current trends continue. Local governments, economic development agencies and community partners have identified talent attraction and retention as a key initiative for the economic development sustainability of the region.

Northern Kentucky Population Change
and Projection



Kentucky State Data Center



**Boone, Campbell,
Carroll, Gallatin,
Grant, Kenton, Owen
and Pendleton
Counties, KY.**



Population

2021 Estimate ¹	2020 Net Migration ³
468,471	1,551
2031 Projection ³	Foreign Born ²
493,046	3.41%
2021-2031 Change ³	Median Age ²
5.25%	38



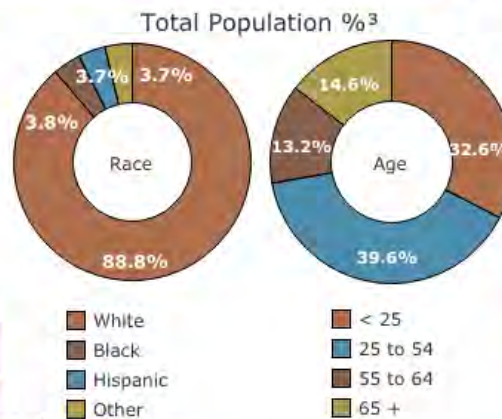
Top Employers⁵

Amazon
Cincinnati Insurance Company
Fidelity Brokerage Services
Northern Kentucky University
St. Elizabeth Healthcare

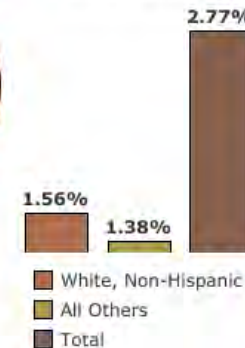


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$170,638
Total Housing Units	191,336
Homeowner Vacancy	1.36%
Rental Vacancy	3.05%
Percent Occupied Units With No Vehicle Available	4.75%



Economic³

Median Household Income	\$68,203
Per Capita Income	\$33,906
Labor Force Participation Rate	66.60%
Poverty Level	11.15%
Food Insecurity Rate ⁴	15.78%
Households Receiving Food Stamps / SNAP	8.05%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
20,708	20,333	-2%	\$23K	\$894M
12,716	17,186	35%	\$40K	\$1,014M
8,992	10,425	16%	\$61K	\$955M
14,358	14,347	0%	\$43K	\$1,084M
22,850	24,261	6%	\$65K	\$2,186M
25,383	25,508	0%	\$74K	\$4,921M
9,663	10,712	11%	\$80K	\$1,271M
22,171	21,526	-3%	\$36K	\$1,513M
17,112	35,369	107%	\$57K	\$2,754M
12,734	11,448	-10%	\$78K	\$2,683M

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



Comprehensive Economic Development Strategy - Summary Background

County
Boone County



Population

2021 Estimate ¹	2020 Net Migration ³
135,968	1,138
2031 Projection ³	Foreign Born ²
152,190	5.37%
2021-2031 Change ³	Median Age ²
11.93%	38



Economic³

Median Household Income	\$82,838
Per Capita Income	\$36,371
Labor Force Participation Rate	68.49%
Poverty Level	6.49%
Food Insecurity Rate ⁴	9.90%
Households Receiving Food Stamps / SNAP	5.36%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



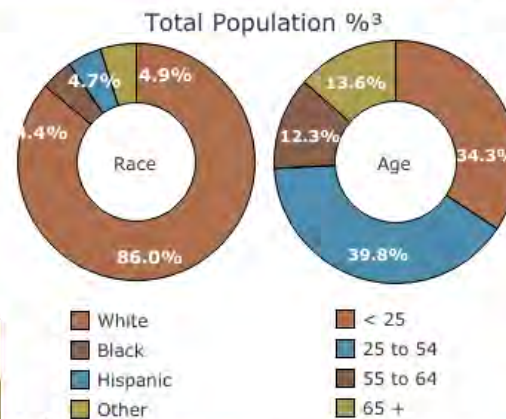
Top Employers⁵

Allied Universal
Amazon
Citi
Jabil Inc
Ryder System Incorporated

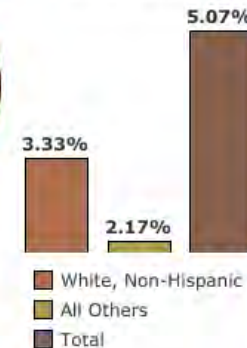


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$194,700
Total Housing Units	49,938
Homeowner Vacancy	0.89%
Rental Vacancy	2.74%
Percent Occupied Units With No Vehicle Available	2.80%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
7,765	7,637	-2%	\$25K	\$361M
6,988	10,599	52%	\$37K	\$568M
2,739	3,375	23%	\$62K	\$319M
3,965	4,064	2%	\$46K	\$331M
5,685	6,084	7%	\$56K	\$456M
13,240	12,571	-5%	\$69K	\$2,085M
2,622	3,455	32%	\$74K	\$383M
9,488	9,475	0%	\$37K	\$687M
12,606	27,286	116%	\$53K	\$1,917M
8,129	7,397	-9%	\$77K	\$1,702M



Comprehensive Economic Development Strategy - Summary Background

County
Campbell County



Population

2021 Estimate ¹	2020 Net Migration ³
93,076	49
2031 Projection ³	Foreign Born ²
94,981	2.12%
2021-2031 Change ³	Median Age ²
2.05%	38



Economic³

Median Household Income	\$63,152
Per Capita Income	\$35,124
Labor Force Participation Rate	64.72%
Poverty Level	12.40%
Food Insecurity Rate ⁴	12.60%
Households Receiving Food Stamps / SNAP	7.17%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



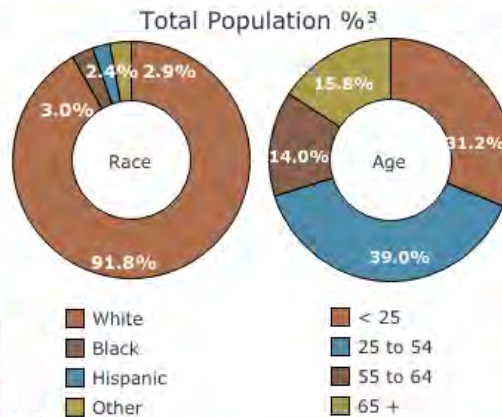
Top Employers⁵

Amazon
Campbell County School District
Cincinnati Insurance Company
Northern Kentucky University
St. Elizabeth Healthcare

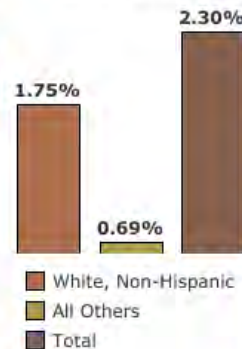


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$173,400
Total Housing Units	40,533
Homeowner Vacancy	1.22%
Rental Vacancy	2.10%
Percent Occupied Units With No Vehicle Available	7.30%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
4,564	3,807	-17%	\$20K	\$149M
1,058	1,718	62%	\$44K	\$104M
1,811	1,991	10%	\$54K	\$165M
4,100	4,052	-1%	\$48K	\$341M
4,425	4,524	2%	\$59K	\$380M
2,232	1,861	-17%	\$65K	\$301M
1,790	2,237	25%	\$68K	\$213M
4,377	4,427	1%	\$34K	\$312M
866	1,012	17%	\$53K	\$92M
1,616	1,155	-29%	\$79K	\$288M



Comprehensive Economic Development Strategy - Summary Background

County
Carroll County



Population

2021 Estimate ¹	2020 Net Migration ³
10,810	66
2031 Projection ³	Foreign Born ²
10,667	1.34%
2021-2031 Change ³	Median Age ²
-1.32%	39



Economic³

Median Household Income	\$41,014
Per Capita Income	\$25,084
Labor Force Participation Rate	61.33%
Poverty Level	25.62%
Food Insecurity Rate ⁴	16.10%
Households Receiving Food Stamps / SNAP	17.98%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



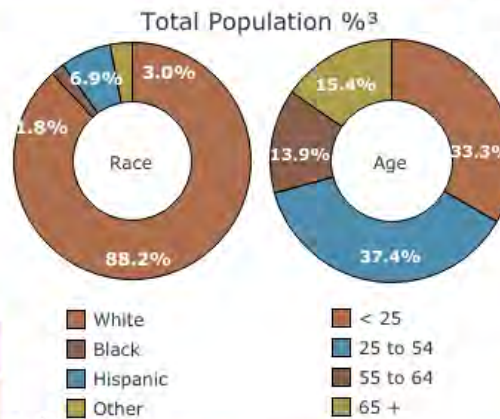
Top Employers⁵

Dow Company
North American Stainless
Signature Healthcare
Steel Technologies
Walmart / Sam's

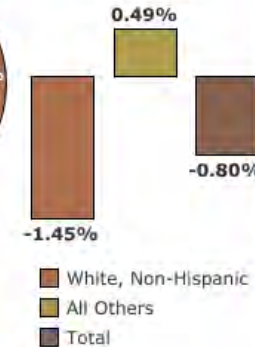


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$105,800
Total Housing Units	4,730
Homeowner Vacancy	1.89%
Rental Vacancy	4.80%
Percent Occupied Units With No Vehicle Available	5.50%



Largest Industries⁶

Job Comparison

Accommodation and Food Services	519	435	-16%
Admin. Support and Waste Management & Remediation	604	810	34%
Construction	324	498	54%
Educational Services	367	371	1%
Health Care and Social Assistance	460	396	-14%
Manufacturing	2,517	3,036	21%
Professional, Scientific, and Technical Services	717	331	-54%
Retail Trade	666	659	-1%
Transportation and Warehousing	235	292	24%
Wholesale Trade	42	95	126%

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
519	435	-16%	\$21K	\$20M
604	810	34%	\$41K	\$52M
324	498	54%	\$50K	\$33M
367	371	1%	\$37K	\$24M
460	396	-14%	\$63K	\$36M
2,517	3,036	21%	\$89K	\$605M
717	331	-54%	\$107K	\$48M
666	659	-1%	\$34K	\$42M
235	292	24%	\$64K	\$35M
42	95	126%	\$96K	\$29M



Comprehensive Economic Development Strategy - Summary Background

County
Gallatin County



Population

2021 Estimate ¹	2020 Net Migration ³
8,690	-80
2031 Projection ³	Foreign Born ²
8,842	2.40%
2021-2031 Change ³	Median Age ²
1.75%	39



Economic³

Median Household Income	\$55,113
Per Capita Income	\$23,057
Labor Force Participation Rate	59.80%
Poverty Level	16.26%
Food Insecurity Rate ⁴	11.90%
Households Receiving Food Stamps / SNAP	9.91%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



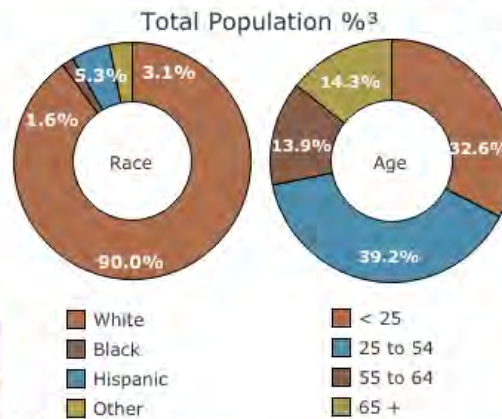
Top Employers⁵

Commonwealth of Kentucky
Dorman
Dorman Products
Interim Healthcare
Love's Travel Stops

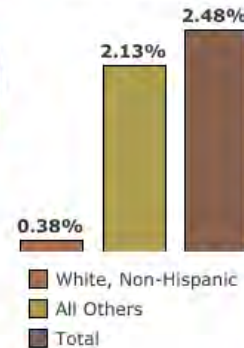


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$135,100
Total Housing Units	3,935
Homeowner Vacancy	3.69%
Rental Vacancy	8.87%
Percent Occupied Units With No Vehicle Available	4.60%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
143.0	134.0	-6%	\$18K	\$5M
57.0	77.0	35%	\$25K	\$4M
98.0	93.0	-5%	\$38K	\$6M
218.0	225.0	3%	\$33K	\$13M
219.0	250.0	14%	\$41K	\$17M
513.0	623.0	21%	\$134K	\$211M
48.0	49.0	2%	\$98K	\$8M
210.0	227.0	8%	\$25K	\$12M
84.0	36.0	-57%	\$61K	\$5M
588.0	590.0	0%	\$49K	\$92M



Comprehensive Economic Development Strategy - Summary Background

County
Grant County



Population

2021 Estimate ¹	2020 Net Migration ³
24,941	166
2031 Projection ³	Foreign Born ²
25,047	1.29%
2021-2031 Change ³	Median Age ²
0.43%	37



Economic³

Median Household Income	\$56,746
Per Capita Income	\$25,292
Labor Force Participation Rate	62.13%
Poverty Level	14.21%
Food Insecurity Rate ⁴	14.30%
Households Receiving Food Stamps / SNAP	12.18%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



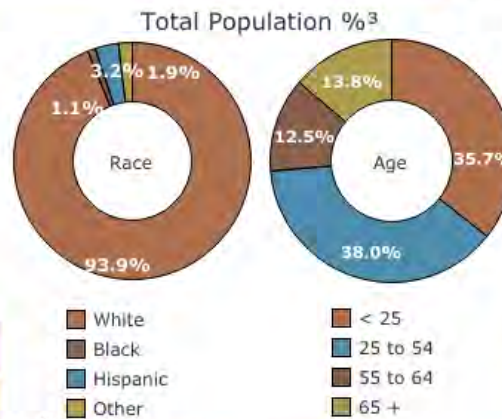
Top Employers⁵

Commonwealth of Kentucky
Grant County
Grant County High School
Grant County School District
Walmart / Sam's

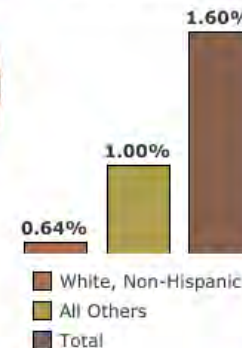


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$141,600
Total Housing Units	10,276
Homeowner Vacancy	1.46%
Rental Vacancy	5.59%
Percent Occupied Units With No Vehicle Available	3.60%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
782.0	949.0	21%	\$18K	\$35M
187.0	153.0	-18%	\$36K	\$11M
299.0	358.0	20%	\$51K	\$28M
718.0	637.0	11%	\$37K	\$41M
481.0	536.0	11%	\$80K	\$57M
677.0	760.0	12%	\$80K	\$129M
180.0	217.0	21%	\$81K	\$29M
938.0	867.0	-8%	\$38K	\$66M
183.0	169.0	-8%	\$62K	\$26M
202.0	84.0	-58%	\$62K	\$17M



Comprehensive Economic Development Strategy - Summary Background

County
Kenton County



Population

2021 Estimate ¹	2020 Net Migration ³
169,064	45
2031 Projection ³	Foreign Born ²
175,691	3.49%
2021-2031 Change ³	Median Age ²
3.92%	37



Economic³

Median Household Income	\$66,541
Per Capita Income	\$34,936
Labor Force Participation Rate	68.94%
Poverty Level	11.54%
Food Insecurity Rate ⁴	
Households Receiving Food Stamps / SNAP	8.40%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



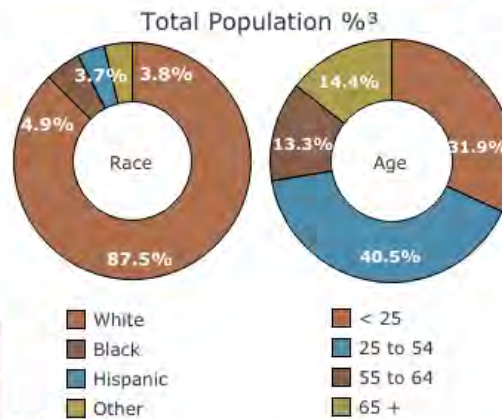
Top Employers⁵

Amazon
DHL Express
FedEx
Fidelity Brokerage Services
St. Elizabeth Healthcare

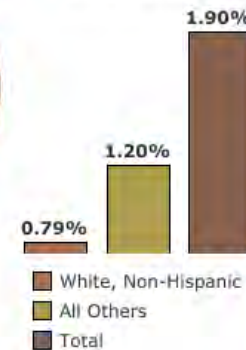


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$167,100
Total Housing Units	69,790
Homeowner Vacancy	1.46%
Rental Vacancy	2.87%
Percent Occupied Units With No Vehicle Available	7.30%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
6,686	7,082	6%	\$23K	\$316M
3,600	3,550	-1%	\$49K	\$251M
3,434	3,791	10%	\$69K	\$383M
4,386	4,436	1%	\$38K	\$299M
11,042	12,050	9%	\$73K	\$1,219M
5,618	6,324	13%	\$76K	\$1,537M
4,179	4,253	2%	\$89K	\$568M
6,050	5,457	-10%	\$34K	\$374M
2,945	6,416	118%	\$75K	\$662M
2,015	1,953	-3%	\$90K	\$524M



Comprehensive Economic Development Strategy - Summary Background

County
Owen County



Population

2021 Estimate ¹	2020 Net Migration ³
11,278	151
2031 Projection ³	Foreign Born ²
11,502	0.06%
2021-2031 Change ³	Median Age ²
1.99%	42



Economic³

Median Household Income	\$50,553
Per Capita Income	\$25,997
Labor Force Participation Rate	55.49%
Poverty Level	17.85%
Food Insecurity Rate ⁴	12.90%
Households Receiving Food Stamps / SNAP	12.69%

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)



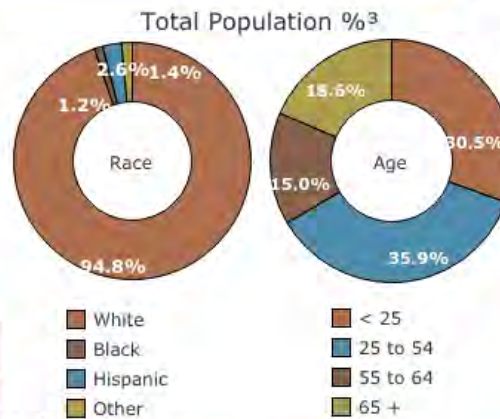
Top Employers⁵

Addiction Recovery Care
Dollar General
Genesis Healthcare Corporation
Interim Healthcare
Owenton Healthcare And Rehabilitation

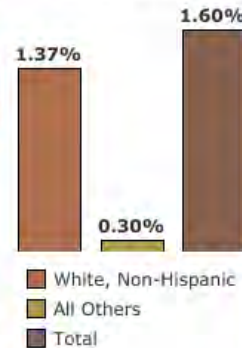


Educational Opportunities⁶

Northern Kentucky University
Thomas More University
Beckfield College
Gateway Community and Technical College
Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$116,300
Total Housing Units	5,753
Homeowner Vacancy	4.26%
Rental Vacancy	8.94%
Percent Occupied Units With No Vehicle Available	2.70%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
127.0	155.0	22%	\$16K	\$5M
49.0	87.0	78%	\$23K	\$4M
117.0	135.0	15%	\$36K	\$9M
252.0	240.0	-5%	\$38K	\$16M
227.0	143.0	-37%	\$37K	\$7M
290.0	57.0	-80%	\$51K	\$4M
27.0	39.0	44%	\$72K	\$8M
195.0	196.0	1%	\$27K	\$10M
73.0	59.0	-19%	\$48K	\$6M
59.0	130.0	120%	\$68K	\$24M



Comprehensive Economic Development Strategy - Summary Background

County
Pendleton County



Population

2021 Estimate ¹	2020 Net Migration ³
14,644	16
2031 Projection ³	Foreign Born ²
14,126	1.33%
2021-2031 Change ³	Median Age ²
-3.54%	41



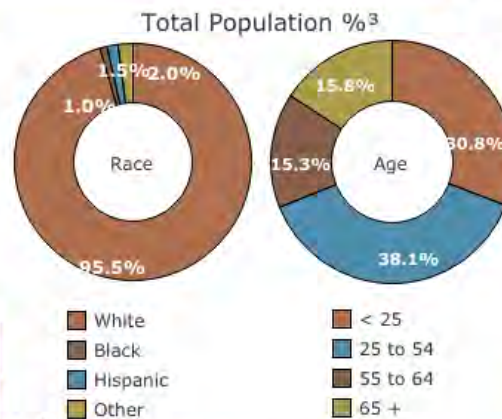
Top Employers⁵

Commonwealth of Kentucky
Darling International Incorporated
Justice & Public Safety Cabinet
Life Fitness
Rumpke Waste And Recycling

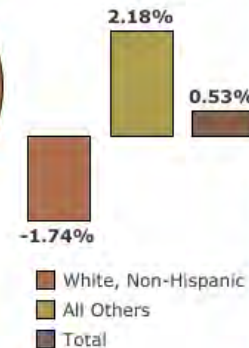


Educational Opportunities⁶

Northern Kentucky University
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Jefferson Community and Technical College
Brighton Center's Center for Employment Training
Interactive College of Technology



Population Growth (2016 - 2020)³



Housing²

Median House Value	\$130,100
Total Housing Units	6,381
Homeowner Vacancy	0.77%
Rental Vacancy	2.53%
Percent Occupied Units With No Vehicle Available	4.20%



Economic³

Median Household Income	\$56,000
Per Capita Income	\$25,647
Labor Force Participation Rate	59.30%
Poverty Level	17.36%
Food Insecurity Rate ⁴	12.10%
Households Receiving Food Stamps / SNAP	14.44%



Largest Industries⁶

Job Comparison

Accommodation and Food Services
Admin. Support and Waste Management & Remediation
Construction
Educational Services
Health Care and Social Assistance
Manufacturing
Professional, Scientific, and Technical Services
Retail Trade
Transportation and Warehousing
Wholesale Trade

2018	2022	Change in Jobs	2022 Average Annual Wages	2022 GRP (in Millions)
123.0	135.0	10%	\$14K	\$4M
173.0	192.0	11%	\$59K	\$21M
170.0	184.0	8%	\$37K	\$12M
351.0	321.0	-9%	\$34K	\$19M
311.0	278.0	-11%	\$44K	\$15M
297.0	277.0	-7%	\$58K	\$49M
100.0	131.0	31%	\$68K	\$14M
246.0	217.0	-12%	\$23K	\$10M
120.0	99.0	-18%	\$56K	\$12M
83.0	44.0	-47%	\$35K	\$7M

Sources:

1. US Census Bureau, 2020 Census
2. US Census Bureau, American Community Survey
3. US Census Bureau, National Population Projections
4. University of Wisconsin Population Health Institute
5. Locally advertised job postings
6. JobsEQ (Labor Market Information Software)

To ensure this plan addressed the needs of all communities and socially underserved populations, staff looked at the FEMA Risk Index by census tracts to gather a deeper understanding of the entire region and to ensure representation of all at risk communities in the planning and development process of this plan. Staff worked with local and state elected officials that represent census tracts that are considered at greater risks to gather input and gain a better understanding of the communities they represent.

FEMA's Risk Index is determined by calculating the Expended Annual Lost and the Community Risk Factor (Social Vulnerability divided by Community Resilience). The Risk Index measures the relative risk of a community based on all eighteen natural hazards included in the Index by comparing its composite Risk Index value with other communities at the same level.

On the FEMA's Risk Index, most of the region's census tracts were rated at relatively low (63 tracts), very low (43 tracts) and relatively moderate (12 tracts). However, one tract did receive a very high ranking and one received a relatively high ranking. Pendleton County's census tract 930300 was ranked very high. This tract includes the city of Falmouth and Kincaid Lake State Park. Falmouth is the county's largest city and is the county seat. The South Fork of the Licking River forms the northern border of this tract. In the last 30 years, the flood states in Falmouth have reached Action Stage 10 times with it hitting Moderate Flood Stage in 2000 at 37.00 ft and Major Flood Stage in 1997 at 51.80 ft. The City of Falmouth has a Floodplain Manager to help the community reduce the potential risk of future flooding events.

In Carroll County, census tract 950200 received a relatively high rating. This census tract has a northern border of the Ohio River, a western border being the Kentucky River, a 260-mile-long tributary that flows into the Ohio River and is the location of City of Carrollton. Carrollton is the largest city in the county and is the county seat. Since 1995, Carrollton has reached Action Stage 11 times and Flood Stage once in 1997. The 1997 flood was 60.70 feet, only 1.30 feet from Moderate Flood Stage.

For expected annual loss, most census tracts in the Northern Kentucky Region are ranked Relatively Moderate (20 tracts), Relatively Low (72 tracts), and Very Low (27 tracts) emphasizing how low the average economic loss in dollars would be from a natural hazard each year. However, tract 930300 in Pendleton County received a Relatively High rating. With the City of Falmouth and the heart of the county's economy located in the census tract any disturbance would cause major disruption for the county.

The Community Risk Factor is determined by evaluating Social Vulnerability, a consequence enhancing component over Community Resilience, a consequence reduction component. The Community Risk Adjustment is used to scale Expected Annual Loss values up or down depending on their Community Risk Factors. The Community Risk Adjustment increases Social Vulnerability and decreases with Community Resilience. So, higher Social Vulnerability for a community result in a higher Risk Index Value while higher Community Resilience for a community result in a lower Risk Index value.

Social Vulnerability Rating is the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Over 78% of the regions census tracts received Relatively Moderate (23 Tracts, Relatively Low (25 tracts), and Very Low (46 tracts) rankings. However, 14 tracts received Relatively High and 12 Very High ranking. Most of the tracts are located in high populated or employment hubs within the counties.

County	Tract	Population	Building Value	Social Vulnerability Rating	City/Location
Boone	70101	4045	\$901,992,750	Relatively High	Florence
Boone	70102	2868	\$269,695,155	Relatively High	Florence
Boone	70201	3863	\$542,850,336	Relatively High	Florence
Boone	70301	5992	\$2,102,346,962	Very High	Florence
Boone	70311	2711	\$2,810,521,806	Relatively High	Florence
Campbell	50100	1202	\$198,743,158	Very High	Newport
Campbell	50500	2177	\$445,778,746	Relatively High	Newport
Campbell	50600	1783	\$282,452,473	Very High	Newport
Campbell	51200	1536	\$215,242,021	Very High	Dayton
Campbell	52500	5313	\$572,874,212	Relatively High	Newport/ Southgate/ Wilder
Campbell	53100	5759	\$948,670,977	Relatively High	Cold Springs/ Silver Grove/ Melbourne
Carroll	950100	2331	\$407,181,126	Relatively High	Ghent/ Sanders/ Worthville
Carroll	950200	6244	\$1,286,620,469	Very High	Carrollton
Gallatin	960103	2380	\$317,780,110	Very High	Warsaw
Grant	920302	5206	\$732,727,621	Relatively High	Williamstown/ Williamstown Lake
Kenton	60900	2356	\$246,591,774	Very High	Covington
Kenton	61000	2117	\$226,222,983	Very High	Covington
Kenton	61200	2562	\$212,727,423	Relatively High	Covington
Kenton	63607	2747	\$726,709,020	Relatively High	Elsmere
Kenton	64400	4083	\$519,755,517	Relatively High	Erlanger
Kenton	65100	3390	\$157,259,442	Very High	Covington/ Kenton Vale
Kenton	65600	6360	\$467,699,233	Relatively High	Elsmere
Kenton	66900	4061	\$537,720,730	Relatively High	Bromley/ Ludlow
Kenton	67000	3392	\$851,978,007	Very High	Covington
Kenton	67100	2341	\$251,625,584	Very High	Covington
Pendleton	930300	5094	\$651,269,798	Very High	Falmouth

The Community Resilience Rating is the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions and withstand and recover rapidly from disruptions. In Northern Kentucky, 83% of the census tracts are rated Relatively High (69 tracts) and Very High (30 tracts). The remaining 21 tracts are located in a county that is considered rural.

County	Tract	Population	Building Value	Community Resilience Rating	City/Location
Carroll	950100	2331	\$407,181,126	Relatively Low	Ghent/Sanders/Worthville
Carroll	950200	6244	\$1,286,620,469	Relatively Low	Carrollton
Carroll	950300	2199	\$363,432,627	Relatively Low	Prestonville
Gallatin	960102	2468	\$257,577,357	Very Low	
Gallatin	960103	2380	\$317,780,110	Very Low	Warsaw
Gallatin	960104	3839	\$732,786,618	Very Low	Glencoe
Grant	920101	5541	\$476,839,914	Relatively Low	Crittenden
Grant	920102	2920	\$299,518,319	Relatively Low	Crittenden
Grant	920201	2947	\$461,649,616	Relatively Low	Dry Ridge
Grant	920202	4236	\$503,097,210	Relatively Low	Dry Ridge
Grant	920301	1868	\$215,495,216	Relatively Low	Williamstown
Grant	920302	5206	\$732,727,621	Relatively Low	Williamstown
Grant	920400	2169	\$227,402,248	Relatively Low	
Owen	970100	3136	\$589,002,944	Relatively Low	
Owen	970201	2332	\$380,073,046	Relatively Low	Owenton/Gratz
Owen	970202	2868	\$632,784,383	Relatively Low	Owenton
Owen	970300	2922	\$481,005,420	Relatively Low	Monterey
Pendleton	930101	3306	\$475,177,230	Relatively Low	
Pendleton	930102	3610	\$466,971,762	Relatively Low	Butler
Pendleton	930200	2615	\$373,556,487	Relatively Low	
Pendleton	930300	5094	\$651,269,798	Relatively Low	Falmouth

NORTHERN KENTUCKY COUNTIES RISK INDEX BY CENSUS TRACTS

County	Tract	Population	Building Value	Risk Index Rating	Expected Annual Loss	Social Vulnerability Rating	Community Resilience Rating
Boone	70101	4045	\$ 901,992,750	Relatively Low	Relatively Low	Relatively High	Very High
Boone	70102	2868	\$ 269,695,155	Very Low	Very Low	Relatively High	Very High
Boone	70201	3863	\$ 542,850,336	Relatively Low	Relatively Low	Relatively High	Very High
Boone	70202	2961	\$ 484,533,338	Relatively Low	Relatively Low	Relatively Moderate	Very High
Boone	70301	5992	\$ 2,102,346,962	Relatively Moderate	Relatively Moderate	Very High	Very High
Boone	70305	6572	\$ 969,070,796	Relatively Low	Relatively Low	Very Low	Very High
Boone	70309	6546	\$ 973,275,142	Relatively Low	Relatively Low	Very Low	Very High
Boone	70311	2711	\$ 2,810,521,806	Relatively Moderate	Relatively Moderate	Relatively High	Very High
Boone	70312	3131	\$ 811,198,037	Relatively Low	Relatively Low	Relatively Moderate	Very High
Boone	70313	3296	\$ 427,907,675	Very Low	Relatively Low	Very Low	Very High
Boone	70314	4997	\$ 616,252,400	Relatively Low	Relatively Low	Very Low	Very High
Boone	70315	5914	\$ 795,949,078	Relatively Low	Relatively Low	Relatively Moderate	Very High
Boone	70316	6903	\$ 1,299,786,651	Relatively Low	Relatively Moderate	Very Low	Very High
Boone	70317	5254	\$ 729,489,024	Relatively Low	Relatively Low	Very Low	Very High
Boone	70318	8353	\$ 1,299,084,224	Relatively Low	Relatively Moderate	Relatively Low	Very High
Boone	70403	6820	\$ 1,114,033,859	Relatively Low	Relatively Low	Very Low	Very High
Boone	70404	3772	\$ 2,479,942,737	Relatively Moderate	Relatively Moderate	Very Low	Very High
Boone	70405	2336	\$ 362,008,312	Very Low	Very Low	Very Low	Very High
Boone	70406	2647	\$ 636,812,605	Very Low	Relatively Low	Very Low	Very High
Boone	70407	3548	\$ 1,650,799,265	Relatively Low	Relatively Moderate	Relatively Low	Very High
Boone	70502	4327	\$ 590,318,233	Relatively Low	Relatively Low	Very Low	Very High
Boone	70503	6614	\$ 888,310,134	Relatively Low	Relatively Low	Very Low	Very High
Boone	70505	3708	\$ 419,652,444	Very Low	Relatively Low	Very Low	Very High
Boone	70506	4245	\$ 556,137,437	Relatively Low	Relatively Low	Relatively Low	Very High
Boone	70601	2936	\$ 670,715,387	Relatively Low	Relatively Low	Relatively Low	Very High
Boone	70604	3454	\$ 671,772,626	Very Low	Relatively Low	Very Low	Very High
Boone	70605	7985	\$ 1,813,856,400	Relatively Low	Relatively Moderate	Very Low	Very High
Boone	70606	5660	\$ 1,652,779,753	Relatively Moderate	Relatively Moderate	Relatively Low	Very High
Boone	70607	4453	\$ 632,051,658	Relatively Low	Relatively Low	Very Low	Very High
Boone	980100	57	\$ 1,298,170,069	Very Low	Relatively Low	Very Low	Very High
Campbell	50100	1202	\$ 198,743,158	Very Low	Very Low	Very High	Relatively High
Campbell	50400	1729	\$ 341,859,129	Very Low	Very Low	Very Low	Relatively High
Campbell	50500	2177	\$ 445,778,746	Very Low	Very Low	Relatively High	Relatively High
Campbell	50600	1783	\$ 282,452,473	Very Low	Very Low	Very High	Relatively High
Campbell	51101	2183	\$ 247,781,410	Very Low	Very Low	Relatively Moderate	Relatively High
Campbell	51102	1571	\$ 153,716,708	Very Low	Very Low	Very Low	Relatively High
Campbell	51200	1536	\$ 215,242,021	Very Low	Very Low	Very High	Relatively High
Campbell	51300	4933	\$ 540,209,497	Very Low	Relatively Low	Very Low	Relatively High
Campbell	51901	4929	\$ 572,756,437	Relatively Low	Relatively Low	Very Low	Relatively High
Campbell	51903	6834	\$ 1,113,772,451	Relatively Low	Relatively Low	Relatively Low	Relatively High
Campbell	51904	5079	\$ 719,518,114	Relatively Low	Relatively Low	Very Low	Relatively High

County	Tract	Population	Building Value	Risk Index Rating	Expected Annual Loss	Social Vulnerability Rating	Community Resilience Rating
Campbell	52001	5244	\$ 782,842,417	Relatively Low	Relatively Low	Very Low	Relatively High
Campbell	52002	2775	\$ 332,580,875	Very Low	Relatively Low	Very Low	Relatively High
Campbell	52100	3259	\$ 581,500,214	Relatively Low	Relatively Low	Very Low	Relatively High
Campbell	52200	2225	\$ 228,554,846	Very Low	Very Low	Very Low	Relatively High
Campbell	52301	4775	\$ 613,139,019	Relatively Low	Relatively Low	Relatively Low	Relatively High
Campbell	52302	5111	\$ 600,606,792	Relatively Low	Relatively Low	Relatively Low	Relatively High
Campbell	52400	2596	\$ 481,712,491	Very Low	Very Low	Relatively Moderate	Relatively High
Campbell	52500	5313	\$ 572,874,212	Relatively Low	Relatively Low	Relatively High	Relatively High
Campbell	52800	3620	\$ 425,022,992	Very Low	Very Low	Relatively Low	Relatively High
Campbell	52900	5257	\$ 803,330,043	Relatively Low	Relatively Low	Relatively Low	Relatively High
Campbell	53100	5759	\$ 948,670,977	Relatively Moderate	Relatively Moderate	Relatively High	Relatively High
Campbell	53200	2905	\$ 605,604,415	Relatively Low	Relatively Low	Relatively Moderate	Relatively High
Campbell	53301	5758	\$ 731,874,379	Relatively Low	Relatively Low	Relatively Low	Relatively High
Campbell	53302	4407	\$ 1,758,657,950	Relatively Moderate	Relatively Moderate	Relatively Low	Relatively High
Carroll	950100	2331	\$ 407,181,126	Relatively Low	Relatively Low	Relatively High	Relatively Low
Carroll	950200	6244	\$ 1,286,620,469	Relatively High	Relatively Moderate	Very High	Relatively Low
Carroll	950300	2199	\$ 363,432,627	Relatively Low	Relatively Low	Relatively Moderate	Relatively Low
Gallatin	960102	2468	\$ 257,577,357	Relatively Low	Relatively Low	Relatively Low	Very Low
Gallatin	960103	2380	\$ 317,780,110	Relatively Low	Relatively Low	Very High	Very Low
Gallatin	960104	3839	\$ 732,786,618	Relatively Moderate	Relatively Moderate	Relatively Moderate	Very Low
Grant	920101	5541	\$ 476,839,914	Relatively Low	Relatively Moderate	Very Low	Relatively Low
Grant	920102	2920	\$ 299,518,319	Relatively Low	Relatively Low	Relatively Low	Relatively Low
Grant	920201	2947	\$ 461,649,616	Relatively Low	Relatively Low	Very Low	Relatively Low
Grant	920202	4236	\$ 503,097,210	Relatively Low	Relatively Low	Relatively Moderate	Relatively Low
Grant	920301	1868	\$ 215,495,216	Very Low	Relatively Low	Very Low	Relatively Low
Grant	920302	5206	\$ 732,727,621	Relatively Moderate	Relatively Moderate	Relatively High	Relatively Low
Grant	920400	2169	\$ 227,402,248	Relatively Low	Relatively Low	Relatively Moderate	Relatively Low
Kenton	60300	1524	\$ 280,420,940	Very Low	Very Low	Relatively Moderate	Relatively High
Kenton	60700	1430	\$ 237,462,457	Very Low	Very Low	Relatively Low	Relatively High
Kenton	60900	2356	\$ 246,591,774	Very Low	Very Low	Very High	Relatively High
Kenton	61000	2117	\$ 226,222,983	Very Low	Very Low	Very High	Relatively High
Kenton	61100	1422	\$ 161,534,183	Very Low	Very Low	Very Low	Relatively High
Kenton	61200	2562	\$ 212,727,423	Relatively Low	Relatively Low	Relatively High	Relatively High
Kenton	61300	2430	\$ 479,537,844	Relatively Low	Relatively Low	Relatively Moderate	Relatively High
Kenton	61400	3502	\$ 319,450,930	Very Low	Very Low	Relatively Low	Relatively High
Kenton	61600	1343	\$ 156,134,451	Very Low	Very Low	Relatively Moderate	Relatively High
Kenton	63604	6739	\$ 817,143,194	Relatively Low	Relatively Low	Relatively Moderate	Relatively High
Kenton	63606	4375	\$ 628,736,743	Very Low	Relatively Low	Very Low	Relatively High
Kenton	63607	2747	\$ 726,709,020	Relatively Low	Relatively Low	Relatively High	Relatively High
Kenton	63608	6771	\$ 767,738,272	Relatively Low	Relatively Low	Relatively Low	Relatively High
Kenton	63609	5824	\$ 770,967,798	Relatively Low	Relatively Low	Very Low	Relatively High
Kenton	63610	6769	\$ 713,103,254	Relatively Low	Relatively Low	Very Low	Relatively High
Kenton	63701	3589	\$ 586,993,863	Relatively Low	Relatively Low	Relatively Low	Relatively High

County	Tract	Population	Building Value	Risk Index Rating	Expected Annual Loss	Social Vulnerability Rating	Community Resilience Rating
Kenton	63702	4572	\$ 586,262,059	Very Low	Relatively Low	Very Low	Relatively High
Kenton	63800	3011	\$ 302,303,792	Very Low	Very Low	Very Low	Relatively High
Kenton	64001	3268	\$ 585,171,825	Very Low	Relatively Low	Very Low	Relatively High
Kenton	64002	3298	\$ 589,401,724	Very Low	Relatively Low	Very Low	Relatively High
Kenton	64300	3452	\$ 398,260,303	Very Low	Relatively Low	Relatively Low	Relatively High
Kenton	64400	4083	\$ 519,755,517	Relatively Low	Relatively Low	Relatively High	Relatively High
Kenton	64500	3595	\$ 764,304,361	Relatively Low	Relatively Low	Very Low	Relatively High
Kenton	64600	5376	\$ 678,260,253	Relatively Low	Relatively Low	Relatively Moderate	Relatively High
Kenton	64700	5646	\$ 859,479,721	Relatively Low	Relatively Low	Very Low	Relatively High
Kenton	64800	3694	\$ 527,486,158	Relatively Low	Relatively Low	Very Low	Relatively High
Kenton	64900	3186	\$ 422,790,165	Relatively Low	Relatively Low	Relatively Low	Relatively High
Kenton	65000	3690	\$ 418,694,511	Relatively Low	Very Low	Relatively Moderate	Relatively High
Kenton	65100	3390	\$ 157,259,442	Very Low	Very Low	Very High	Relatively High
Kenton	65200	3986	\$ 544,803,879	Relatively Low	Relatively Low	Relatively Low	Relatively High
Kenton	65300	10232	\$ 1,541,534,801	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively High
Kenton	65400	1562	\$ 800,477,696	Very Low	Relatively Low	Very Low	Relatively High
Kenton	65501	4314	\$ 505,107,600	Very Low	Relatively Low	Very Low	Relatively High
Kenton	65502	3930	\$ 702,621,054	Very Low	Relatively Low	Very Low	Relatively High
Kenton	65600	6360	\$ 467,699,233	Relatively Low	Relatively Low	Relatively High	Relatively High
Kenton	65700	2101	\$ 214,777,274	Very Low	Very Low	Very Low	Relatively High
Kenton	65800	3492	\$ 420,208,015	Very Low	Very Low	Relatively Low	Relatively High
Kenton	65900	1415	\$ 273,111,248	Very Low	Very Low	Relatively Low	Relatively High
Kenton	66801	3881	\$ 312,315,650	Very Low	Very Low	Very Low	Relatively High
Kenton	66802	4884	\$ 453,671,364	Very Low	Relatively Low	Relatively Low	Relatively High
Kenton	66900	4061	\$ 537,720,730	Relatively Low	Relatively Low	Relatively High	Relatively High
Kenton	67000	3392	\$ 851,978,007	Relatively Low	Relatively Low	Very High	Relatively High
Kenton	67100	2341	\$ 251,625,584	Very Low	Very Low	Very High	Relatively High
Kenton	67200	7257	\$ 1,328,249,175	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively High
Owen	970100	3136	\$ 589,002,944	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively Low
Owen	970201	2332	\$ 380,073,046	Relatively Low	Relatively Low	Relatively Moderate	Relatively Low
Owen	970202	2868	\$ 632,784,383	Relatively Low	Relatively Low	Relatively Moderate	Relatively Low
Owen	970300	2922	\$ 481,005,420	Relatively Low	Relatively Moderate	Relatively Moderate	Relatively Low
Pendleton	930101	3306	\$ 475,177,230	Relatively Low	Relatively Moderate	Very Low	Relatively Low
Pendleton	930102	3610	\$ 466,971,762	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively Low
Pendleton	930200	2615	\$ 373,556,487	Relatively Low	Relatively Low	Relatively Low	Relatively Low
Pendleton	930300	5094	\$ 651,269,798	Very High	Relatively High	Very High	Relatively Low

FEMA National Risk Index - [Map | National Risk Index \(fema.gov\)](#)

OUR STRUCTURES (CRITICAL FACILITIES AND INFRASTRUCTURE)IDENTIFICATION OF ASSETS

The following chart summarizes the critical facilities identified by county committees. Data is listed by county and includes data from all incorporated cities within each county. This Plan will be expanded to include other facilities such as: communications facilities, power plants, sewage treatment plants, hazardous material sites, and other government facilities in future updates. Each county mitigation committee determined its own criteria for what was a critical facility in that county.

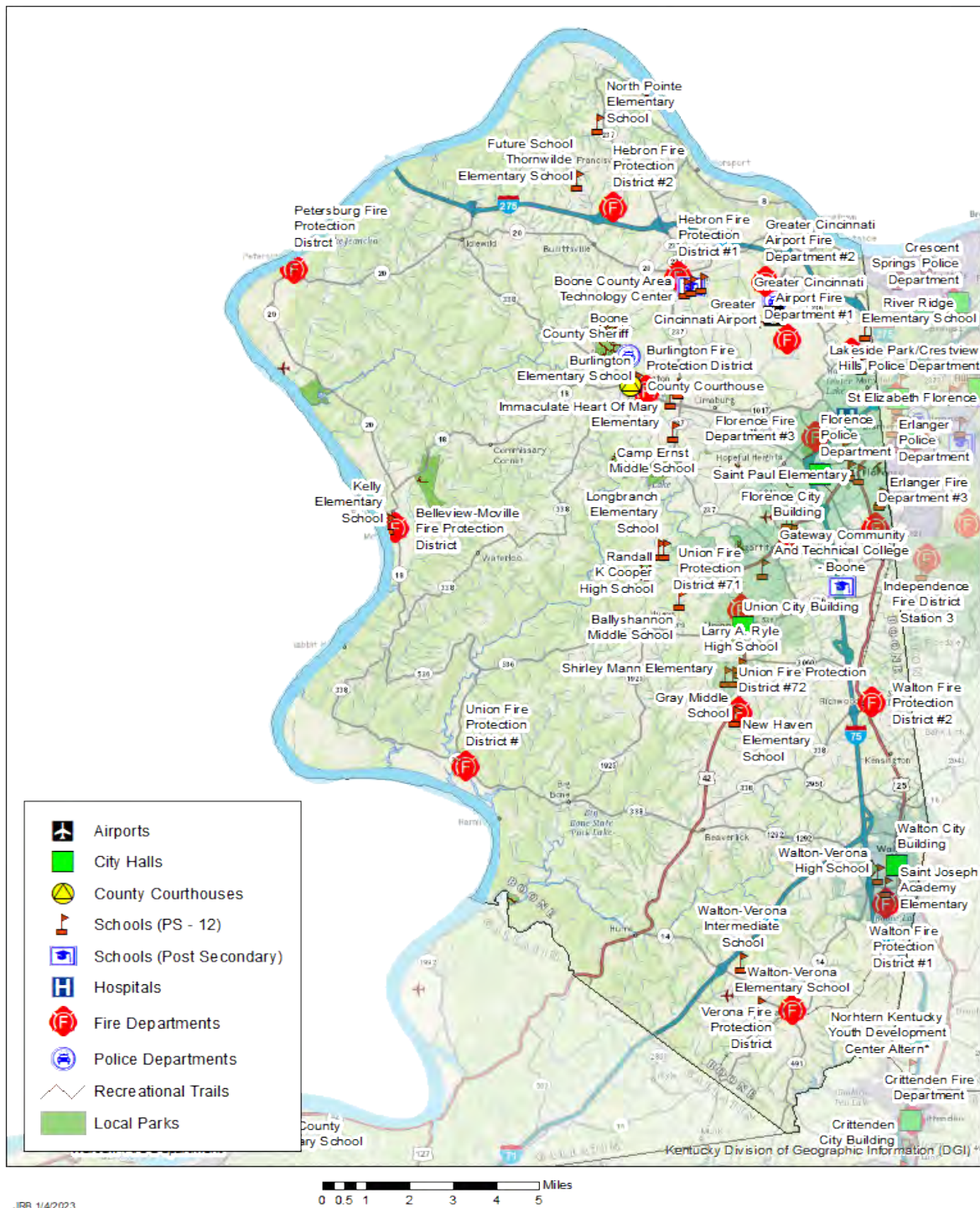
	Boone County	Campbell County	Carroll County	Gallatin County	Grant County	Kenton County	Owen County	Pendleton County	Total in the Region
County EOC	1	1	1	1	1	1	1	1	8
Fire Stations	15	14	6	2	5	23	4	3	72
Police Stations	3	13	2	4	2	15	2	3	44
Government ¹	4	15	4	4	5	21	2	3	58
Airports	1	0	0	1	0	0	0	1	3
Hospitals	1	1	1	0	1	3	1	0	8
Schools	31	43	9	4	11	64	4	5	171
Dams ²	0	0	0	0	0	0	0	0	0
Health Centers									0
Water Treatment Plants									0

Local Data Sources collected and maintained by the NKADD Mapping Services Department

1. Includes only administrative buildings (i.e., City and County Buildings)
2. Includes all dams classified as High or Significant Hazard

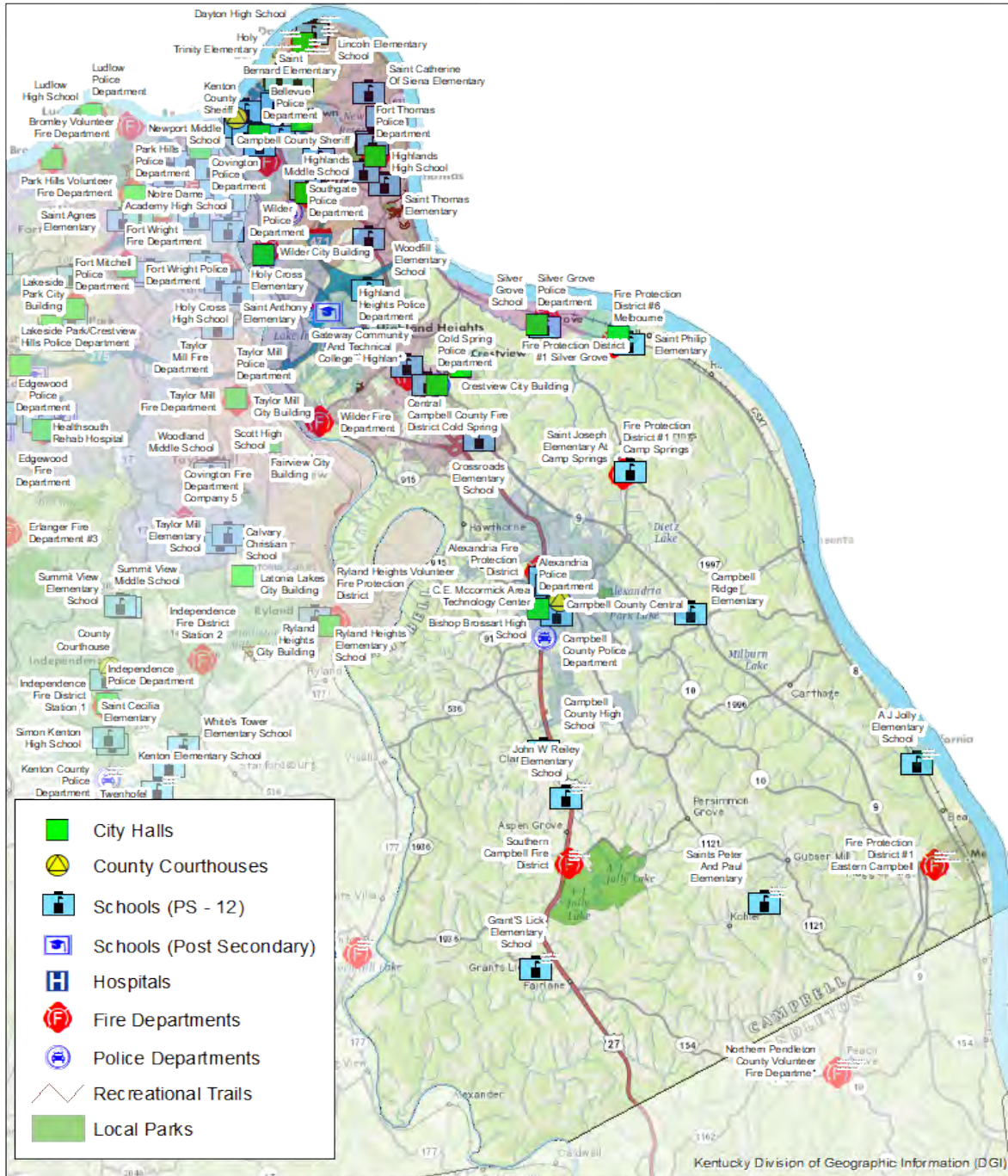
Critical Facilities

Boone County



Critical Facilities

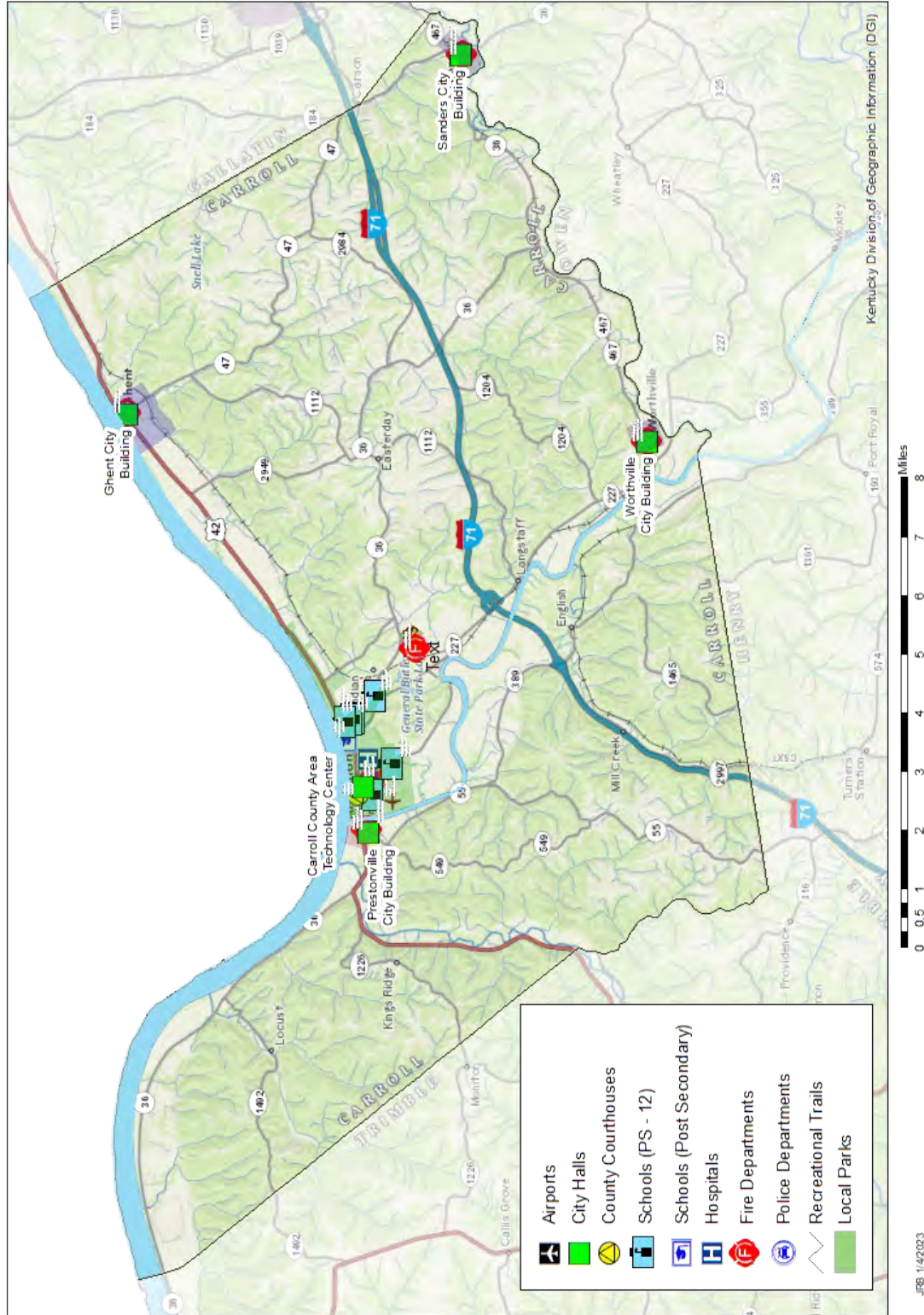
Campbell County



JRB 1/4/2023

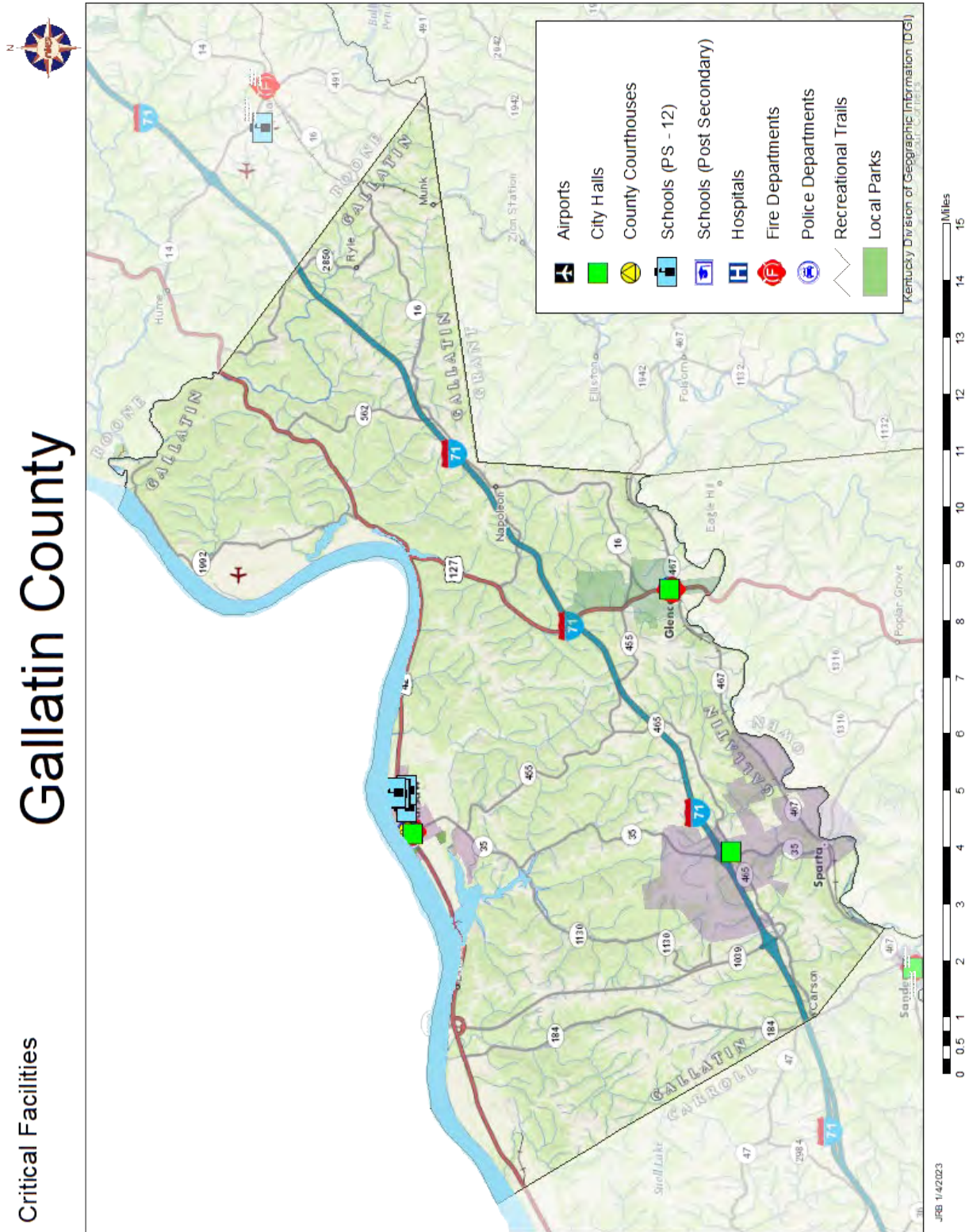
Critical Facilities

Carroll County



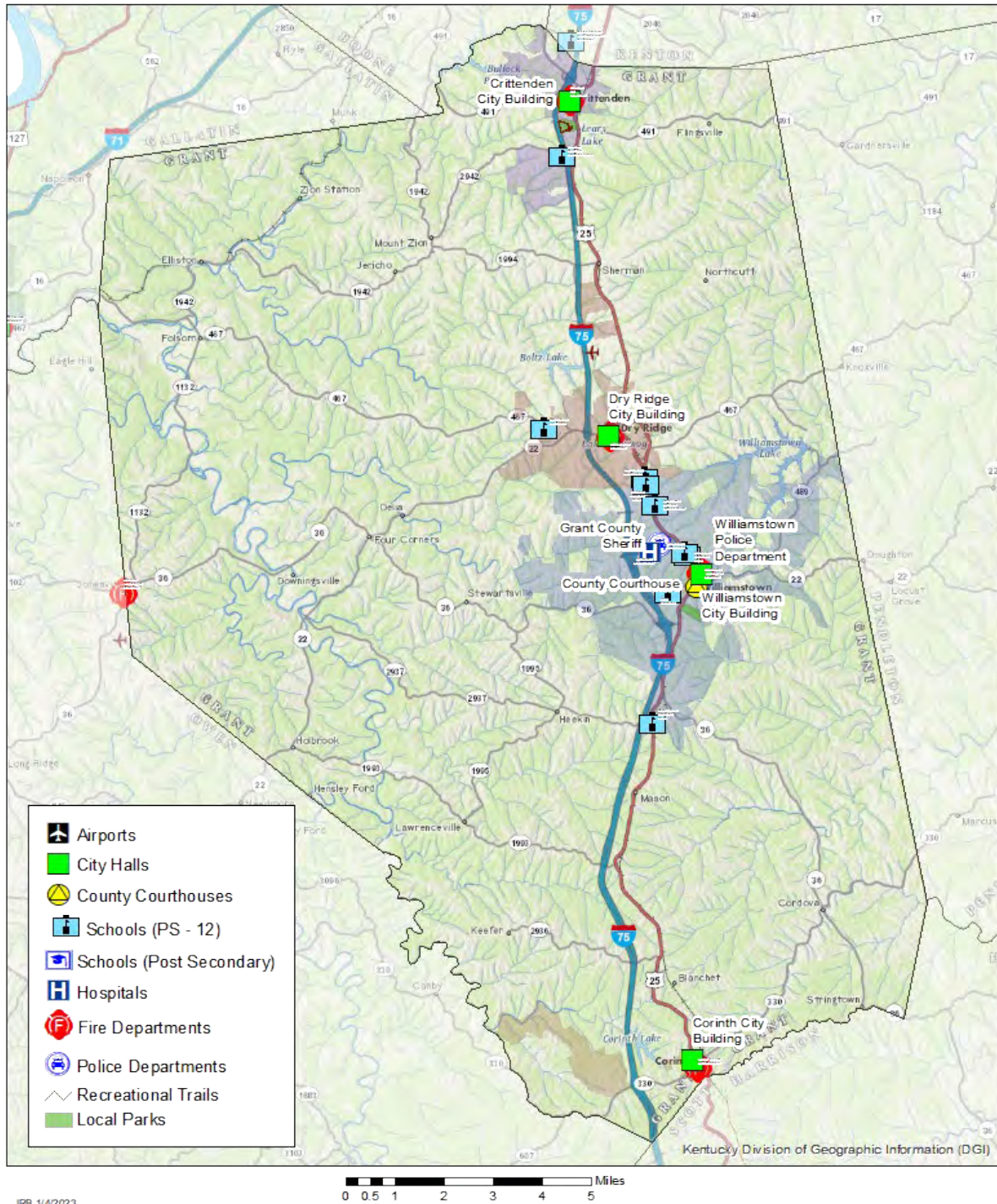
Critical Facilities

Gallatin County



Critical Facilities

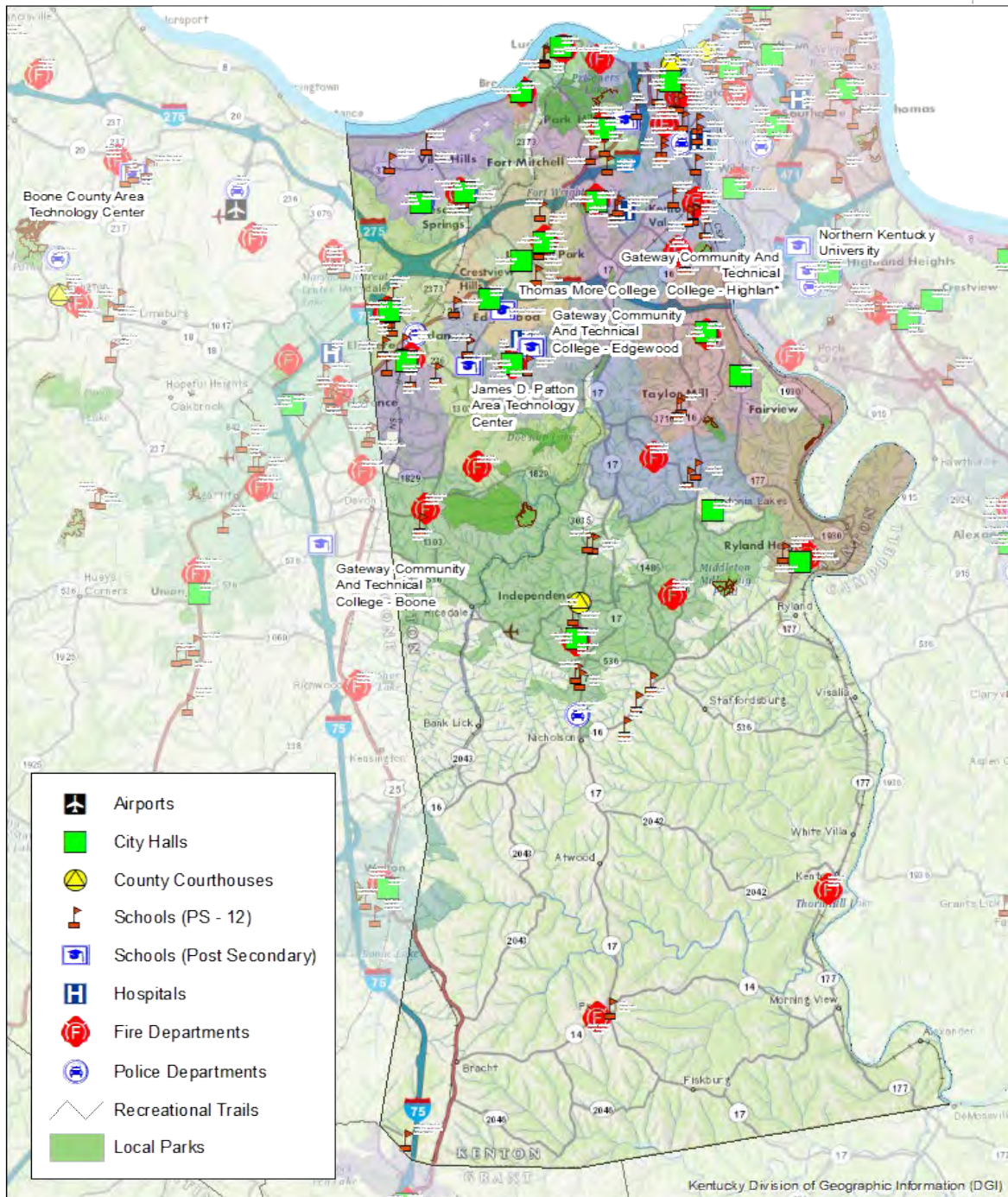
Grant County



JFB 1/4/2023

Critical Facilities

Kenton County

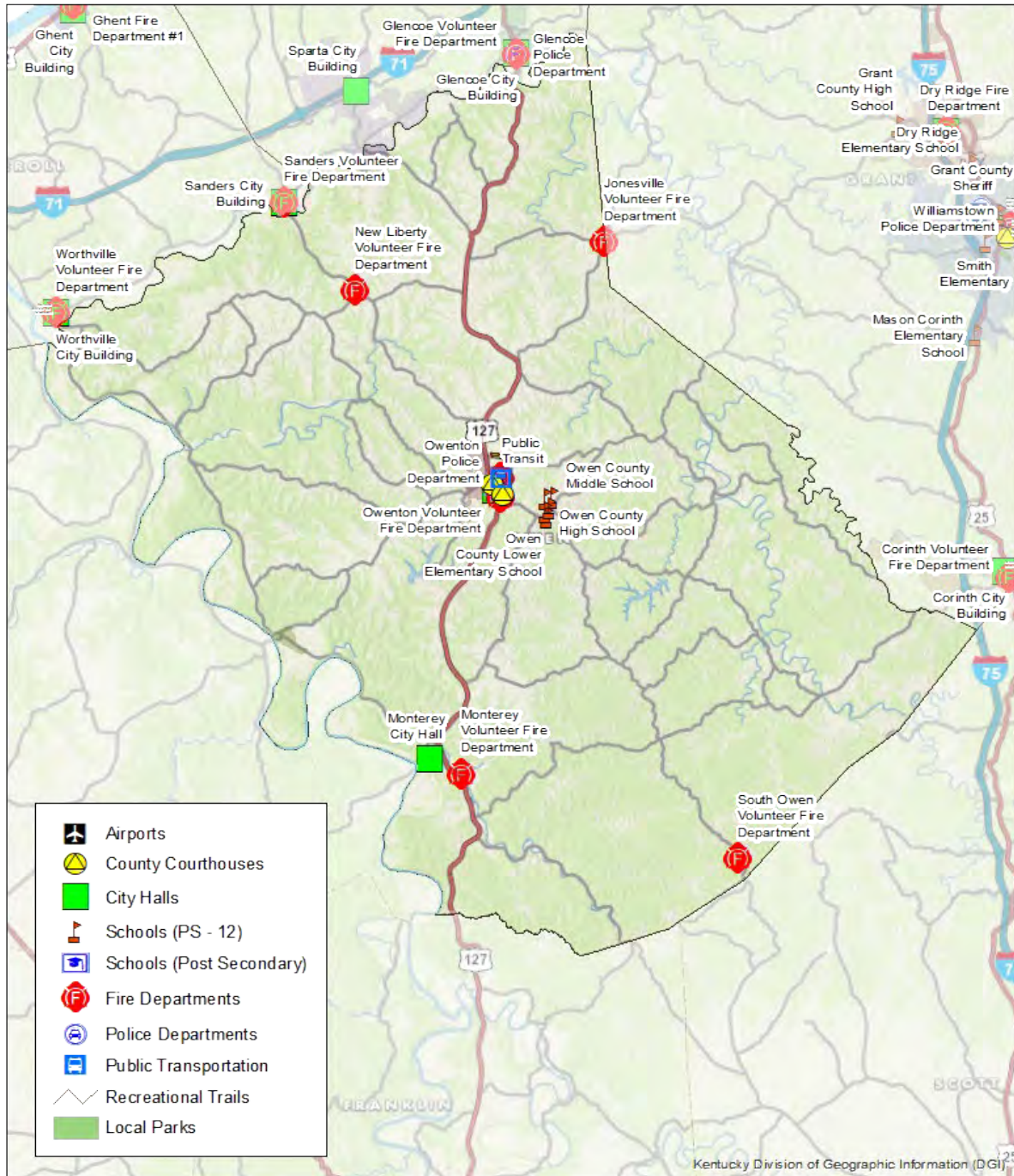


JRB 1/4/2023

0 0.5 1 2 3 4 5 6 7 8 Miles

Critical Facilities

Owen County

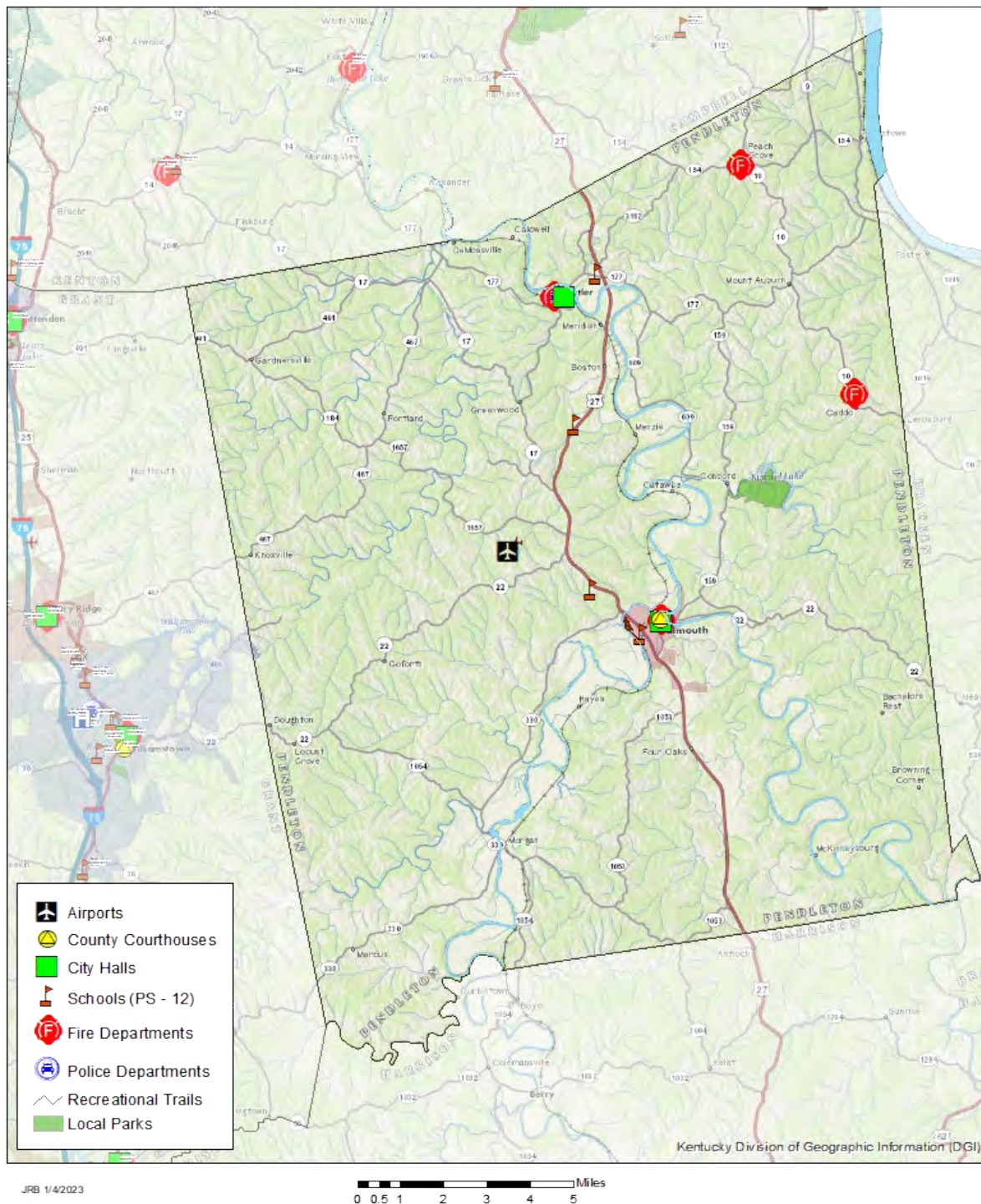


JRB 1/4/2023

0 0.5 1 2 3 4 5 Miles

Critical Facilities

Pendleton County



SYSTEMS (INCLUDING NETWORKS AND CAPABILITIES)

TRANSPORTATION SYSTEMS

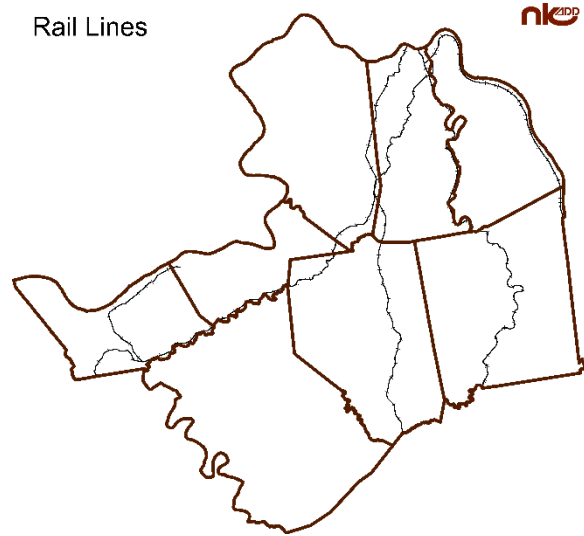
Interstates & US Highways

Northern Kentucky has two major interstate highways that intersect the area. Going north to south, I-75 starts in Michigan, then goes through Ohio, Kentucky, Tennessee, Georgia and ends in Florida. Interstate 71 travels northeast to southwest, starting in Cleveland, Ohio and ending in Louisville, Kentucky. Local interstates are I-275 (a perimeter highway linking Northern Kentucky to Cincinnati and Indiana) and I-471 (connecting downtown Cincinnati to I-275). In addition, each county in the region is served by at least one of the US highways (US-27, US-25, and US-42/127) serving Northern Kentucky.

Rail Lines

Norfolk Southern and CSX Transportation rail lines serve Northern Kentucky. The Norfolk Southern rail line crosses the Ohio River into Ludlow and continues along US 25 through Kenton, Boone, and Grant Counties. Businesses served in Boone and Kenton Counties on this line include ABC Supply Co. Inc., Arling Lumber, Boone-Kenton Lumber & Building Supply Co., Graham Packaging, Verst Logistics, Signode Corporation, CAMCO Chemical, Aristech Surfaces, Novolex, and Firestone Building Products. Norfolk Southern leases this line from the City of Cincinnati, the only municipality-owned rail line in the country.

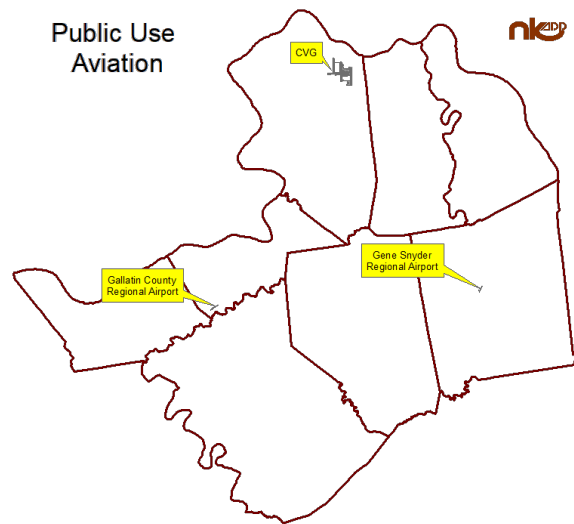
Rail Lines



The CSX Transportation line crosses the Ohio River into Covington and branches into three separate lines. The westernmost line serves Kenton, Boone, Grant, Gallatin, and Carroll Counties. Interplastic Corporation, TransWood Carriers Inc. and Mueller Roofing Distributor are companies in Kenton and Boone Counties that use this line to move goods. In addition, a spur line in Carroll County services the industrial companies along the Ohio River, including North American Stainless, Nucor Steel and Kentucky Utilities. The central line follows the Licking River south through Kenton County and into Pendleton. As this line travels through mostly residential areas in Kenton County, Lally Pipe & Tube receives and ships goods using this rail line. Finally, the eastern rail line follows the Ohio River through Campbell and Pendleton Counties. Companies like Certainteed and CHS utilize this rail line while using barge services to receive raw materials and ship their goods.

Public Use Aviation Facilities

Cincinnati/Northern Kentucky International Airport (CVG) offers 165+ daily departures to more than 50+ non-stop cities through 12 passenger airlines/tour operators. The airport campus is more than 7,700 acres, with more than 890 acres developed by cargo hubs. In 2022, it was the 7th largest cargo airport in North America and 21st largest globally. The international airport is home to Amazon Air Hub and the DHL Express Global Superhub. Over a 60-month period ending in December 2021, CVG saw 1.7m tons of cargo handled through CVG, a 107% increase. There are more than 14,000 badged employees working on the campus. In October 2021, it completed an airport terminal expansion to consolidate and connect the rental car center and ground transportation.

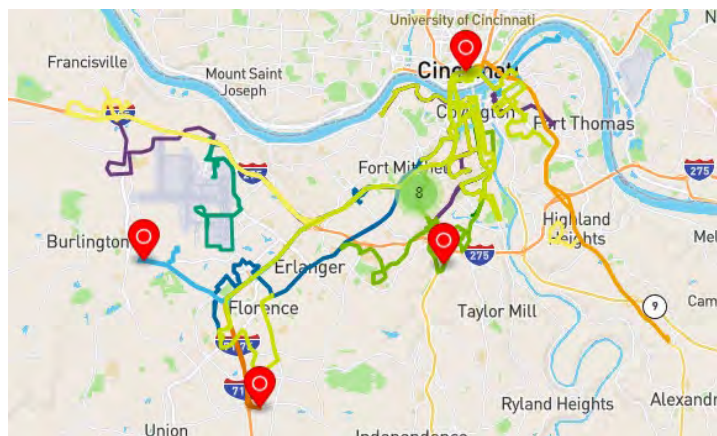


On roughly 127 acres, Gene Snyder Airport in Falmouth, Kentucky (Pendleton County) is 4 miles from Falmouth, Kentucky. The almost 4,000-foot runway provides regional access to the western side of the region. Private and small corporate planes use this non-instrumented runway.

The Gallatin County Regional Airport, one of the smallest airports in Kentucky, opened in June 2023⁶. The airport is located within a mile of the closest exit on Interstate 71. The 535-acre site has a 5,500-foot runway with box and T-hangers and will eventually add a small terminal building and fueling station. Local officials expect the airport to become the home base for over 20 aircraft and host approximately 13,000 takeoffs annually.

Public Transit System

Northern Kentucky is served by one Tier I large urban fixed-route provider. Transit Authority of Northern Kentucky (TANK) is funded through a mixture of fares and directly generated federal assistance and state funds, with the majority coming from local funds. Using a traditional hub and spoke transportation model, TANK has ten local fixed routes, nine express



Transit Authority of Northern Kentucky Route Map

⁶ https://www.kentuckytoday.com/news/gallatin-county-regional-airport-has-ribbon-cutting-ceremony/article_Occ6deda-15e6-11ee-bb34-538bcc68c950.html

routes, one dedicated airport route, and one local service route serving downtown Cincinnati, Covington, and Newport.

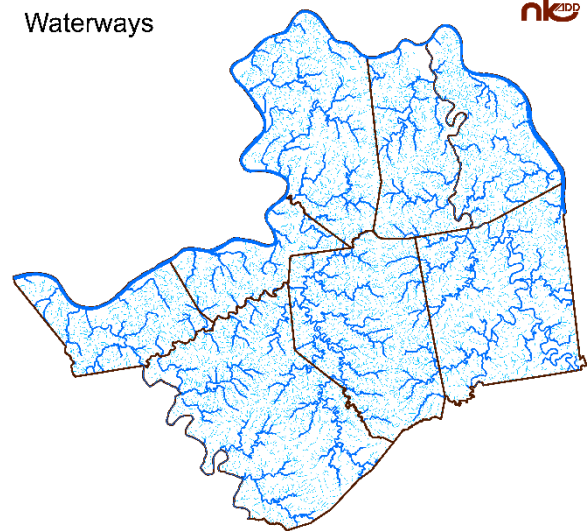
"Mobility as a Service" (MaaS) and Microtransit transportation options are becoming more widespread to supplement public transit. "Mobility as a Service" (MaaS) allows an individual to access public and private networks of vehicles (buses, cars, bikes, scooters) and reserves service with mobile apps, while microtransit will enable customers to reserve trips with private or publicly operated vehicles through companies that use algorithms for matching passengers with similar routes (e.g., UberPool or LyftLine). Local agencies arrange for point-to-point transportation for non-urgent medical services for those on Medicare and those who are in recovery from substance abuse. The Northern Kentucky Community Action Commission (NKCAC) provides workforce transportation to ensure participants' reliable transportation. Employers like Tyson Foods have started supporting rideshare programs to assist employees with that sometimes difficult "last mile." Owen County offers residents transportation through a self-funded program where riders pay on a sliding rate scale.

Waterways

The Ohio River borders six Northern Kentucky counties (Carroll, Gallatin, Boone, Kenton, Campbell, and Pendleton), with the Licking River being the main Northern Kentucky tributary. River activity includes recreational and barge traffic. The Ports of Cincinnati & Northern Kentucky oversee 226.5 miles of the river, including a seven-mile stretch of the Licking River. There are 70 active docks and terminals. The Kentucky Transportation Cabinet recently completed a study evaluating Kentucky's riverports, highway and rail freight. The study focused on how Kentucky could better use its waterways to spur economic growth⁷.

The plan has several proposed actions to increase riverport use while also addressing developing the Riverport Hinterland Compact to utilize the waterway better.

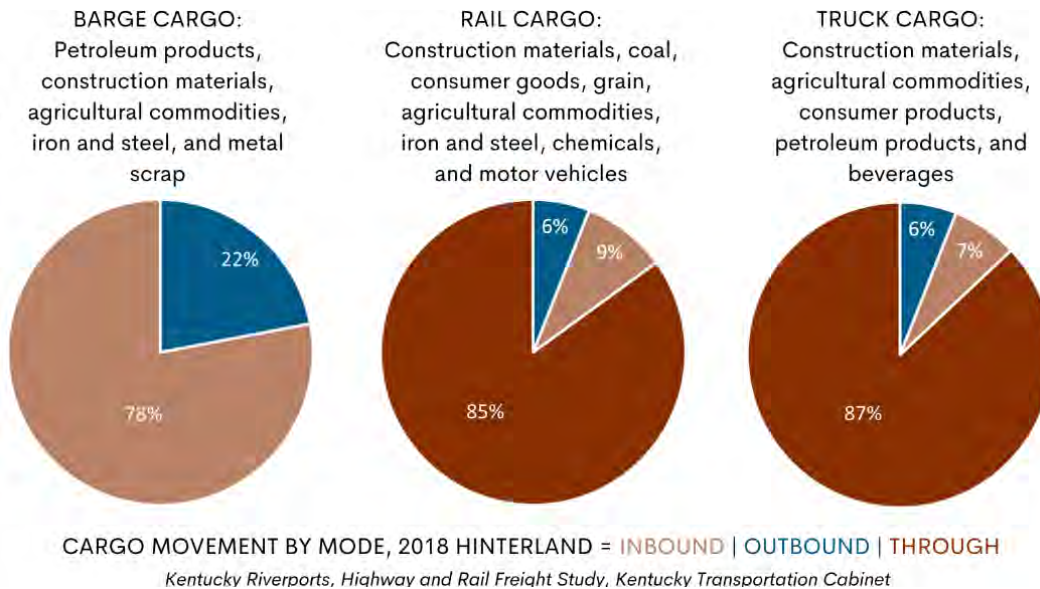
Waterways



⁷ <https://transportation.ky.gov/MultimodalFreight/Pages/Kentucky-Riverports,-Highway-and-Rail-Freight-Study.aspx>

Intermodal Port Terminals

With millions of tons of regional freight movement, realizing the connectivity of all modes of cargo is important to the future growth of Northern Kentucky. Therefore, the region continues to focus on assessing and developing needed infrastructure to optimize the use of waterways, railroads, roadways, and aviation to move cargo into and out of the region.



UTILITIES

Electric

The Northern Kentucky region is served by two large energy companies and five smaller energy cooperatives and utility commissions⁸.

- Duke Energy
- East Kentucky Power Cooperative
- Owen Electric Cooperative Inc.
- LG&E/Kentucky Utilities
- Bluegrass Energy Cooperative
- Williamstown Utility Commission
- Shelby Energy Cooperative

Duke Energy's East Bend Generating Station and LG&E/Kentucky Utilities' Ghent Generating Station are two larger power stations in Northern Kentucky. Both facilities are located on the Ohio River and are

⁸ https://psc.ky.gov/agencies/psc/images/Electric_Service_Areas_Legal_Size_Map.pdf

fueled by coal. The region's other energy cooperatives and utilities produce their power in other regions of the state.

Natural Gas

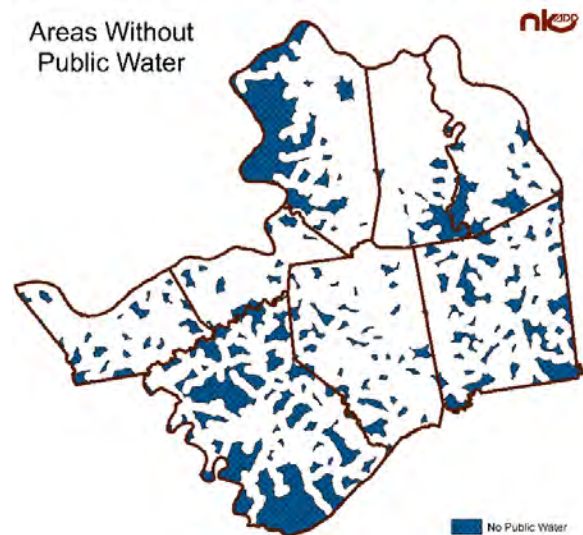
Natural gas is provided in Northern Kentucky by two large energy companies, one statewide gas company and two city-owned utility companies⁹.

- Duke Energy
- Carrollton Utilities
- LG&E/Kentucky Utilities
- Columbia Gas of Kentucky Inc.
- City of Owenton

Water

Most households and businesses in Northern Kentucky, particularly in the urban areas, are connected to waterlines. The water utilities often determine that extending multiple water lines into the unserved areas is economically unfeasible. Private wells, cisterns, and systems currently serve those areas. There are 65 public and semi-public water systems serving the region, including:

- 39 community systems
- 13 municipal water districts
- 13 private
- 26 non-community systems
- 12 small (501 to 3,300 people served) community systems.
- 11 very small (500 or fewer people served) community systems.

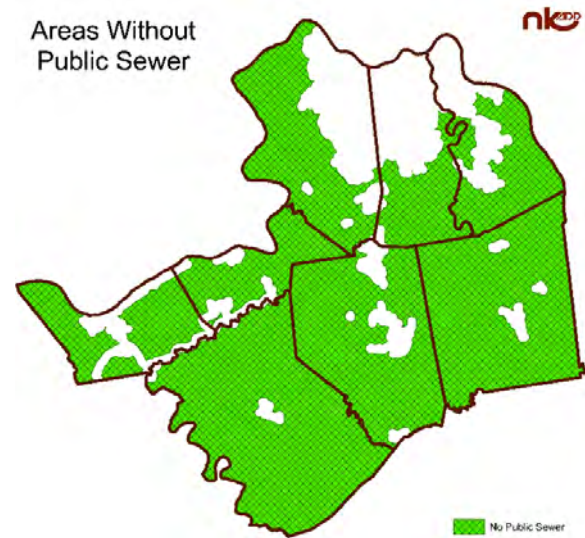


⁹ https://psc.ky.gov/agencies/psc/images/GasDist_Tabloid.pdf

Wastewater & Stormwater

A smaller percentage of the region has access to public sewer. Those areas without wastewater services have been deemed economically infeasible at the current user capacity. In cases where, the customer-per-mile ratio is too low that residents and businesses maintain their private septic systems.

The Northern Kentucky region has several infrastructure projects that are important to the region's growth. These projects have been identified and prioritized. A complete list of projects can be found on the Kentucky Infrastructure Authority's Kentucky Water and Wastewater infrastructure Planning Dashboard¹⁰.



EMERGING INFRASTRUCTURE

Broadband

Providing reliable internet access is a priority in Northern Kentucky, with an emphasis on serving the entire region, particularly the underserved communities. Kentucky's average of households with a broadband internet subscription is 81.6%¹¹. Boone, Campbell, and Kenton Counties have more households with broadband access than the state average. Through a partnership with Altafiber (previously Cincinnati Bell), these three counties are on schedule to become some of the first counties in the United States to be covered 100 percent by highspeed broadband¹². However, the other five counties' percentage is less, with Owen County only having 65.6% of households with internet subscriptions. Boone, Kenton, and Campbell Counties continue to work towards increasing access to broadband through partnerships and federal funding.

¹⁰ <https://wris.maps.arcgis.com/apps/opsdashboard/index.html#/fcac0709f2f44663b35e544af5bb9f04>

¹¹ United States Census Bureau Quick Facts

¹² <https://linknky.com/news/infrastructure/2022/07/20/kenton-county-continues-expansion-of-high-speed-internet/>

Percentage of Households in Northern Kentucky with a Broadband Internet Subscription			
County	2022 Percentage	2023 Percentage	Percent Change
Boone	91.2%	91.10%	-0.10%
Campbell	84.3%	86.50%	2.20%
Carroll	71.7%	72.40%	0.70%
Gallatin	74.2%	83.60%	9.40%
Grant	80.0%	85.10%	5.10%
Kenton	88.6%	97.30%	8.70%
Owen	65.6%	65.60%	0.00%
Pendleton	73.3%	73.90%	0.60%

Source: United States Census Bureau Quick Facts, ACCESS BROADBAND Dashboard

Electric Vehicle Readiness

In July 2022, the Kentucky Transportation (KYTC) released the Kentucky Electric Vehicle Infrastructure Deployment Plan detailing how the state would provide a reliable, accessible, convenient, and affordable EV charging network throughout the Commonwealth¹³. The five-year plan included a four-phased implementation plan, with each phase focused on different corridors. Northern Kentucky's interstates (I-75, I-71 and I-275) are included in Phase 1 – Primary Interstates and Kentucky Route 9 (AA Highway) is included in Phase 3 – other Priority Highways. As of February 2022, Northern Kentucky has two Direct Current Fast Charging (DCFC) stations, Mercedes-Benz of Fort Mitchell, 2100 Dixie Hwy, Fort Mitchell, KY and Walmart 7625 Doering Drive, Florence, KY.

Hydrogen Fuel

The Federal Highway Administration approved in July 2022 the creation of hydrogen transportation corridors, including along I-75, a key freight corridor¹⁴. As a result, Kentucky is working to bring hydrogen investments and jobs to the state and expects new opportunities in the coming years.

¹³<https://transportation.ky.gov/Planning/Air%20Quality%20Documents/KY%20EV%20Infrastructure%20Deployment%20Plan.pdf>

¹⁴ https://www.kentuckytoday.com/news/could-hydrogen-market-be-next-big-thing-in-kentucky/article_dcfa4e0-3858-11ed-a4a8-973a2da7b526.html

Solar Power

Currently, there are three large solar farms in Northern Kentucky. Duke Energy's two solar projects, Walton Solar Power Plants 1 and 2 and Crittenden Solar Power Plant, produce a total of 6.7 megawatts of electricity. Approximately 28,500 solar panels at peak production could power more than 1,350 average-sized homes. As one of Kentucky's largest commercial solar arrays, the L'Oréal USA's Florence facility produces 1.42 megawatts of electricity through 4,140 solar panels.¹⁵



Duke Energy Walton Solar Power Plant 1 & 2 Map

CULTURAL RESOURCES

Environmental/Natural Resources

Native hunters dating back to the Paleo-Indian Period inhabited Northern Kentucky for its natural resources, including the Ohio River, natural salt licks and rich hunting grounds. Archaeological evidence indicates activities from the Archaic Period, the Woodland Period (Adena and Hopewell) and the Fort Ancient culture. Northern Kentucky has many state and local parks dedicated to preserving and educating the community on these cultures, including Big Bone Lick State Park (Boone County), considered the birthplace of paleontology.

Conservation

Each county in the region has a conservation district led by a group of local elected officials. They work to preserve each county's natural resources and make decisions to enhance and protect the local community. Conservation projects in the region include conservation summer camps, farm-to-fork dine tours, pollination projects, and farm field days.

ACTIVITIES THAT HAVE VALUE TO THE COMMUNITY

Northern Kentucky is part of the Commonwealth's Northern Kentucky River Region¹⁶ and showcases the region's recreational, educational, and historic resources. These resources, including world-renowned attractions and landmark structures, help create the region's identity. From state parks to community

¹⁵ <https://www.solarpowerworldonline.com/2017/04/solar-projects-arkansas-kentucky-help-loreal-achieve-100-renewable-electricity-u-s-operations/>

¹⁶ <https://www.kentuckytourism.com/explore-kentucky/northern-kentucky-river-region>

walking trails, visitors to Northern Kentucky can fill their days and nights with educational opportunities and fun adventures. The region continues to attract and retain students, families, and employers by prioritizing community vibrancy.

b. POTENTIAL IMPACT OF EVENTS

The impact and frequency of each hazard has been identified in each hazard profile in the previous section through tables. Impact is addressed further in the charts and narrative discussions found in the following asset identification and vulnerability sections of this plan.

Community	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
Boone County	\$16,952,359	Very Low	Very High	0.92	\$15,593,385	75.15
Campbell County	\$8,194,068	Relatively Low	Very High	0.99	\$8,149,900	58.8
Carroll County	\$2,444,723	Very High	Relatively Low	1.41	\$3,448,803	28.48
Gallatin County	\$1,762,410	Relatively Moderate	Relatively Low	1.18	\$2,088,450	14.89
Grant County	\$3,524,812	Relatively Low	Relatively Low	1.03	\$3,645,914	30.29
Kenton County	\$14,421,995	Relatively Low	Very High	1	\$14,355,530	73.81
Owen County	\$2,416,150	Relatively Low	Relatively Low	1.11	\$2,687,601	20.43
Pendleton County	\$5,226,820	Relatively Moderate	Relatively Moderate	1.3	\$6,801,626	53.07

c. NFIP INSURED STRUCTURES

Severe Repetitive Loss (SRL) and Repetitive Loss (RL) Properties:

Severe repetitive loss (SRL) properties are residential properties (single family or multi-family residential buildings) that are covered by an NFIP Flood insurance policy and either have had at least 4 NFIP claim payments over \$5,000 each, or at least 2 separate claims payments that exceed the market value of the building within a 10-year period. A repetitive loss structure is typically defined as any property which has been paid two or more flood claims (exceeding \$1000) within a 10-year period by the National Flood

Insurance Program to be a Repetitive Loss Property. In the Kentucky Department of Water (KDOW) 2018 Kentucky Repetitive Loss Assessment, there is only one Severe Repetitive Loss (SRL) structure in the region¹⁷. The structure is located in the City of Dayton in Campbell County. For this structure, the total loss was \$514,545.47 (\$478,098.16 – building loss and \$36,447.31 content loss). There are 42 repetitive loss properties and 5 “severe repetitive loss properties” in the Northern Kentucky Region.

There are hundreds of structures in the Northern Kentucky Region that have suffered repeated flood losses. For the purposes of this plan, only 37 structures meet FEMA’s definition of a repetitive loss structures. In many cases, otherwise eligible structures may have been excluded from the inventory because they were not covered by an active NFIP policy or claims were not filed.

There are 42 total properties listed in FEMA’s repetitive loss and severe repetitive loss inventory for the Northern Kentucky Region. In respect for the privacy of these homeowners, the NKADD did not map the properties nor identify addresses of repetitive loss structures. In future updates of the plan, committees will continue to obtain added information, local input, and tabulation of repetitive loss structures for this region.

The table below shows the number of SRL/RL properties in the NKADD area by county.

County	Single Family	2-4 Family	Assmd Condo	Other Resident	Non-Resident	Total Number of SRL/RL Properties	Total Amount Paid
Boone	2	0	0	0	0	2	\$98,391.29
Campbell	12	0	1	0	4	17	\$1,118,131.10
Carroll	2	0	0	0	0	2	\$9,549.80
Gallatin	1	0	0	0	0	1	\$21,473.29
Grant	0	0	0	0	0	0	\$0.00
Kenton	9	1	0	2	1	14	\$353,310.55
Owen	4	0	1	0	0	5	\$248,389.88
Pendleton	1	0	0	0	0	1	\$36,187.32

¹⁷ <https://kyem.ky.gov/recovery/Documents/CK-EHMP%202018,%20S3-S6,%20Risk%20Assessment,%20Hazard%20Identification,%203,%20RL,%20Original%20Submittal.pdf>
 Element B Risk Assessments

COUNTY HAZARD RISK SUMMARIES AND RISK ASSESSMENTS

It is important to look at the region as a whole, but also drill down to the county level. County specific Risk Summaries and Risk Assessments can be found in Element H – Appendix of the plan.

Appendix 16	Boone County
Appendix 17	Campbell County
Appendix 18	Carroll County
Appendix 19	Gallatin County
Appendix 20	Grant County
Appendix 21	Kenton County
Appendix 22	Owen County
Appendix 23	Pendleton County

PREVIOUS REGIONAL HAZARD EVENTS

Disaster Declarations in the Commonwealth of Kentucky 2000-2022.

All disaster declarations are included, not just that directly affected the NKADD area because the NKADD area is eligible to apply for hazard mitigation funds through any disaster declaration in Kentucky.

Kentucky - SEVERE STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES - (DR-4663)

Incident Period: July 26, 2022 - August 11, 2022

Major Disaster Declaration declared on July 29, 2022

Kentucky - SEVERE STORMS, STRAIGHT-LINE WINDS, TORNADOES, FLOODING, LANDSLIDES - (DR-4643)

Incident Period: December 31, 2021 - January 2, 2022

Major Disaster Declaration declared on February 27, 2022

Kentucky - SEVERE STORMS, STRAIGHT-LINE WINDS, FLOODING, AND TORNADOES - (DR-4630)

Incident Period: December 10, 2021 - December 11, 2021

Major Disaster Declaration declared on December 12, 2021

Kentucky - SEVERE STORMS, STRAIGHT-LINE WINDS, FLOODING, AND TORNADOES - (EM-3575)

Incident Period: December 10, 2021 - December 11, 2021

Emergency Declaration declared on December 11, 2021

Kentucky - SEVERE, STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES - (DR-4595)

Incident Period: February 27, 2021 - March 14, 2021

Major Disaster Declaration declared on April 23, 2021

Kentucky - SEVERE WINTER STORMS, LANDSLIDES, AND MUDSLIDES - (DR-4592)

Incident Period: February 8, 2021 - February 19, 2021

Major Disaster Declaration declared on March 31, 2021

Kentucky - SEVERE STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES - (DR-4540)

Incident Period: February 3, 2020 - February 29, 2020
Major Disaster Declaration declared on April 24, 2020

Kentucky COVID-19 Pandemic (DR-4497)
Incident Period: January 20, 2020, and continuing.
Major Disaster Declaration declared on March 28, 2020

Kentucky COVID-19 (EM-3469)
Incident Period: January 20, 2020, and continuing.
Major Disaster Declaration declared on March 13, 2020

Kentucky Severe Storms, Tornadoes, Flooding, Landslides, and Mudslides (DR-4428)
Incident Period: February 6, 2019, to March 10, 2019
Major Disaster Declaration declared on April 17, 2019

Kentucky Severe Storms, Tornadoes, Flooding, Landslides, and Mudslides (DR-4361)
Incident Period: February 21, 2018, to March 21, 2018
Major Disaster Declaration declared on April 26, 2018

Kentucky - SEVERE STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES - (DR-4358)
Incident Period: February 9, 2018 - February 14, 2018
Major Disaster Declaration declared on April 12, 2018

Kentucky - SOUTHEASTERN KENTUCKY FIRE COMPLEX - (FM-5166)
Incident Period: November 18, 2016 - November 22, 2016
Fire Management Assistance Declaration declared on November 20, 2016

Kentucky - EAGLES NEST FIRE - (FM-5158)
Incident Period: November 8, 2016 - November 21, 2016
Fire Management Assistance Declaration declared on November 8, 2016

Kentucky - SEVERE STORM, TORNADOES, FLOODING, LANDSLIDES, AND MUDSLIDES - (DR-4278)
Incident Period: July 2, 2016 - July 9, 2016
Major Disaster Declaration declared on August 26, 2016

Kentucky Severe Storms, Tornadoes, Flooding, Landslides, and Mudslides (DR-4239)
Incident Period: August 2, 2016, to August 6, 2016
Major Disaster Declaration declared on August 26, 2016

Kentucky Severe Storms, Tornadoes, Straight-line Winds, Flooding, Landslides, and Mudslides (DR-4239)
Incident period: July 11, 2015, to July 20, 2015
Major Disaster Declaration declared on August 12, 2015

Kentucky Severe Winter Storm, Snowstorm, Flooding, Landslides, and Mudslides (DR-4218)
Incident period: March 3, 2015, to March 9, 2015
Major Disaster Declaration declared on May 12, 2015

Kentucky Severe Storms, Tornadoes, Flooding, Landslides, and Mudslides (DR-4217)

Incident period: April 2, 2015, to April 17, 2015

Major Disaster Declaration declared on May 1, 2015

Kentucky Severe Winter Storms, Snowstorms, Flooding, Landslides, and Mudslides (DR-4216)

Incident period: February 15, 2015, to February 22, 2015

Major Disaster Declaration declared on April 30, 2015

Kentucky Severe Storms, Flooding, Landslides, and Mudslides (DR-4196)

Incident period: August 18, 2014, to August 24, 2014

Major Disaster Declaration declared on September 30, 2014

Kentucky Severe Storms, Tornadoes, Straight-line Winds, and Flooding (DR-4057)

Incident period: February 29, 2012, to March 3, 2012

Major Disaster Declaration declared on March 6, 2012

Kentucky Severe Storms, Tornadoes, and Flooding (DR-4008)

Incident period: June 19, 2011, to June 23, 2011

Major Disaster Declaration declared on July 25, 2011

Kentucky Severe Storms, Tornadoes, and Flooding (DR-1976)

Incident period: April 12, 2011, to May 20, 2011

Major Disaster Declaration declared on May 4, 2011

Kentucky Severe Storms, Flooding, and Mudslides (DR-1925)

Incident period: July 17, 2010, to July 30, 2010

Major Disaster Declaration declared on July 23, 2010

Kentucky Severe Storms, Flooding, Mudslides, and Tornadoes (DR-1912)

Incident period: May 1, 2010, to June 1, 2010

Major Disaster Declaration declared on May 11, 2010

Kentucky Severe Storms, Straight-line Winds, and Flooding (DR-1855)

August 4, 2009

Major Disaster Declaration declared on August 14, 2009

Kentucky Severe Storms, Tornadoes, Flooding, and Mudslides (DR-1841)

Incident period: May 3, 2009, to May 20, 2009

Major Disaster Declaration declared on May 29, 2009

Kentucky Severe Winter Storm and Flooding (DR-1818)

Incident period: January 26, 2009, to February 13, 2009

Major Disaster Declaration declared on February 5, 2009

Kentucky Severe Windstorm associated with Tropical Depression Ike (DR-1802)

Incident period: September 12, 2008, to September 14, 2008

Major Disaster Declaration declared on October 9, 2008

Kentucky Severe Storms, Tornadoes, Flooding, Mudslides, and Landslides (DR-1757)

Incident period: April 3, 2008, to April 4, 2008

Major Disaster Declaration declared on May 19, 2008

Kentucky Severe Storms, Tornadoes, Straight-line Winds, and Flooding (DR-1746)

Incident period: February 5, 2008, to February 6, 2008

Major Disaster Declaration declared on February 21, 2008

Kentucky Severe Storms, Flooding, Mudslides, and Rockslides (DR-1703)

Incident period: April 14, 2007, to April 15, 2007

Major Disaster Declaration declared on May 25, 2007

Kentucky Severe Storms and Tornadoes (DR-1617)

November 15, 2005

Major Disaster Declaration declared on December 1, 2005

Kentucky Severe Winter Storm and Record Snow (DR-1578)

Incident period: December 21, 2004, to December 23, 2004

Major Disaster Declaration declared on February 8, 2005

Kentucky Severe Storms and Flooding (DR-1537)

Incident period: July 13, 2004, to July 15, 2004

Major Disaster Declaration declared on August 6, 2004

Kentucky Severe Storms, Tornadoes, Flooding, and Mudslides (DR-1523)

Incident period: May 26, 2004, to June 18, 2004

Major Disaster Declaration declared on June 10, 2004

Kentucky Severe Storms, Flooding, Mud and Rockslides, and Tornadoes (DR-1475)

Incident period: June 14, 2003, to June 27, 2003

Major Disaster Declaration declared on July 2, 2003

Kentucky Severe Storms, Flooding, Mud and Rockslides, and Tornadoes (DR-1471)

Incident period: May 4, 2003, to May 27, 2003

Major Disaster Declaration declared on June 3, 2003

Kentucky Severe Winter Storms (DR-1454)

Incident period: February 15, 2003, to February 26, 2003

Major Disaster Declaration declared on March 14, 2003

Kentucky Severe Storms, Tornadoes and Flooding (DR-1414)

Incident period: April 27, 2002, to May 10, 2002

Major Disaster Declaration declared on May 7, 2002

Kentucky Storms and Flooding (DR-1407)

Incident period: March 17, 2002, to March 21, 2002

Major Disaster Declaration declared on April 4, 2002

Kentucky Severe Storms and Flooding (DR-1388)

Incident period: July 27, 2001, to August 21, 2001

Major Disaster Declaration declared on August 15, 2001

Kentucky Severe Storms and Flooding (DR-1320)

Incident period: February 18, 2000, to March 2, 2000

Major Disaster Declaration declared on February 28, 2000

Kentucky Tornadoes, Severe Storms, Torrential Rains and Flash Flooding (DR-1310)

Incident period: January 3, 2000, to January 4, 2000

Major Disaster Declaration declared on January 10, 2000

C. MITIGATION STRATEGY

Most residents of the jurisdictions have a general knowledge of the potential hazards that their community faces. However, residents have had little or sporadic education concerning actions that increase or decrease the community's vulnerability to certain hazards. Education concerning mitigation strategies and potential losses will be a crucial factor for all jurisdictions in the planning area. Because of the history of natural disasters in the past few years, it is expected that the current and future political climates are favorable for supporting and advancing future hazard mitigation strategies. Jurisdictions have faithfully attended and participated in the mitigation planning process, largely because these natural disasters have widely affected the region. For these reasons, the Mitigation Strategy and Action Plan was created with the input of the Local Mitigation Committees to mitigate future effects and disturbances caused by identified hazards. The strategy and action plan were developed after reviewing the findings of the hazard profiles and vulnerability assessment of this plan. Mitigation committees utilized ideas from the FEMA "how to guide" on Mitigation Strategies to develop the Mitigation goals, objectives, and actions.

1. EXISTING AUTHORITIES, POLICIES, PROGRAMS AND RESOURCES

a. DESCRIPTION OF EXISTING AUTHORITIES, POLICIES, PROGRAMS AND RESOURCES

Northern Kentucky ADD staff and local committees evaluated each jurisdiction's existing authorities, policies, programs, and resources. The following chart summarizes each jurisdiction and the current status of these items. Local committee members evaluated this information to determine what goals, objectives, and actions are necessary to effectively mitigate vulnerabilities and what resources each jurisdiction currently has to begin implementing the Mitigation Strategies and Action Plan of this plan.

Committee members compiled a list of potential authorities, policies, programs, and resources based on the public input and research of the committee members. Committee members consulted with State and Federal Agencies to determine what resources were available and proven effective for other jurisdictions.

CAPABILITIES ASSESSMENT

Jurisdiction	County Emergency Operation Plan	Floodplain Management Ordinance	CRS and FMA Plans	Zoning Regulations	Subdivision Regulations	Land Development Plans	Fire Prevention Codes	Comprehensive Plans	Capital Improvement Plans	Stormwater Management Plans	CERT Team	NWS Storm Ready Program	Local Economic Development	Regional Development Agency
Boone County	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Florence	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Union	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Walton	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Campbell County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Alexandria	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Bellevue	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
California	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes
Cold Spring	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Crestview	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Dayton	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Fort Thomas	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Highland Heights	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Melbourne	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Mentor	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes
Newport	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Silver Grove	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Jurisdiction	County Emergency Operation Plan	Floodplain Management Ordinance	CRS and FMA Plans	Zoning Regulations	Subdivision Regulations	Land Development Plans	Fire Prevention Codes	Comprehensive Plans	Capital Improvement Plans	Stormwater Management Plans	CERT Team	NWS Storm Ready Program	Local Economic Development	Regional Development Agency
Southgate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Wilder	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Woodlawn	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Carroll County	Yes	Yes	No	No	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
Carrollton	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Ghent	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Prestonville	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Sanders	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Worthville	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Gallatin County	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Glencoe	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No	No	No	Yes
Sparta	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No	Yes
Warsaw	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Grant County	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Corinth	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Crittenden	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Dry Ridge	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Williamstown	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Kenton County	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bromley	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Covington	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes

Jurisdiction	County Emergency Operation Plan	Floodplain Management Ordinance	CRS and FMA Plans	Zoning Regulations	Subdivision Regulations	Land Development Plans	Fire Prevention Codes	Comprehensive Plans	Capital Improvement Plans	Stormwater Management Plans	CERT Team	NWS Storm Ready Program	Local Economic Development	Regional Development Agency
Crescent Springs	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Crestview Hills	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Edgewood	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Elsmere	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Erlanger	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Fairview	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes
Ft. Mitchell	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Ft. Wright	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Independence	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kenton Vale	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes
Lakeside Park	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Ludlow	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Park Hills	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Ryland Heights	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Taylor Mill	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Villa Hills	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes
Owen County	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes
Gratz	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes	No	Yes
Owenton	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Pendleton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Jurisdiction	County Emergency Operation Plan	Floodplain Management Ordinance	CRS and FMA Plans	Zoning Regulations	Subdivision Regulations	Land Development Plans	Fire Prevention Codes	Comprehensive Plans	Capital Improvement Plans	Stormwater Management Plans	CERT Team	NWS Storm Ready Program	Local Economic Development	Regional Development Agency
Butler	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Falmouth	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

All jurisdictions are members of the Northern Kentucky Area Development District.

Jurisdictions' Land Use Plans and Zoning Ordinances are included in the countywide plan unless indicated otherwise.

Campbell County's Comprehensive Plan pertains to the Unincorporated Campbell County and the cities of Crestview, Melbourne, Silver Grove, Southgate, and Woodlawn.

LEGAL AUTHORITY OF LOCAL JURISDICTIONS

Local governments in Kentucky have a wide range of tools available for implementing mitigation programs, policies, and actions. A hazard mitigation program can utilize any or all of the four broad types of government powers granted by the State of Kentucky, which are regulation, acquisition, taxation, and spending.

REGULATORY POWERS OF LOCAL JURISDICTIONS

Building Codes and Inspections – Many structural mitigation measures involve constructing and retrofitting homes, businesses, and other structures according to standards designed to make the buildings more resilient to the impacts of natural hazards. Most of these standards are imposed through the use of building codes.

Jurisdictions have the opportunity and the power to develop and enforce building codes. The option for jurisdictions in the planning area to establish building codes to address hazard issues exists. It could be an excellent tool for ensuring that mitigation strategies are in place.

Floodplain Ordinance – The purpose of a local floodplain ordinances is to:

- a. minimize the extent of floods by preventing obstructions that inhibit water flow and increase flood height and damage,
 - b. prevent and minimize loss of life, injuries, property damage and other losses in flood hazard areas and
 - c. promote the public health, safety, and welfare of citizens of the jurisdiction in flood hazard areas.
- The ordinance also ensures that they meet the minimum participation requirements in the National Flood Insurance Program (NFIP).

The incentive for local governments to adopt such ordinances is that they will afford their residents the ability to purchase flood insurance through the NFIP and be eligible for state Hazard Mitigation funding.

General Police Power – Local governments have been granted broad regulatory powers in their jurisdictions. Kentucky Revised Statutes (KRS) bestow the general police power on local governments, allowing them to enact and enforce ordinances that define, prohibit, regulate, or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people, and to define and abate nuisances (including public health nuisances). Since hazard mitigation can be included under police power (for the protection of public health, safety, and welfare), towns, cities, and counties may consist of requirements for hazard mitigation in local ordinances. Local governments may also use their ordinance-making power to abate “nuisances,” which could include, by local definition, any activity or condition that threatens the general health and safety of the public.

All jurisdictions in the planning area have enacted and enforced regulatory ordinances designed to promote its citizenry's public health, safety, and general welfare.

Land Use – Regulatory powers granted by the state to local governments are the most basic manner in which a local government can control the use of land within its jurisdiction. A local government can control new developments' amount, timing, density, quality, and location through various land use regulatory powers. All these growth characteristics can determine the community's vulnerability level in the event of a natural hazard. Land use regulatory powers include the power to engage in planning and, enacting and enforcing zoning ordinances, floodplain ordinances, and subdivision controls.

Planning – Local jurisdictions have the authority to perform a number of duties related to planning, including making studies of the area, determining objectives, preparing, and adopting plans for achieving those objectives, and developing and recommending policies, ordinances, and administrative means to implement plans.

Subdivision Regulations – Subdivision regulations control the division of land into parcels for the purpose of building development or sale. Flood-related subdivision controls typically require that subdividers install adequate drainage facilities and design water and sewer systems to minimize flood damage and contamination. They prohibit the subdivision of land subject to flooding unless flood hazards are overcome through filling or other measures, and they prohibit the filling of floodway areas. Subdivision regulations require that subdivision plans be approved prior to the division/sale of land. Subdivision regulations are a more limited tool than zoning and only indirectly affect the type of use made of land or minimum specifications for structures.

Zoning – Zoning is the traditional and most common tool available to local governments to control the use of land. The statutory purpose for the grant of power is to promote health, safety, morals, or the general welfare of the community. Land “uses” controlled by zoning include the type of use (e.g., residential, commercial, industrial) as well as minimum specifications for use such as lot size, building height and setbacks, density of population, etc.

ACQUISITION POWERS OF LOCAL JURISDICTIONS

Acquisition – The power of acquisition can be a valuable tool for pursuing local mitigation goals. Local governments may find the most effective method for completely “hazard-proofing” a particular piece of property, or area is to acquire the property (either in fee or a lesser interest, such as an easement), thus removing the property from the private market and eliminating or reducing the possibility of inappropriate development occurring. The state of Kentucky legislation empowers cities, towns, and counties to acquire property for public purposes.

TAXATION POWERS OF LOCAL JURISDICTIONS

Taxation – The power to levy taxes and special assessments is a valuable tool delegated to local governments by the State of Kentucky. The power of taxation extends beyond merely the collection of revenue and can have a profound impact on the community's development pattern.

SPENDING POWERS OF LOCAL JURISDICTIONS

Spending – Delegated from the Kentucky General Assembly, local governments have the power to make expenditures in the public interest. Hazard mitigation principles can be made a routine part of all spending decisions made by the local government, including the adoption of annual budgets.

b. EXPANSION AND IMPROVEMENT CAPABILITIES ASSESSMENT

In Northern Kentucky, the expansion and improvement of existing authorities, policies, programs, and resources to reduce potential losses depend upon the local jurisdiction's staff and financial resources. In each county, the county governments supply the majority of services and professional departments that are responsible for implementing, maintaining, and enforcing mitigation activities. Boone, Campbell, and Kenton counties have more resources and capabilities at this time than the remaining counties. The five remaining counties in the Northern Kentucky region are generally equal in their ability to enforce and implement mitigation strategies. Mitigation planning committees are organized at the county level to include all jurisdictions in the county for this reason. They were established not only to create the mitigation plan but also to fill in the gaps and enhance the capabilities of all jurisdictions to implement mitigation strategies that will reduce potential losses identified in the risk assessment.

For these reasons, the mitigation committees have concluded from the capability assessment that each city and county's participation and support is a vital aspect of this plan that will significantly affect the prioritization and implementation of mitigation actions. All city jurisdictions depend on the County jurisdictions to assist with policies, authorities, and funding issues to implement projects. Counties have the most significant resources to implement mitigation goals and objectives and ensure success in implementing actions. Therefore, the mitigation committees have agreed through this planning process that the goals, objectives, and actions need to be prioritized and implemented primarily at the county level. Counties have a vested interest in the success of the cities in their jurisdictions and have the ability to provide resources that otherwise would not be available. City jurisdictions have the authority to implement mitigation actions on their own in the future if their capabilities expand and the opportunity exists.

For the most part, it was determined that most of these departments are short-staffed and fulfill multiple duties within their departments. All jurisdictions are limited in funding and resources for hiring additional staff related directly to hazard mitigation. As a result of staffing and funding issues and to ensure a regional approach to hazard mitigation, the NKADD has taken the lead on updating and maintaining the Northern Kentucky Hazard Mitigation Plan along with other regional plans for economic development and transportation. The NKADD is the regional planning agency that provides extended services and technical assistance to all jurisdictions in the planning area. The NKADD is the primary resource for regional planning, grant writing, grant administration, and technical assistance with professional staff trained in planning, GIS/GPS, grant writing, fiscal management, and project development.

Committee members also reviewed the existing capabilities of the governmental agencies based on the existing elected officials and professional staff departments that are currently available to each

jurisdiction, either as departments supported and staffed by the jurisdiction or by contract with an outside agency. The following chart provides a summary of the existing professional staff for each jurisdiction. “YES” indicates that the department exists and is solely supported by the jurisdiction, “NO” means that the department does not exist, and “SHARED” suggests that the department exists but is shared with other jurisdictions.

EXPANSION AND IMPROVEMENT CAPABILITIES ASSESSMENT

Jurisdiction	Board Of Education	Building & Code Inspections	Clerk Of Courts	Emergency Management	County / City Treasurer	County Judge Executive /Mayor	Health Department	Road Department	Sheriff Department	Law Enforcement Department	PVA (Tax Assessment)	Social Services	Utilities Department	Fire Department
Boone County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	Yes	Yes
Florence	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	Yes	Yes	Yes
Union	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	Shared	No	Shared	Yes	Yes	Yes
Walton	Yes	Yes	Shared	Shared	Yes	Yes	Shared	Yes	Shared	No	Shared	Yes	Yes	Yes
Campbell County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	Yes	Yes	Yes	No	Yes
Alexandria	Shared	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	Yes	No	Yes
Bellevue	Yes	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Shared
California	Shared	Shared	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Cold Spring	Shared	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Shared
Crestview	Shared	Shared	Shared	Shared	Yes	Yes	Shared	Shared	No	Shared	Shared	No	No	Shared
Dayton	Yes	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Shared
Ft Thomas	Yes	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Highland Heights	Shared	No	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Melbourne	Shared	Share	Shared	Shared	Yes	Yes	Shared	Yes	No	No	Shared	No	No	Yes
Mentor	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Newport	Yes	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Silver Grove	Yes	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Shared	Shared	No	No	Yes
Southgate	Yes	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Wilder	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Woodlawn	Shared	Share	Shared	Shared	Yes	Yes	Shared	Shared	No	Shared	Shared	No	No	Yes
Carroll County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	No	Shared
Carrollton	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	Yes	Yes	Yes
Ghent	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared

Jurisdiction	Board Of Education	Building & Code Inspections	Clerk Of Courts	Emergency Management	County / City Treasurer	County Judge Executive / Mayor	Health Department	Road Department	Sheriff Department	Law Enforcement Department	PVA (Tax Assessment)	Social Services	Utilities Department	Fire Department
Prestonville	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Sanders	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Worthville	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Gallatin County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	Yes	Shared
Glencoe	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	Shared	No	Yes
Sparta	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	Shared	No	Shared
Warsaw	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	Shared	Yes	Yes
Grant County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	No	Shared
Corinth	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	Yes	Yes
Crittenden	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	Yes	Yes
Dry Ridge	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	Yes	Yes
Williamstown	Yes	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	Yes	Yes
Kenton County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	Yes	Yes	Yes	No	Shared
Bromley	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Yes
Covington	Yes	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Crescent Springs	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Shared	Shared	No	No	Shared
Crestview Hills	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	No	Yes
Edgewood	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Elsmere	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	No	Yes
Erlanger	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	Yes	No	Yes
Fairview	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Ft. Mitchell	Yes	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Ft. Wright	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	Yes	No	Yes
Independence	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	No	Yes
Kenton Vale	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Lakeside Park	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	Yes	No	Yes

Jurisdiction	Board Of Education	Building & Code Inspections	Clerk Of Courts	Emergency Management	County / City Treasurer	County Judge Executive / Mayor	Health Department	Road Department	Sheriff Department	Law Enforcement Department	PVA (Tax Assessment)	Social Services	Utilities Department	Fire Department
Ludlow	Yes	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	No	Yes
Park Hills	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Ryland Heights	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	Yes	No	Yes
Taylor Mill	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Yes
Villa Hills	Shared	Yes	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	No	Shared
Owen County	Yes	Yes	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	No	Shared
Gratz	Shared	No	Shared	Shared	Yes	Yes	Shared	No	No	No	Shared	No	No	Shared
Owenton	Shared	Yes	Shared	Shared	Yes	Yes	Shared	No	No	Yes	Shared	No	Yes	Yes
Pendleton County	Yes	Shared	Yes	Yes	Yes	Yes	Shared	Yes	Yes	No	Yes	Yes	No	Yes
Butler	Shared	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	Yes	Yes
Falmouth	Shared	Shared	Shared	Shared	Yes	Yes	Shared	Yes	No	Yes	Shared	No	Yes	Yes

All jurisdictions are members of the Northern Kentucky Area Development District.

Jurisdictions' Land Use Plans and Zoning Ordinances are included in the countywide plan unless indicated otherwise.

Campbell County's Comprehensive Plan pertains to the Unincorporated Campbell County and the cities of Crestview, Melbourne, Silver Grove, Southgate, and Woodlawn.

LOCAL JURISDICTIONS PROFESSIONAL STAFF DEPARTMENTS

Local Mitigation Committee members were directly involved in summarizing and analyzing the duties of each department. During the public input and committee meetings, it was determined that the implementation of mitigation actions would depend significantly on the capabilities of the departments of each jurisdiction.

The following information summarizes the duties and responsibilities of the professional staff departments listed in the chart above.

The **Board of Education** is responsible for the operation of the school system and is also elected at large by the people. Local funds usually maintain the buildings and provide some funds for capital projects, while state funds pay, to a great extent, salaries, and costs for purchasing textbooks and supplies.

The **Building & Code Inspections Department** enforces the State Building Code, the National Flood Insurance Program, the Community Rating System, and other applicable local codes through a program of inspection and permitting.

The **Clerk of Court** is the custodian of the court system in each county, is entirely financed by the Commonwealth of Kentucky and is elected every four years.

The **County or City Treasurer** is responsible for the oversight and management of the County's budget and fiscal programs, including the administration of state and federal grants.

The **Emergency Management** office is responsible for the mitigation, preparedness, response, and recovery operations that deal with both natural and man-made disaster events. The formation of an emergency management office in each county is mandated under Kentucky Revised Statutes.

The **Health Department** and **Social Services** have separate boards that the commissioners appoint. The commissioners may approve the hiring of employees in these departments if it is in accordance with state personnel policies. These agencies protect public health and provide social services in the areas of medical care and governmental social programs to families displaced from home or job.

The **Mayor or County Judge** of each jurisdiction is responsible for the oversight of the daily operations of the County and City government. Enforcement of County and City policies and regulations are their responsibility.

The **Law Enforcement Departments** are responsible for the enforcement of local and state laws in their jurisdictions.

The **Property Valuation Authority (PVA)** is responsible for the valuation of property for tax purposes and is elected every four years.

The ***Sheriff*** operates on a budget approved annually by the commissioners or magistrates of each county and is elected every four years.

The ***Road Departments*** are responsible for the maintenance and care of public roadways.

The ***Utilities Departments*** are responsible for providing water, gas, electric and sewer services to the public. In Northern Kentucky, a number of municipalities, electric cooperatives and publicly traded companies thus only municipal-owned utilities provide utilities are indicated on the chart.

Of the above-listed departments, the following have been explicitly assigned delegated responsibilities to conduct mitigation activities or hazard control tasks: ***Building and Code Inspections, County Judges, Fiscal Courts, Mayors, City Councils/Commissions, Emergency Management, Health Department, Law Enforcement, Road Department, and Utilities*** (includes all types of utilities). Each department or organization has been involved in the development of this mitigation plan by participating in the local mitigation committees. Information provided during committee meetings was used to identify gaps, weaknesses, or opportunities for enhancement with existing mitigation programs. Enhanced cooperation and coordination between all agencies will be paramount to reducing loss from various hazard events.

2. NFIP PARTICIPATION

a. PARTICIPATION EXPLANATION

CID	Jurisdiction	County	Adoption of NFIP minimum floodplain management or Reg-Emer Date?	Adoption of latest effective FIRM or Curr Eff Map Date	Implementation and Enforcement or PERMIT?	Appointed designee to address commitments/ regulation of NFIP or BFE Standards?	Sustainable Improvement/ Substantial Damage Provision Implementation After Event	Public Outreach Program
210013#	Boone County	Boone	6/15/1981	3/21/2023	Yes	Yes		
210238#	Florence	Boone	7/3/1986	3/21/2023				
210270#	Union	Boone ¹	6/4/2007	3/21/2023				
210379#	Walton	Boone	6/4/2007	03/21/23(M)				
210391#	Alexandria	Campbell	12/8/2009	3/3/2014	Yes	Yes	Yes	
210035#	Bellevue	Campbell	4/15/1980	8/10/2021	Yes	Yes	Yes	
210036#	California	Campbell	4/3/1978	3/3/2014	Yes	Yes	Yes	x
210034#	Campbell County	Campbell	9/30/1981	8/10/2021	Yes	Yes	Yes	x
210395#	Cold Spring	Campbell	5/11/2007	3/3/2014	Yes	Yes	Yes	
210037#	Dayton	Campbell	8/15/1980	8/10/2021	Yes	Yes	Yes	x
210038#	Fort Thomas	Campbell	9/1/1998	8/10/2021	Yes	Yes	Yes	
210390#	Highland Heights	Campbell	9/30/2004	3/3/2014	Yes	Yes	Yes	
210250#	Melbourne	Campbell	3/28/1980	3/3/2014	Yes	Yes	Yes	x
210275#	Mentor	Campbell	3/4/1980	3/3/2014	Yes	Yes	Yes	x
210039#	Newport	Campbell	11/5/1980	8/10/2021	Yes	Yes	Yes	
210040#	Silver Grove	Campbell	10/15/1980	3/3/2014	Yes	Yes	Yes	x
210276#	Southgate	Campbell	7/8/2008	8/10/2021	Yes	Yes	Yes	x
210041#	Wilder	Campbell	10/15/1980	8/10/2021	Yes	Yes	Yes	
210318#	Woodlawn	Campbell	6/27/2013	8/10/2021	Yes	Yes	Yes	x
210045#	Carroll County	Carroll	9/1/1998	3/21/2023	Yes	Yes		

CID	Jurisdiction	County	Adoption of NFIP minimum floodplain management or Reg-Emer Date?	Adoption of latest effective FIRM or Curr Eff Map Date	Implementation and Enforcement or PERMIT?	Appointed designee to address commitments/ regulation of NFIP or BFE Standards?	Sustainable Improvement/ Substantial Damage Provision Implementation After Event	Public Outreach Program
210232#	Carrollton	Carroll	9/4/1985	3/21/2023	Yes	Yes		
210046#	Ghent	Carroll	9/18/1986	3/21/2023				
210047#	Prestonville	Carroll	9/18/1986	3/23/2021				
210048#	Sanders	Carroll	9/27/1985	7/17/2007				
210049#	Worthville	Carroll	7/17/1986	12/21/2017				
210281#	Gallatin County	Gallatin	7/20/1997	3/21/2023	Yes	Yes		
210078#	Glencoe	Gallatin	7/8/2008	03/21/23(M)				
210079#	Sparta	Gallatin	8/19/1986	03/21/23(M)				
210080#	Warsaw	Gallatin	8/19/1987	3/21/2023				
210337#	Grant County	Grant	8/5/2010	8/5/2010				
210253#	Bromley	Kenton	4/15/1980	5/16/2013				
210129#	Covington	Kenton	6/15/1979	5/16/2013	Yes	Yes		x
210450#	Crescent Springs	Kenton	4/20/2011	5/16/2013				
210451#	Crestview Hills	Kenton	6/11/2009	5/16/2013				
210452#	Edgewood	Kenton	11/22/2010	5/16/2013				
210378#	Erlanger	Kenton	3/16/2009	5/16/2013				
210249#	Fort Wright	Kenton	10/21/1980	5/16/2013	Yes	Yes		
210240#	Independence	Kenton	9/17/1980	5/16/2013				
210128#	Kenton County	Kenton	7/2/1981	5/16/2013				
210266#	Ludlow	Kenton	9/28/1979	5/16/2013	Yes	Yes		
210389#	Ryland Heights ²	Kenton	9/18/2001	5/16/2013				
210246#	Taylor Mill	Kenton	9/28/1979	5/16/2013				
210456#	Villa Hills	Kenton	5/22/2009	5/16/2013				
210321#	Gratz	Owen	8/19/1986	12/21/2017				
210186#	Owen County	Owen	7/1/1999	12/21/2017				
210079#	Sparta	Owen	8/19/1986	03/21/23(M)				
210188#	Butler	Pendleton	4/30/1986	6/18/2013				
210189#	Falmouth	Pendleton	7/3/1986	6/18/2013				

CID	Jurisdiction	County	Adoption of NFIP minimum floodplain management or Reg-Emer Date?	Adoption of latest effective FIRM or Curr Eff Map Date	Implementation and Enforcement or PERMIT?	Appointed designee to address commitments/ regulation of NFIP or BFE Standards?	Sustainable Improvement/ Substantial Damage Provision Implementation After Event	Public Outreach Program
210187#	Pendleton County	Pendleton	8/1/1999	6/18/2013	Yes			

* Please every effort was made to ensure the information above is current but note it maybe incomplete.

¹ The City Of Union passed an Ordinance on October 3, 2022 for the annexation of approximately 81.293 acres of property along Hathaway Road in Union Kentucky 41091. The region uploaded the Consent to Annex (including map) and the new Ordinance.

² For the City of Ryland Heights, use Kenton County (CID 210128) firm dated 7/2/81 panels 27 27 28.

JURISDICTIONS NOT PARTICIPATING IN NFIP

CID	Jurisdiction	County	Init FIRM Identified	Curr Eff Map Date	Sanction Date	Reason for Not Participating
<i>*absent</i>	<i>Crestview</i>	<i>Campbell</i>		3/3/2014		No SFHA
210441#	Corinth	Grant	8/5/2010	8/5/2010	8/5/2011	Very limited section in SFHA, no interest
210442#	Crittenden	Grant	8/5/2010	8/5/2010	8/5/2011	No SFHA
210443#	Dry Ridge	Grant	8/5/2010	8/5/2010	8/5/2011	No SFHA
210444#	Williamstown	Grant	8/5/2010	6/18/2013	8/5/2011	Limited section in SFHA, no interest
210453#	Elsmere	Kenton	3/16/2009	5/16/2013	3/16/2010	Very limited section in SFHA, no interest
210407#	Fairview	Kenton	3/16/2009	5/16/2013	3/16/2010	Very limited section in SFHA, no interest
210454#	Fort Mitchell	Kenton	3/16/2009	5/16/2013	3/16/2010	No SFHA
<i>*absent</i>	<i>Kenton Vale</i>	<i>Kenton</i>		5/16/2013		No SFHA
210455#	Lakeside Park	Kenton	3/16/2009	5/16/2013	3/16/2010	No SFHA
<i>*absent</i>	<i>Park Hills</i>	<i>Kenton</i>		5/16/2013		No SFHA
<i>*absent</i>	<i>Owenton</i>	<i>Owen</i>		6/2/2011		No SFHA

The NKADD encourages all jurisdictions to pursue NFIP compliance. A few jurisdictions have addressed their deficiencies and taken the necessary steps to become compliant. However, there are still some communities that decline to participate in the program for various reasons; a few communities have no floodplains. We will continue to bring the subject of compliance up regularly with these communities and provide support during the process if they choose to pursue compliance.

3. 2024 NORTHERN KENTUCKY HAZARD MITIGATION GOALS

Goals and objectives in italics have been revised or added in 2024.

Goal 1: To reduce loss of life, injury, and disruptions to essential public services and infrastructure by reducing the vulnerability to critical facilities during hazard events that could result in loss of life or injury.

Objective 1.1: Minimize the disruption to and enhance rapid restoration of systems and services.

Objective 1.2: Minimize the disruption to and enhance rapid restoration of utility systems. Ensure that all emergency facilities have temporary backup power capabilities.

Objective 1.3: Minimize the damages to all sources of clean water (groundwater, wells, rivers, and streams, etc.) and the environment as a result of damages caused by hazards.

Objective 1.4: Minimize damage to all critical infrastructure, including but not limited to roads, bridges, culverts, utility infrastructure, rails, and intermodal ports through relocation, rebuilding, and other means in order to reduce damage from natural hazard events.

Goal 2: Protect each jurisdiction's most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation projects.

Objective 2.1: Reduce the number of critical infrastructure and facilities in identified hazardous areas.

Objective 2.2: Minimize risk to vulnerable populations.

Goal 3: Enhance existing or design new jurisdictional policies that will reduce the potentially damaging effects of hazards without hindering other community goals.

Objective 3.1: Enforce and enhance existing policies and authorities.

Objective 3.2: Develop new policies, such as ordinances and building codes, which will require new structures to meet standards for hazard areas.

Objective 3.3: Integrate hazard mitigation plan into other community plans.

Objective 3.4: Encourage policies and programs that prevent slips, slides and erosion on slopes and land, particularly where roads and vulnerable populations are concerned.

Goal 4: Protect public health, safety, and welfare by increasing public awareness of existing hazards and by fostering both individual and public responsibility in mitigating risks due to those hazards.

Objective 4.1: Educate the public about hazards prevalent in their jurisdictions.

Objective 4.2: Improve jurisdictions' ability to respond to a man-made hazardous event caused by a hazardous event.

Goal 5: Increase the technical capabilities of local jurisdictions to reduce potential losses.

Objective 5.1: Improve each jurisdiction's capability to identify and map vulnerable structures and critical facilities in hazard areas.

Objective 5.2: Increase the jurisdictions' ability to communicate and direct emergency services and resources to the appropriate hazard areas.

Goal 6: Build local support and commitment to continuously become less vulnerable to hazards.

Objective 6.1: Train volunteers and staff to support and implement mitigation activities that will enhance the response capabilities of the local jurisdictions.

a. SUGGESTED NEW HAZARD MITIGATION GOALS

Goal 7: Promote Economic Recovery and Continuity Following Hazard Events

Objective 7.1: Develop and implement post-disaster recovery plans to restore essential services and support local businesses.

Objective 7.2: Establish a community recovery fund to assist with immediate post-disaster needs and long-term economic recovery.

Goal 8: Encourage Collaboration and Partnerships with Private Sector and Non-Governmental Organizations

Objective 8.1: Foster public-private partnerships to leverage resources and expertise for mitigation efforts.

Objective 8.2: Engage local non-governmental organizations in community awareness and preparedness campaigns.

Goal 9: Support Sustainability and Environmental Mitigation within Hazard Planning

Objective 9.1: Assess and address the impacts of environmental change on local hazard vulnerabilities.

Objective 9.2: Incorporate sustainable and environmental mitigation principles into local and regional planning policies, ordinances, and regulations.

Objective 9.3: Encourage sustainable practices and renewable energy solutions within community planning and response efforts.

Goal 10: Enhance Accessibility and Equity in Hazard Preparedness and Response

Objective 10.1: Ensure that hazard planning and response are accessible to all community members, including those with disabilities or language barriers.

Objective 10.2: Promote equity in resource allocation, ensuring that vulnerable and underserved populations are prioritized.

Goal 11: Incorporate Dams Construction and Maintenance into Local and Regional Mitigation Planning

Objective 11.1: Create a Database of All Dams in the Region

Objective 11.2: Assist communities in meeting state and federal regulations for dams

Goal 12: Establish Continuous Evaluation and Improvement Processes

Objective 12.1: Implement regular reviews and updates to the hazard mitigation plan to ensure alignment with evolving community needs and global best practices.

Objective 12.2: Encourage community input and feedback in evaluation processes to maintain transparency and relevance.

4. NORTHERN KENTUCKY ACTION AND PROJECT PLAN

The Northern Kentucky Hazard Mitigation Plan Action Plan incorporates the plan's goals, objectives, and actions into a comprehensive document. The action plan is structured around the identified hazards, the corresponding action, affected jurisdiction, priorities, funding sources, and projected timeline.

a. ACTION PLAN ELEMENTS

HAZARD

Identified hazards can significantly impact the entire Northern Kentucky region, while natural hazards that are impactful have been eliminated. Natural hazards, where a historical record of damage to people and property exists or the potential for such damage to occur, are addressed in the plan.

ACTION

The Northern Kentucky Regional Mitigation Plan analyzed the loss estimates in the risk assessment to establish goals and objectives for loss reduction. The goals and objectives were established with input from community participants. Mitigation goals are general, long-term guidelines, while mitigation objectives are defined strategies and processes to implement and achieve the identified goals. The objectives are specific, measurable, and have a defined completion. Specific actions were identified for each goal and objective.

JURISDICTION(S)

All fifty-two jurisdictions in the region will adopt the Northern Kentucky Regional Hazard Mitigation Plan by the first quarter of 2024. The eight counties in Northern Kentucky are able to implement and enforce the plan's mitigation strategies. The ability to implement and enforce the plan's strategies depends on the size of the fifty-two cities in the region. The NKADD collaborates with those communities to provide resources and support that will allow for an improved quality of life for residents, including mitigation projects and activities. During the planning process, the NKADD staff worked with county and local leaders to ensure representation from a broad spectrum of community engagement. The jurisdictions that have participated in the mitigation planning process are listed in Element A – Planning Process.

PRIORITY

Each action was given a High, Medium, or Low priority using the STAPLE+E framework. Because STAPLE+E relies upon qualitative and subjective assessment, the Northern Kentucky Action Plan below interprets each component based on the STAPLE+E framework. Generally, the mitigation actions with

the highest priority were the most cost-effective and most compatible with the jurisdiction’s social and cultural values.

STAPLEE

A regional list of set goals, objectives, and actions that have been identified in this plan will be maintained. These items were prioritized based on a set of criteria located in the FEMA Multi-Hazard Mitigation Planning Guidance that includes social, technical, administrative, political, legal, economic, and environmental factors (STAPLE+E) within the county jurisdictions.

Mitigation actions falling under preventative activities, emergency services measures, and public information activities generally (i.e., unless otherwise specified) are process-driven by nature and driven by uncontroversial and laudable goals. It is thus muddying and complicated to subject such measures to a formal, qualitative, and subjective prioritization mechanism like STAPLE+E.

The NKADD staff will review each jurisdiction’s priorities annually to ensure that they are properly prioritized. The designated council representative from each jurisdiction will be responsible for maintaining this list.

The STAPLE+E criteria guidelines for action prioritization that were given to the council members in order to analyze their actions were as follows:

STAPLE+E Criteria Explanation

S - Social	Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower-income people, and if they are compatible with the community’s social and cultural values.
T – Technical	Mitigation actions are technically most effective if they provide long-term reduction of losses and have minimal secondary adverse impacts.
A – Administrative	Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.
P – Political	Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.
L – Legal	It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.
E – Economic	Budget constraints can significantly deter the implementation of mitigation actions. Evaluating whether an action is cost-effective, as determined by a cost-benefit review, and possible to fund is essential.
E - Environmental	Sustainable mitigation actions that do not have an adverse effect on the environment, which comply with Federal, State, and local environmental regulations, and that are consistent with the community’s environmental goals, have mitigation benefits while being environmentally sound.

“E1” in the project lists refers to the “Economic” consideration. “E2” refers to the “Environmental” consideration.

RESPONSIBLE ENTITIES

Each jurisdiction is responsible for the implementation of mitigation strategies in their community; however, the listed responsible entity can vary by county and the extent of the action. Responsible entities can include local, regional, state, and federal entities.

POTENTIAL FUNDING SOURCES

Outside of local financing and state financing options, the jurisdictions of the NKADD will attempt to utilize the following funding sources in implementing goals, objectives, and actions when possible: the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMA), the Pre-Disaster Mitigation Program (PDM), Hazard Mitigation Technical Assistance Programs (HMTAP), and federal-state matching programs. It should be noted that the above list represents known funding sources at the time of this writing. It is not exhaustive. As funding becomes available, the proposed projects will be pursued. However, this listing is not a commitment by the jurisdictions to pursue each project. Some projects may be cost-prohibitive, not as desirable as initially thought, or overridden by competing priorities.

COMMUNITY RATING SYSTEM (CRS) ACTION CATEGORY

The Community Rating System (CRS) identifies, evaluates, and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard identified in the Risk Assessment, with particular emphasis on new and existing buildings and infrastructure. The CRS categories are preventative activities, property protection activities, natural resource protection activities, emergency services measures, structural projects, and public information activities.

The following is a list and description of the mitigation actions and techniques that the mitigation committees have considered. The available mitigation options were:

Prevention – Preventative activities are intended for the impact of a disaster event. They are particularly effective in reducing a community’s future vulnerability, especially in areas where development has not occurred, or capital improvements have not been substantial. Examples of preventative activities include:

- Planning and Zoning
- Open space preservation
- Floodplain regulations
- Stormwater management
- Drainage system maintenance
- Capital improvements programming
- Shoreline / riverine / fault zone setbacks

Property Protection – Property protection measures protect existing structures by modifying the building to withstand hazardous events or removing structures from hazardous locations. Examples include:

- Relocation
- Critical facilities protection
- Retrofitting (i.e., windproofing, floodproofing, seismic design standards, etc.)
- Insurance
- Safe rooms

Natural Resource Protection – Natural resource protection activities reduce the impact of natural hazards upon the environment through measures such as preserving or restoring natural areas to enhance their mitigation functions. Such areas include floodplains, wetlands, and dunes. Parks, recreation or conservation agencies and organizations often implement these measures. Examples include:

- H. Floodplain protection
- I. Riparian buffers
- J. Erosion and sediment control
- K. Wetland preservation and restoration
- L. Habitat preservation
- M. Slope stabilization

Structural Projects – Structural mitigation projects are intended to lessen the impact of a hazard by modifying the natural progression of the environmental hazard event. They are usually designed by engineers and managed or maintained by public works staff. Examples include:

1. Reservoirs
2. Levees/dikes/floodwalls/seawalls
3. Diversions/Detention/Retention
4. Channel modification
5. Storm sewers

Emergency Services – Although not typically considered a “mitigation technique,” emergency service measures minimize a hazard event's impact on people and property. These are commonly taken immediately before, during, or in response to a hazard event. Examples include:

- a. Warning systems
- b. Back-up power sources, Generators
- c. Evacuation planning and management

- d. Sandbagging for flood protection
- e. Installing shutters for wind protection

Public Information and Awareness – Public Information and awareness activities are used to advise residents, business owners, potential property buyers, and visitors about hazards, hazardous areas, and mitigation techniques they can use to protect themselves and their property. Examples of measures to educate and inform the public include:

- a. Outreach projects
- b. Speaker series/demonstration events
- c. Hazard map information
- d. Real estate disclosure
- e. Library materials
- f. School-age children's education
- g. Hazard expositions

COMPLETION TIMEFRAME

The completion timeframe for each action is a calculated determination based on the priority, available funding, and short-term/long-term needs.

STATUS SINCE PREVIOUS PLAN

This explains how this action has changed since the previous plan was completed.

b. Northern Kentucky Hazard Mitigation Action Plan

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
Goal 1: To reduce loss of life, injury, and disruptions to essential public services and infrastructure by reducing the vulnerability to critical facilities during hazard events that could result in loss of life or injury.									
Objective 1.1: Minimize the disruption to and enhance rapid restoration of systems and services.									
Flooding	Remove debris from streams that cause damage to bridges, culverts, and transportation facilities.	All	High	T, A	Public Works, Solid Waste, US Army Corps of Engineers, KY Division of Water, KY Transportation Cabinet, Railroad Companies	Local Funds, Prevention Grants & Natural Resources Grants	Prevention	Annually	Deferred
All	Develop a coordinated, sustained interagency debris removal plan.	All	High	T, A	Solid Waste / Emergency Management	Pre-Disaster Mitigation Grants, Local Match, & Flood Control Grants	Prevention, Property Protection	1 Year	Deferred
Objective 1.2: Minimize the disruption to and enhance rapid restoration of utility systems. Ensure that all emergency facilities have temporary backup power capabilities.									
Severe Thunderstorms	Trim trees and debris away from overhead power lines and roads.	All	Medium	T, A	Utility Companies	Local Funds	Prevention	Continual	On-going
Severe Winter Storms	Trim trees and debris away from overhead power lines and roads.	All	Medium	T, A	Utility Companies	Local Funds	Prevention	Continual	On-going
Tornados	Trim trees and debris away from overhead power lines and roads.	All	Medium	T, A	Utility Companies	Local Funds	Prevention	Continual	On-going
Flooding	Trim trees and debris away from overhead power lines and roads.	All	Medium	T, A	Utility Companies	Local Funds	Prevention	Continual	On-going
All	<i>Develop an energy resilience mitigation strategy to include energy needs priorities, available fixed and portable alternative energy sources, and a purchasing schedule for new and outdated alternative energy sources.</i>	All	High	S, T, E2	<i>Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development Non-Profits, Local Human Resource Associations</i>	<i>Local Funds, HMGP, PDM</i>	<i>Emergency Services</i>	<i>Continual</i>	<i>New</i>
All	Encourage all critical facilities, including utilities and planning agencies, to acquire temporary or fixed backup power capabilities.	All	High	T, A, E1	Emergency Management	Emergency Service Grants, Local Sources	Emergency Services	Continual	On-going
All	Encourage fuel sources/suppliers to have backup power.	All	Medium	T, A, E1	Emergency Management	Private	Emergency Services	Continual	On-going

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
All	Encourage residents to have the ability to be self-sufficient for up to 72 hours in the event there is a loss of utility services.	All	Medium	S, E1	Emergency Management, American Red Cross	Prevention Grants, Local Funds	Prevention	Continual	On-going
All	<i>Encourage the need to replace and/or rebuilt existing utilities to meet current regulatory requirements (lead pipes, transmission lines, etc.), improve reliability, reduce outages, and strengthen the system.</i>	All	High	S, T, A, P, E1	Local Governments, Building & Zoning Departments, Utility Companies	Prevention Grants, Local Funds	Prevention	Continual	New
All	Place utilities underground where feasible.	All	High	S, T, A, P, E1	Local Governments, Building & Zoning Departments, Utility Companies	Prevention Grants, Local Funds	Prevention	Continual	On-going
<i>Objective 1.3: Minimize the damages to all sources of clean water (groundwater, wells, rivers, and streams, etc.) and the environment as a result of damages caused by hazards.</i>									
Flooding	Develop and continue to improve a Stormwater Management Plan that reduces flooding, erosion, and damage caused to the environment.	All	High	T, A, E1, E2	Local Governments or Agency with Authority	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches, Flood Control Grants	Prevention	2 Years	Deferred
Flooding	<i>Maintain stormwater infrastructure throughout the region by creating a partnership with communities with existing small municipal separate storm sewer systems (MS4s).</i>	All	High	T, A, E1, E2	Local Governments or Agency with Authority	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches, Flood Control Grants	Prevention, Natural Resource Protection	Continual	New
Flooding	<i>Encourage green infrastructure and nature-based solutions to address stormwater concerns when appropriate</i>	All	High	T, A, E1, E2	Local Governments or Agency with Authority	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches, Flood Control Grants	Prevention, Natural Resource Protection	Continual	New
All	<i>Develop a response plan to address when a natural hazard creates a man-made hazardous event.</i>	All	High	S, T	Local Governments	Local Funds	Prevention, Property Protection, Natural Resource Protection	Continual	New
All	<i>Partner with local utilities to ensure clean water can be provided throughout the region during a hazardous event (natural or man-made)</i>	All	High	S, T	Local Governments, Local Utilities	Local Funds	Prevention, Property Protection, Natural Resource Protection	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
<i>Objective 1.4: Minimize damage to all critical infrastructure, including but not limited to roads, bridges, culverts, utility infrastructure, rails, and intermodal ports through relocation, rebuilding, and other means in order to reduce damage from natural hazard events.</i>									
Flooding	Develop policies and a plan for reducing or eliminating damage to roads and culverts from natural hazards, particularly flooding.	All	High	S, T, A, P, L, E1, E2	Road Departments	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches, Flood Control Grants	Prevention, Structural Projects	1 Year	On-going
Dam Failure	Develop policies and a plan for reducing or eliminating damage to roads and culverts from natural hazards, particularly flooding.	All	High	S, T, A, P, L, E1, E2	Road Departments	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches, Flood Control Grants	Prevention, Structural Projects	1 Year	On-going
Wind	Develop and implement plans to clear dead or vulnerable trees from near roads and power lines.	All	High	S, T, A, P, E1, E2	Road Departments, Local Utilities	Pre-Disaster Mitigation Funds, HMGP Funds, Local Matches	Prevention	1 Year	On-going
Landslide	<i>Encourage communities to coordinate with KYTC, County Road departments, and utilities in order to create policies and plans that prevent slips, slides, road stabilization, and other land erosion problems that affect roadways.</i>	All	High	A, P, L, E1	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management, Public Works Department	Local Funds, HMGP, PDM, Other Grants	Prevention	Continual	New
Goal 2: Protect each jurisdiction's most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation projects.									
<i>Objective 2.1: Reduce the number of critical infrastructure and facilities in identified hazardous areas.</i>									
All	Adopt recognized building code standards for each jurisdiction within the region and encourage the adoption of property and maintenance codes.	All	High	A, P, L, E1, E2	Building & Zoning Departments, Floodplain Coordinators	Local Government	Property Protection	1 Year	On-going
Flooding	Direct that the development and installation of new critical facilities be out of hazardous areas.	All	High	A, P, L, E1	Local Governments, Building & Zoning Departments, Floodplain Coordinators	Local Funds, HMGP, PDM, Flood Control Grant	Property Protection, Emergency Services	Continual	On-going
Flooding	<i>Identify and modify transportation infrastructure, including but not limited to flooded roads and rail line access points, to establish and maintain access to critical infrastructures and communities</i>	All	High	A, E2	Local Governments, Building & Zoning Departments, Floodplain Coordinators, Public Works, Transportation Department, Rail Companies	Local Funds, State Funds, Private Funds	Property Protection	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
Flooding	Relocate any critical facilities currently in special flood hazard areas above that area.	All	High	A, P, L, E1	Local Governments, Building & Zoning Departments, Floodplain Coordinators	Local Funds, HMGP, PDM, Flood Control Grant	Property Protection, Emergency Services	Continual	On-going
Landslide	Direct that the development and installation of new critical facilities be out of hazardous areas.	All	High	A, P, L, E1	Local Governments, Building & Zoning Departments, Floodplain Coordinators	Local Funds, HMGP, PDM, Flood Control Grant	Property Protection, Emergency Services	Continual	On-going
Objective 2.2: Minimize risk to vulnerable populations.									
All	Identify and develop an outreach plan to connect with vulnerable populations.	All	High	A, E1	Local Governments	Local Funds	Emergency Services, Public Information and Awareness	Continual	On-going
All	Minimize risk to vulnerable populations by identifying currently available facilities for sheltering and constructing community shelters where needed, including but not limited to tornado-safe facilities.	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	On-going
All	<i>Collaborate with community partners who serve underserved and vulnerable populations to develop a system to communicate with their clients and the population</i>	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
Goal 3: Enhance existing or design new jurisdictional policies that will reduce the potentially damaging effects of hazards without hindering other community goals.									
Objective 3.1: Enforce and enhance existing policies and authorities.									
Flooding	Adopt and maintain current FIRMs (Flood Insurance Rate Maps) and local flood protection ordinances.	All	High	A, P, L	Building & Zoning Departments, Floodplain Coordinators	Local Funds	Prevention, Public Information and Awareness	Continual	On-going
Flooding	Encourage participation in the Risk MAP program.	All	High	A, P, L	Building & Zoning Departments, Floodplain Coordinators	Local Funds	Prevention, Public Information and Awareness	Continual	On-going
Objective 3.2: Develop new policies, such as ordinances and regulations, which will require new development to meet required standards for hazard areas.									
All	Improve the enforcement of current building codes to include mitigation objectives.	All	High	A, P, L	Building & Zoning Departments	Developers, Property Owners	Prevention, Public	Continual	Deferred

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
							Information and Awareness		
All	Develop and continue with zoning and land use ordinances that regulate development in hazardous areas.	All	High	A, P, L	Building & Zoning Departments	Local Funds	Prevention	Continual	On-going
Flooding	Eliminate repetitive loss structures through property acquisition.	All	Medium	A, P, L, E1	Local Governments, Floodplain Coordinators	HMGP, PDM, Other Grant Sources, Local Funds	Prevention	Continual	On-going
Flooding	Conduct pre-disaster mitigation activities for residential structures in the floodway.	All	Medium	A, P, L, E1	Local Governments, Floodplain Coordinators	HMGP, PDM, Other Grant Sources, Local Funds	Prevention	Continual	On-going
Objective 3.3: Integrate hazard mitigation plan into other community plans.									
All	Continue the inclusion and references to the Hazard Mitigation Plan in other local and regional plans and grant applications.	All	Medium	A, P, L, E1	Local Governments, Floodplain Coordinators, Building & Zoning Departments	HMGP, PDM, Other Grant Sources, Local Funds	All	Continual	On-going
All	Encourage communities, developers, and other organizations to consult the hazard mitigation plan for future developments, capital improvement programs, and other actions that have community-wide impacts.	All	Medium	A, P, L, E1	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management		Education, Public Information and Awareness	Continual	On-going
Dams	<i>Integrate dam requirements into other community plans to meet minimum dam safety standards and reduce the risk of life and property.</i>	All	Medium	S, T, E2	Local Governments, Planning and Zoning Departments, Emergency Management	Local Funds	Prevention, Natural Resource Protection, Structural Projects	Continual	New
Flooding	Encourage communities to participate in the Community Rating System (CRS).	All	High	A, P, L, E1	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management	Local Funds	Prevention	Continual	On-going
Objective 3.4: Encourage policies and programs that prevent slips, slides, and erosion on slopes and land, particularly where roads and vulnerable populations are concerned.									
Landslide	Encourage communities to coordinate with KYTC, County Road departments, and utilities in order to create policies and plans that prevent slips, slides and other land erosion	All	High	A, P, L, E1	Local Governments, Floodplain Coordinators, Building & Zoning Departments,	Local Funds, HMGP, PDM, Other Grants	Prevention	Continual	On-going

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
	problems that affect roadways. Examples of this include but are not limited to improving drainage systems, culverts, and road re-location.				Emergency Management, Public Works Department				
Goal 4: Protect public health, safety, and welfare by increasing public awareness of existing hazards and by fostering both individual and public responsibility in mitigating risks due to those hazards.									
Objective 4.1: Educate the public about hazards prevalent in their jurisdictions.									
All	Educate residents on the location of hazard areas by providing maps and hazard information.	All	High	S, T, A	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management	Local Funds, Prevention Grants	Public Information and Awareness	Continual	On-going
All	Educate the public about early warning systems by expanding the mass notification system (Integrated Public Alert and Warning System (IPAWS) and wireless emergency systems/smartphone) for early warning and post-event information.	All	High	S, T, A	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management	Local Funds	Public Information and Awareness	Continual	On-going
Flooding	Educate the public about the Floodplain Ordinance.	All	High	S, T, A	Local Governments, Floodplain Coordinators, Building & Zoning Departments, Emergency Management	Local Funds	Prevention	Continual	On-going
All	Educate citizens about evacuation plans, policies, and procedures for all hazards.	All	High	S, T, A	Emergency Management	Grants, Local Funds	Prevention	Continual	On-going
All	Educate the public about measures that can be taken to reduce damage caused by natural hazards to homes and personal property.	All	High	S, T, A	Emergency Management	Grants, Local Funds	Prevention	Continual	On-going
All	Encourage community resilience by educating residents about 72-hour emergency plans and kits.	All	High	S, T, A	Emergency Management / American Red Cross	Grants, Local Funds	Prevention	Continual	On-going
All	<i>Collaborate with community partners who serve underserved and vulnerable populations to identify community shelters, including but not limited to tornado-safe facilities.</i>	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
All	<i>Collaborate with community partners who serve underserved and vulnerable</i>	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
	<i>populations to develop a system to communicate with their clients and the population</i>						<i>Information and Awareness</i>		
<i>All</i>	<i>Partner with local and regional business organizations to promote resilience plan development to anticipate future disturbances</i>	<i>All</i>	<i>High</i>	<i>S, T, E2</i>	<i>Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development Non-Profits, Local Human Resource Associations</i>	<i>Local Funds, HMGP, PDM</i>	<i>Emergency Services, Public Information and Awareness</i>	<i>Continual</i>	<i>New</i>
Objective 4.2: Improve jurisdictions' ability to respond to a man-made hazardous event caused by a hazardous event.									
<i>All</i>	<i>Develop a response plan to address when a natural hazard creates a man-made hazardous event.</i>	<i>All</i>	<i>High</i>	<i>S, T</i>	<i>Local Governments</i>	<i>Local Funds</i>	<i>Prevention, Property Protection, Natural Resource Protection</i>	<i>Continual</i>	<i>New</i>
<i>All</i>	<i>Create a communication plan that will quickly inform the community of the event, current status and available resources.</i>	<i>All</i>	<i>High</i>	<i>S, A</i>	<i>Local Governments</i>	<i>Local Funds</i>	<i>Public Information and Awareness</i>	<i>Continual</i>	<i>New</i>
Goal 5: Increase the technical capabilities of local jurisdictions to reduce potential losses.									
Objective 5.1: Improve each jurisdiction's capability to identify and map vulnerable structures and critical facilities in hazard areas.									
<i>All</i>	<i>Collaborate with jurisdictions and local and regional community partners to explore opportunities to link existing data sources together to gain a better understanding of the current and future regional development and allow for better data-driven decisions.</i>	<i>All</i>	<i>Medium</i>	<i>S, A, P</i>	<i>Local Governments, Community Partners</i>	<i>Local Funds</i>	<i>Property Protection, Public Information and Awareness</i>	<i>Continual</i>	<i>New</i>
<i>All</i>	<i>Encourage agencies through collaboration to share existing GIS and mapping systems to allow for quicker response time to hazardous events.</i>	<i>All</i>	<i>Medium</i>	<i>S, T, A</i>	<i>Local Governments, Building & Zoning Departments, Community Partners</i>	<i>Pre-Disaster Mitigation, Local Funds, Nonprofit Funds, Community Funds</i>	<i>Prevention, Public Information and Awareness</i>	<i>Continual</i>	<i>New</i>
<i>All</i>	<i>Create and maintain a GIS database inventory of all critical facilities, structures, and infrastructure.</i>	<i>All</i>	<i>High</i>	<i>T, A</i>	<i>Local Governments, Building & Zoning Departments</i>	<i>Pre-Disaster Mitigation, Local Funds</i>	<i>Prevention, Public Information and Awareness</i>	<i>Continual</i>	<i>On-going</i>

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
<i>Flooding</i>	<i>Utilize existing data, including stream gauges, to create Flood Inundation Maps to determine areas that could be affected during a hazard event.</i>	<i>All</i>	<i>High</i>	<i>T, A</i>	<i>Local Governments, Building & Zoning Departments</i>	<i>Pre-Disaster Mitigation, Local Funds</i>	<i>Prevention, Public Information and Awareness</i>	<i>Continual</i>	<i>New</i>
All	Update local mapping system capabilities, including hardware and software.	All	Medium	T, A	Local Governments, Building & Zoning Departments	Pre-Disaster Mitigation, Local Funds	Prevention, Public Information and Awareness	Continual	On-going
Objective 5.2: Increase the jurisdictions' ability to communicate and direct emergency services and resources to the appropriate hazard areas.									
All	Upgrade Emergency Services communication equipment and general technology and create redundancy.	All	High	T, A, E1	Emergency Management / First Response Agencies	Homeland Security Grants, First Responder Grants, FEMA Fire Act Grants, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going
All	Design and implement a cyber protection program and infrastructure protection for critical information systems and infrastructure to ensure the survivability of the region's communication system. (Ex. E-911 dispatch, communications, communication infrastructure (cellular towers), etc.)	All	High	T, A, P, L, E1	Emergency Management	Pre-Disaster Mitigation, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going
<i>Flooding</i>	<i>Maintain stream gauge systems on the major rivers and tributaries to monitor water quantity and/or quality for early warning and post-event information.</i>	<i>All</i>	<i>High</i>	<i>T, A, E1, E2</i>	<i>Local Governments, Emergency Management, Community Partners, Land Banks/Land Trust, Conservation Agencies</i>	<i>Local Funds, Private Funds, Nonprofit Funds, Foundation Funds</i>	<i>Prevention, Property Protection, Natural Resource Protection</i>	<i>Continual</i>	<i>New</i>
Thunderstorms	Maintain the warning and notification systems, including mass notification system (Integrated Public Alert and Warning System (IPAWS) and wireless emergency systems/smartphone) for early warning and post-event information.	All	High	T, A, P, E1	Emergency Management	Pre-Disaster Mitigation, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going
Tornados	Maintain the warning and notification systems, including mass notification system (Integrated Public Alert and Warning System (IPAWS) and wireless emergency systems/smartphone) for early warning and post-event information.	All	High	T, A, P, E1	Emergency Management	Pre-Disaster Mitigation, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
All	To ensure continuity of operation at Emergency Operations Centers, implement infrastructure and technology improvements.	All	High	T, A, P, E1	Emergency Management	Pre-Disaster Mitigation, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going
All	Encourage the use of the Integrated Public Alert and Warning System (IPAWS), wireless emergency systems/smartphones, emergency-focused apps, social media, and other mass notification tools.	All	High	S, T, A, P, E1	Local Governments, Emergency Management	Pre-Disaster Mitigation, CDBG Disaster Relief Grants	Emergency Services	Continual	On-going
All	<i>Collaborate with community partners who serve underserved and vulnerable populations to develop a system to communicate with their clients and the population</i>	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
Goal 6: Build local support and commitment to continuously become less vulnerable to hazards.									
Objective 6.1: Train volunteers and staff to support and implement mitigation activities that will enhance the response capabilities of the local jurisdictions.									
All	Recruit and Train volunteers to serve on Citizen Corps, CERT, American Red Cross, and other volunteer programs.	All	High	T, A, P, L, E1	Emergency Management	Pre-Disaster Mitigation	Prevention	Continual	On-going
All	Encourage more coordination between jurisdictions on hazard mitigation issues.	All	Medium	A, P, L, E1	Local Governments, Emergency Management	Pre-Disaster Mitigation	Prevention	Continual	On-going
All	Train staff and disaster responders for hazard events, ensuring responders are qualified. Specifically, it requires NIMS training.	All	Medium	A, P, L, E1	Local Governments, Emergency Management	Pre-Disaster Mitigation	Prevention, Education	Continual	On-going
Goal 7: Promote Economic Recovery and Continuity Following Hazard Events									
Objective 7.1: Develop and implement post-disaster recovery plans to restore essential services and support local businesses.									
All	<i>Identify the region's continuity of operations (COOP), continuity of government (COG), enduring constitutional government (ECG), and Voluntary Agency Liaisons (VALs) programs as detailed in FEMA guidance.</i>	All	High	S, T, E2	Local Governments, Emergency Management	Local Funds, HMGP, PDM	Emergency Services	Continual	New
All	<i>Ensure resilience by incorporating the National Essential Functions (NEFs) in the post-disaster recovery plans</i>	All	High	S, T, E2	Local Governments, Emergency Management	Local Funds, HMGP, PDM	Emergency Services	Continual	New
All	<i>Create a network of community partners to identify potential needs and align resources to assist employers, when possible, disturbances arise</i>	All	High	S, T, E2	Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development	Local Funds, HMGP, PDM	Emergency Services	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
					Non-Profits, Local Human Resource Associations				
All	Develop an energy resilience mitigation strategy to include energy needs priorities, available fixed and portable alternative energy sources, and a purchasing schedule for new and outdated alternative energy sources.	All	High	S, T, E2	Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development Non-Profits, Local Human Resource Associations	Local Funds, HMGP, PDM	Emergency Services	Continual	New
All	Collaborate with local economic development organizations to create an outreach plan using existing communication platform to keep community leaders and the business community informed about potential disturbances and available resources	All	High	S, T, E2	Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development Non-Profits, Local Human Resource Associations	Local Funds, HMGP, PDM	Emergency Services	Continual	New
Objective 7.2: Establish a community recovery fund to assist with immediate post-disaster needs and long-term economic recovery.									
All	Partner with community organizations to create recovery funds to assist families, communities, and businesses after an event	All	High	S, A	Local and State Governments, Community Foundations, Community Non-Profits	Local, State and Federal Funds, Community Foundations	Public Information and Awareness	Continual	New
Goal 8: Encourage Collaboration and Partnerships with Private Sector and Non-Governmental Organizations									
Objective 8.1: Foster public-private partnerships to leverage resources and expertise for mitigation efforts.									
All	Collaborate with community partners to facilitate sustainable and environmental mitigation planning and development.	All	High	S, T, E2	Local Governments, Community Partners, Land Banks/Land Trust, Conservation Agencies	Local Funds, HMGP, PDM	Emergency Services, Natural Resource Protection, Public Information and Awareness	Continual	New
All	Collaborate with community partners who serve underserved and vulnerable populations to identify community shelters, including but not limited to tornado-safe facilities.	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
<i>Objective 8.2: Engage local non-governmental organizations in community awareness and preparedness campaigns.</i>									
All	Collaborate with community partners who serve underserved and vulnerable populations to develop a system to communicate with their clients and the population	All	High	S, T, E2	Local Governments, Community Partners	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
All	Partner with local and regional business organizations to promote resilience plan development to anticipate future disturbances	All	High	S, T, E2	Local Governments, Utility Providers, Emergency Managers, Floodplain managers, Economic Development Non-Profits, Local Human Resource Associations	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
<i>Goal 9: Support Sustainability and Environmental Mitigation within Hazard Planning</i>									
<i>Objective 9.1: Assess and address the impacts of environmental change on local hazard vulnerabilities.</i>									
All	Partner with the local conservancy and conservation organizations and post-secondary educational institutions to conduct environmental assessments	All	Medium	S, T, A, P, E1, E2	Local Governments, Post Secondary Educational Institutions, County Extension Offices, Local, Regional and Statewide Non-Profits	Local and State Funds,	Prevention, Natural Resource Protection, Public Information and Awareness	Continual	New
All	Promote environmental stewardship through the conservation of natural resources and the development of a resilience plan for the resources	All	High	S, A, E1, E2	Local Governments, Conservation Agencies	Local and State Funds	Natural Resource Protection, Public Information and Awareness	Continual	New
<i>Objective 9.2: Incorporate sustainable and environmental mitigation principles into local and regional planning policies, ordinances, and regulations.</i>									
All	Encourage jurisdictions to incorporate environmental regulations such as Riparian Corridors, into their development requirements	All	Medium	S, A, L, E1, E2	Local Governments, Conservation Agencies, Planning and Zoning Organizations	Local and State Funds	Natural Resource Protection, Public Information and Awareness	Continual	New
<i>Objective 9.3: Encourage sustainable practices and renewable energy solutions within community planning and response efforts.</i>									

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
All	Encourage renewable energy use by increasing the opportunities to access renewable energy	All	High	S, A, E1, E2	Local Governments, Planning and Zoning Organizations, Economic Development Non-Profits, Utility Companies	Local and State Funds, Private Funds	Natural Resource Protection, Public Information and Awareness	Continual	New
Goal 10: Enhance Accessibility and Equity in Hazard Preparedness and Response									
Objective 10.1: Ensure that hazard planning and response are accessible to all community members, including those with disabilities or language barriers.									
All	Create an education program and outreach plan to reduce communication barriers, including translation of alerts into native preferred languages.	All	High	S, T, E2	Local Governments, Emergency Management	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
Objective 10.2: Promote equity in resource allocation, ensuring that vulnerable and underserved populations are prioritized.									
All	Identify locations where vulnerable and underserved populations can receive essential resources	All	High	S, T, E2	Local Governments, Emergency Management	Local Funds, HMGP, PDM	Emergency Services, Public Information and Awareness	Continual	New
Goal 11: Incorporate Dams Construction and Maintenance into Local and Regional Mitigation Planning									
Objective 11.1: Create a Database of All Dams in the Region									
Dams	Inventory all dams to evaluate current status, inundation patterns, emergency action plans, maintenance schedules, proposed upgrades, and reducing long-term vulnerabilities.	All	High	S, T, E2	Local Governments, Planning and Zoning Departments, Emergency Management, Regional Organizations	Local Funds	Natural Resource Protection, Structural Projects	Continual	New
Dams	Assist dam owners in securing funding to make identified maintenance requirements and proposed upgrades.	All	Medium	S, T, E2	Local Governments, Planning and Zoning Departments, Emergency Management, Regional Organizations	Local Funds	Natural Resource Protection, Structural Projects	Continual	New
Objective 11.2: Assist communities in meeting state and federal regulations for dams									
Dams	Identify all regional hazardous dams that require an emergency action plan to be on file at the State	All	High	S, T, E2	Local Governments, Planning and Zoning Departments, Emergency Management, Regional Organizations	Local Funds	Natural Resource Protection, Structural Projects	Continual	New

Hazard	Action	Jurisdiction(s)	Priority	STAPLEE	Responsible Entities	Potential Funding Sources	CRS Action Category	Timeframe	Status Since Previous Plan
<i>Dams</i>	<i>Assist dam owners in completing an emergency action plan if required</i>	<i>All</i>	<i>High</i>	<i>S, T, E2</i>	<i>Local Governments, Planning and Zoning Departments, Emergency Management, Regional Organizations</i>	<i>Local Funds</i>	<i>Natural Resource Protection, Structural Projects</i>	<i>Continual</i>	<i>New</i>
Goal 12: Establish Continuous Evaluation and Improvement Processes									
<i>Objective 12.1: Implement regular reviews and updates to the hazard mitigation plan to ensure alignment with evolving community needs and global best practices.</i>									
<i>All</i>	<i>Host workshops with Hazard Mitigation professionals to review priorities and gather status updates on local and regional programs and projects</i>	<i>All</i>	<i>Medium</i>	<i>S, A</i>	<i>Local Governments, Community Partners</i>	<i>Local Funds</i>	<i>Public Information and Awareness</i>	<i>Yearly</i>	<i>New</i>
<i>All</i>	<i>Gather Hazard Mitigation Project Progress Reports and Projects Status Reports from Hazard Mitigation professionals to track implementation</i>	<i>All</i>	<i>Medium</i>	<i>S, A</i>	<i>Local Governments, Community Partners</i>	<i>Local Funds</i>	<i>Public Information and Awareness</i>	<i>Yearly</i>	<i>New</i>
<i>Objective 12.2: Encourage community input and feedback in evaluation processes to maintain transparency and relevance.</i>									
<i>All</i>	<i>Host informational sessions throughout the region to provide a plan update and gather additional information from the community.</i>	<i>All</i>	<i>Medium</i>	<i>S, A</i>	<i>Local Governments, Community Partners</i>	<i>Local Funds</i>	<i>Public Information and Awareness</i>	<i>Yearly</i>	<i>New</i>
<i>All</i>	<i>Provide local jurisdiction with Regional Hazard Mitigation Plan status reports</i>	<i>All</i>	<i>Medium</i>	<i>S, A</i>	<i>Local Governments, Community Partners</i>	<i>Local Funds</i>	<i>Public Information and Awareness</i>	<i>Yearly</i>	<i>New</i>

Goals and objectives in italics have been revised or added in 2024.

D. PLAN MAINTENANCE

Performance Metric	Responsible Entities Involved	Maintenance Frequency
Maintenance Phase – Public Participation		
Maintain the Northern Kentucky Hazard Mitigation Plan and yearly updates on the NKADD website	Regional Planning Organizations	Continual
Create outreach and communication plans to bring awareness of the Hazard Mitigation Plan, workshops, and informational sessions	Regional Planning Organizations, County Emergency Managers	Once
Host workshops with Hazard Mitigation professionals to review priorities and gather status updates on local and regional programs and projects	Regional Planning Organizations, County Emergency Managers	Yearly
Host informational sessions throughout the region to provide plan updates and gather additional information from communities	Regional Planning Organizations, County Emergency Managers	Yearly
Using the participation in and partnerships with a number of existing local and regional groups, gather additional input from community stakeholders. <i>(Including the Campbell County Mayor’s Group, Kenton County Mayor’s Group, Municipal Government League of Northern Kentucky, Northern Kentucky City and County Manager Association, Northern Kentucky City Clerks Association, Northern Kentucky Workforce Investment Board, and numerous chambers of commerce throughout the region.)</i>	Regional Planning Organizations	Yearly
Incorporate the use of Hazard Mitigation Strategy Yearly Update templates to streamline the yearly update process	Regional Planning Organizations	Once
If any updates to the Hazard Mitigation Plan are deemed necessary before the five-year update, the local and regional steering committees will provide opportunities for public input and seek re-approval if required.	Regional Planning Organizations, County Emergency Managers	Yearly
Provide local jurisdiction with Annual Regional Hazard Mitigation Plan Project Status Reports (Appendix 24)	Regional Planning Organizations, County Emergency Managers	Yearly
Maintenance Phase – Monitoring		
Conduct regular meetings of the counties’ Emergency Management Directors	Regional Planning Organizations	Bi-Monthly
Utilize regional and local mitigation committees to monitor the Mitigation Plan Strategy Action Plan	Regional Planning Organizations, County Emergency Managers	Yearly
Conduct reviews of the Hazard Migration Strategy Action Plan for relevance and effectiveness	Regional Planning Organizations, County Emergency Managers	Yearly

Performance Metric	Responsible Entities Involved	Maintenance Frequency
Gather Hazard Mitigation Project Progress Reports and Projects Status Reports from Hazard Mitigation professionals to track implementation (Appendix 25)	Regional Planning Organizations, County Emergency Managers	Yearly
Maintenance Phase – Evaluation		
Use Hazard Mitigation Project Progress Reports and Project Status Reports received from Hazard Mitigation professionals to track implementation	Regional Planning Organizations, County Emergency Managers	Yearly
Emphasizing the importance of identifying the corresponding Hazard Migration Strategy Action Plan Goals and Objectives on the Hazard Mitigation Project Progress Reports and Projects Status Reports	Regional Planning Organizations, County Emergency Managers	Yearly
Use submitted Hazard Mitigation Project Progress Reports and Projects Status Reports to develop a database that tracks the effectiveness of the plan.	Regional Planning Organizations	Yearly
Host regional and local mitigation committees to assess how the Regional Hazard Mitigation Plan is meeting the action plan	Regional Planning Organizations, County Emergency Managers	Yearly
Maintenance Phase – Updating		
If any updates to the Hazard Mitigation Plan are deemed necessary before the five-year update, the local and regional steering committees will provide opportunities for public input and seek re-approval if required.	Regional Planning Organizations,	Yearly
Updating of the regional five (5) year plan will start in the fourth year of the current plan.	Regional Planning Organizations, County Emergency Managers	Every 5 Years
Using data gathered during the four years prior to plan updating, the local and regional hazard mitigation steering committees will meet to assess the current plan.	Regional Planning Organizations, County Emergency Managers	Every 5 Years
During the update process, stakeholder meetings will be held throughout the region to ensure all jurisdictions have an opportunity to participate	Regional Planning Organizations, County Emergency Managers	Every 5 Years
Host stakeholder meetings to gather input on the different plan elements	Regional Planning Organizations, County Emergency Managers	Every 5 Years
Maintenance Phase – Integration		
Work with the Emergency Management Directors and Flood Plain Managers in each county to ensure elements of the Hazard Mitigation plan are incorporated into revised jurisdictional documents.	Regional Planning Organizations, County Emergency Managers, Local Governments	Yearly
Collaborate with local and regional planning agencies and governmental entities to incorporate elements of the Hazard Mitigation Plan into their planning documents, such as revised comprehensive plans, land use plans, strategic growth plans, etc. (Lists of existing authorities, planning mechanisms, policies,	Regional Planning Organizations, Local Governments, Planning and Zoning Organizations	Yearly

Performance Metric	Responsible Entities Involved	Maintenance Frequency
plans, programs, ordinances, etc. can be found in the Element C – Mitigation Strategy)		
Educate city and county staff on the Hazard Mitigation plan and the importance of incorporating the plan elements into any new or revised plans, projects and/or ordinances to ensure sustainability and increase resiliency after an event	Regional Planning Organizations, County Emergency Managers, Flood Plain Managers, Planning and Zoning Organizations	Yearly
Using the <i>Capabilities Assessment Table</i> in Element C – Mitigation Strategy to determine how the mitigation strategy could be incorporated into each jurisdiction planning mechanisms 1. If yes, each county and city jurisdiction would consider mitigation action to ensure that mitigation actions are cost-effective, environmentally sound, and technically feasible. The mitigation committees will also work together with other agencies to implement mitigation actions where feasible on a regional level that will include all jurisdictions. 2. If no, the mitigation committees will work with the jurisdictions to understand the mitigation actions and incorporate them into any future development plans	Regional Planning Organizations, County Emergency Managers, Flood Plain Managers, Planning and Zoning Organizations, Local Governments	Yearly
Using the <i>Expansion and Improvement Capabilities Assessment Table</i> in Element C – Mitigation Strategy to determine how the mitigation strategy could be incorporated into each jurisdiction planning mechanisms 1. If yes, each county and city jurisdiction would consider mitigation action to ensure that mitigation actions are cost-effective, environmentally sound, and technically feasible. The mitigation committees will also work together with other agencies to implement mitigation actions where feasible on a regional level that will include all jurisdictions. 2. If shared, each county and city jurisdiction would implement the action together, allowing for program funding to be used collectively and efficiently to meet the mitigation goals 3. If no, the mitigation committees will work with the jurisdictions to understand the mitigation actions and incorporate them into any future development plans	Regional Planning Organizations, County Emergency Managers, Flood Plain Managers, Planning and Zoning Organizations, Local Governments	Yearly

E. PLAN UPDATE

1. REFLECTING CHANGING DEVELOPMENT

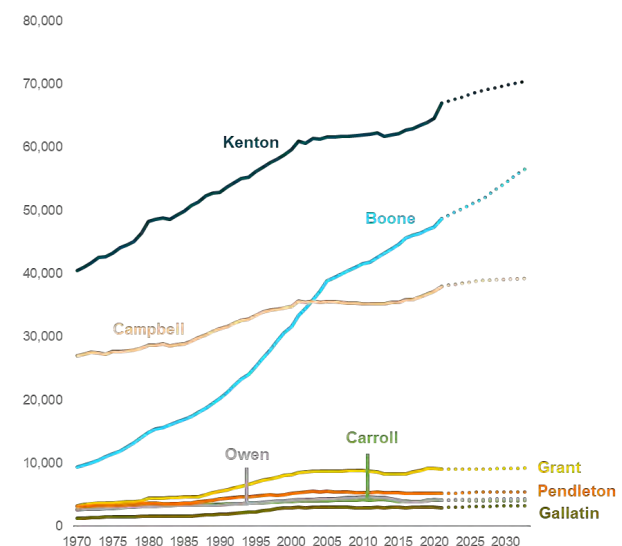
As a region, Northern Kentucky has seen population growth since the 2010 census¹⁸. With this growth comes the development of industrial sites, educational facilities, expanded infrastructure, governmental buildings, and housing units. Using the existing planning mechanisms, minimal, if any, development occurred in hazard-prone areas. Local jurisdictions continue to analyze and evolve their planning mechanisms to incorporate best practices and emerging technologies to continue to decrease each jurisdiction's vulnerabilities.

County	2023 Population	Growth Since 2010
Boone	141,226	18.77%
Kenton	171,866	7.6%
Owen	11,410	5.25%
Campbell	93,898	3.94%
Gallatin	8,720	1.53%
Grant	25,025	1.47%
Carroll	10,810	-0.01%
Pendleton	14,575	-2.03%
Population of Counties in Kentucky 2023 (worldpopulationreview.com)		

During 2023, the NKADD has served as the administrator of a large data study about housing inventory, cost, and relationship to economic conditions and jobs in the eight-county Northern Kentucky region. The idea for a study originated at NKADD in regional workforce development discussions with local elected officials and planning commissions, Horizon Community Funds, CVG Airport, BE-NKY, Brighton Center, Kentucky Career Center/NKWIB and employers, as we work to better align employers needing talent with jobseekers. To summarize the study, NKADD counties operate as both employment centers and bedroom communities, including for employees commuting into Cincinnati. The northern counties are well positioned to absorb higher-income household growth but struggle to provide affordable housing for low-wage service sector workers who comprise a sizeable portion of the employment

Total household history and forecast (1970-2033)

Source: Woods & Poole



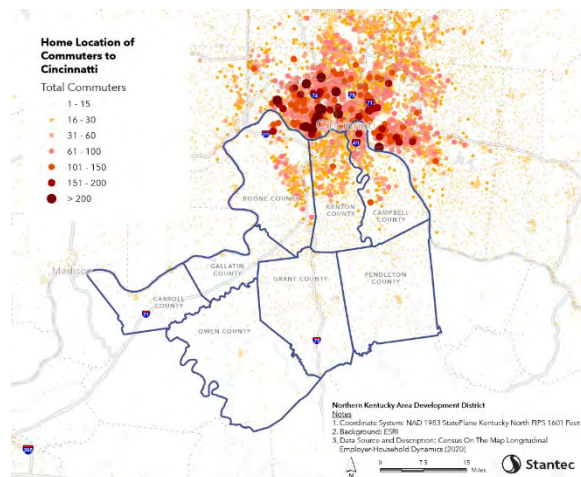
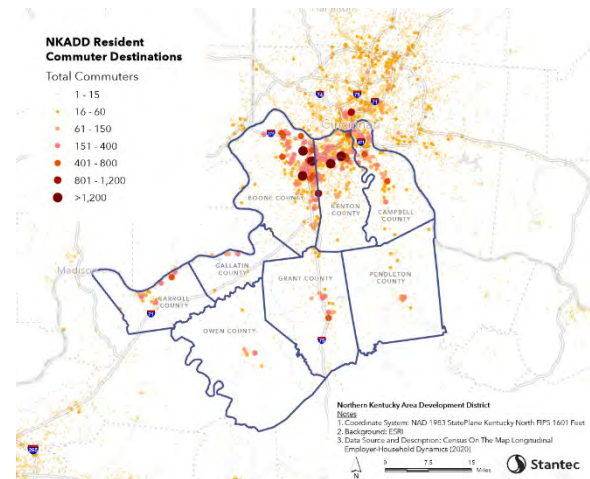
¹⁸ [Population of Counties in Kentucky 2023 \(worldpopulationreview.com\)](https://worldpopulationreview.com)

base. Regional household trends are expected to continue at current rates.

The NKADD region has a 5-year housing production need of 6,650 units, which equates to 1,300 units per year. About half of the new housing demand (3,260 units) is low-income residents earning up to 60% of the area median household income of \$103,600. Current housing in Boone, Kenton and Campbell is positioned for middle to upper-middle professional incomes, but affordability for warehouse, service, and low-wage healthcare workers is currently lacking and will be exacerbated by incoming residents. New tract housing and older rental stock in suburban/rural locations are absorbing lower to middle-income households, but the limited availability of these units relative to demand pushes prices out of the range of many. Smaller one- and two-bedroom units account for 4,220 units, more than three-fifths of the overall demand. The change in unit size reflects a shift in demographics and will require a shift in housing development practice away from the three- and four-bedroom single-family houses that have been the primary mode of production for the past 20 years.

Examining the regional commuting patterns demonstrates high levels of suburb-to-suburb commutes. While radial commutes into Cincinnati remain important, Boone and Kenton are major employment centers in their own right, with Carroll a larger rural employment hub.

Commuting across suburbs is an increasing trend in many urban locations and one that poses challenges to historic transit patterns that radially extend out of downtown Covington, Kentucky.



With more than 25,000 Northern Kentuckians commuting into the city of Cincinnati, or 10.6% of total commuters, commuters are more heavily concentrated in northern Kenton and Campbell counties and more likely to work in higher-wage New Economy jobs clustered downtown. New multi-family housing in Covington and Newport are specifically designed to attract young professionals into historic urban areas, while newer construction single-family suburban housing in Campbell, Kenton, and Boone attracts larger and older households.

Commuters also extend deeper into newer, large single family housing construction in Boone County and Alexandria in Campbell County.

The study also revealed that the Cincinnati Region's steady growth and job composition reflects the national "New Economy." The region has seen slow overall job growth in 20 years. Eds and Meds and

new economy low wage jobs have increased their share, while mid-wage blue collar jobs have decreased. The different segments are

New Economy High Wage: Finance, Insurance, and Real Estate (FIRE), Management, Professionals, and Information. 'Head' jobs concentrated in corporate HQ's and regional campuses. 'Sticky' in an era of globalization.

New Economy Low Wage: Hospitality, retail, logistics, and service sector work. Low-productivity, lower-wage jobs, but high employment numbers. Linked to the consumption of higher income earners.

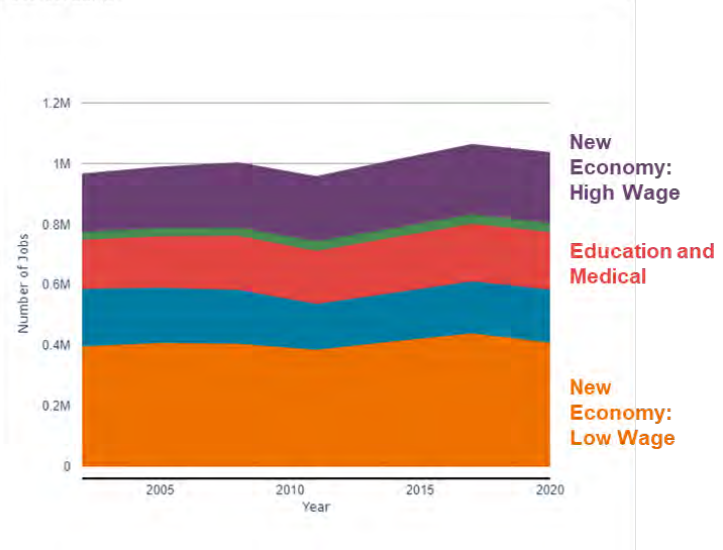
Education and Medical ("Eds and Meds"): Geographically 'sticky' jobs (not likely to move) are central to urban locations. Incomes range from low-wage homecare workers, lower-middle teacher salaries to high-end doctors or administrators.

Government: Public sector jobs. Consistent over time, with slight uptick during times of increased public sector spending (recession) and dips during public sector withdrawal.

Blue Collar: Manufacturing, construction, and extraction jobs with middle incomes. While construction jobs are 'sticky,' manufacturing saw stark declines after 2000 with globalization. Manufacturing clusters together and is more 'sticky' in skilled industries like aircraft engine manufacturing.

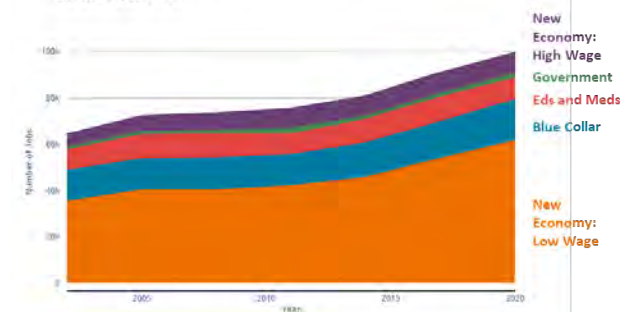
Cincinnati Metropolitan Region Employment Structure

Source: LEHD



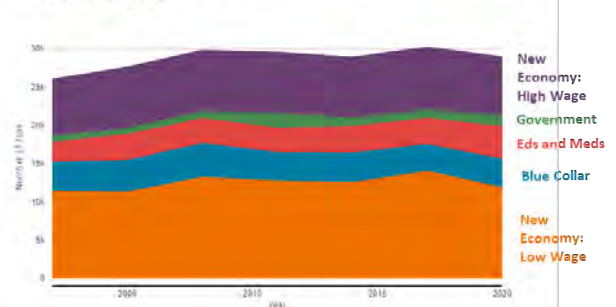
Boone County Industrial Structure

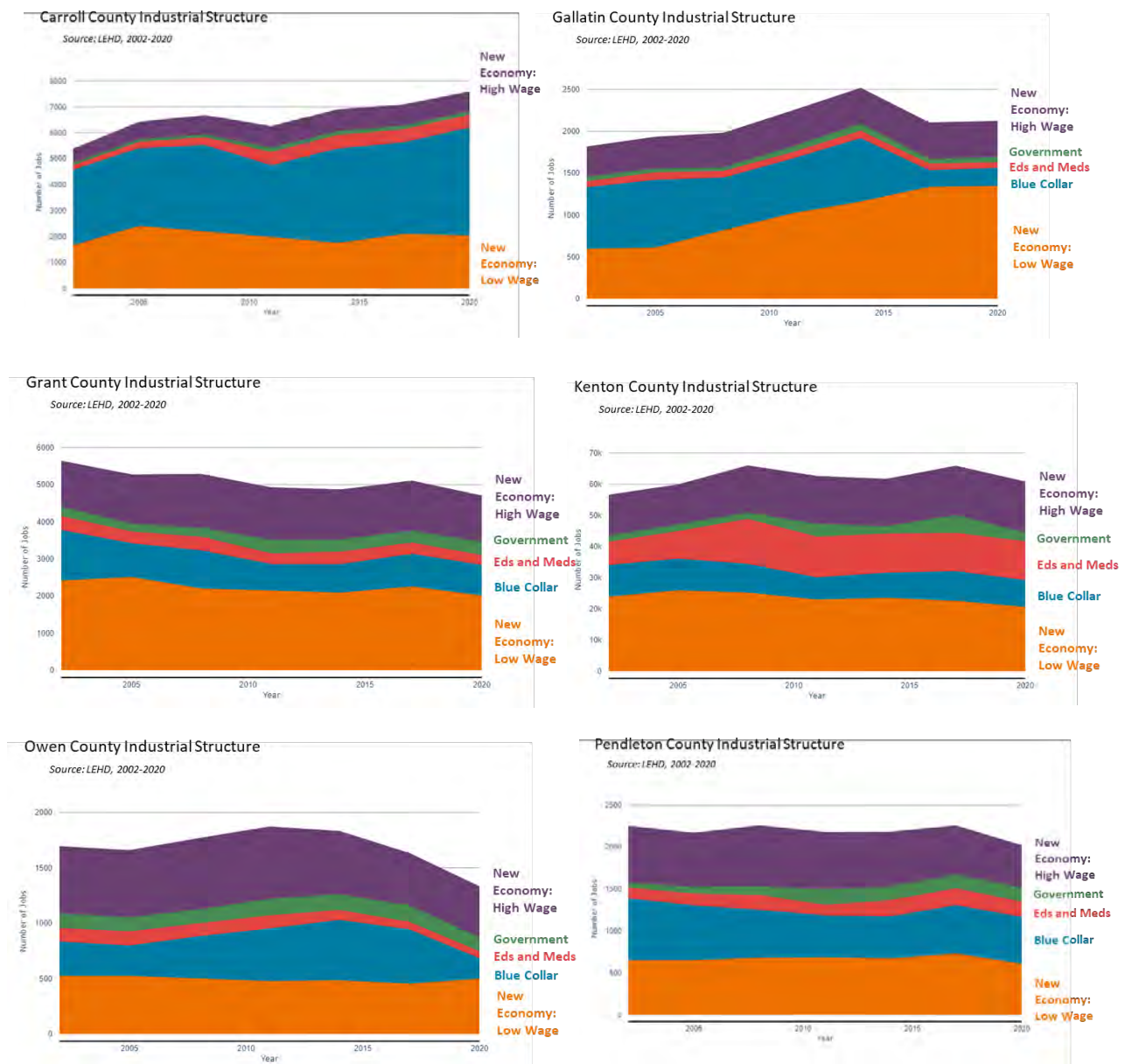
Source: LEHD, 2002-2020



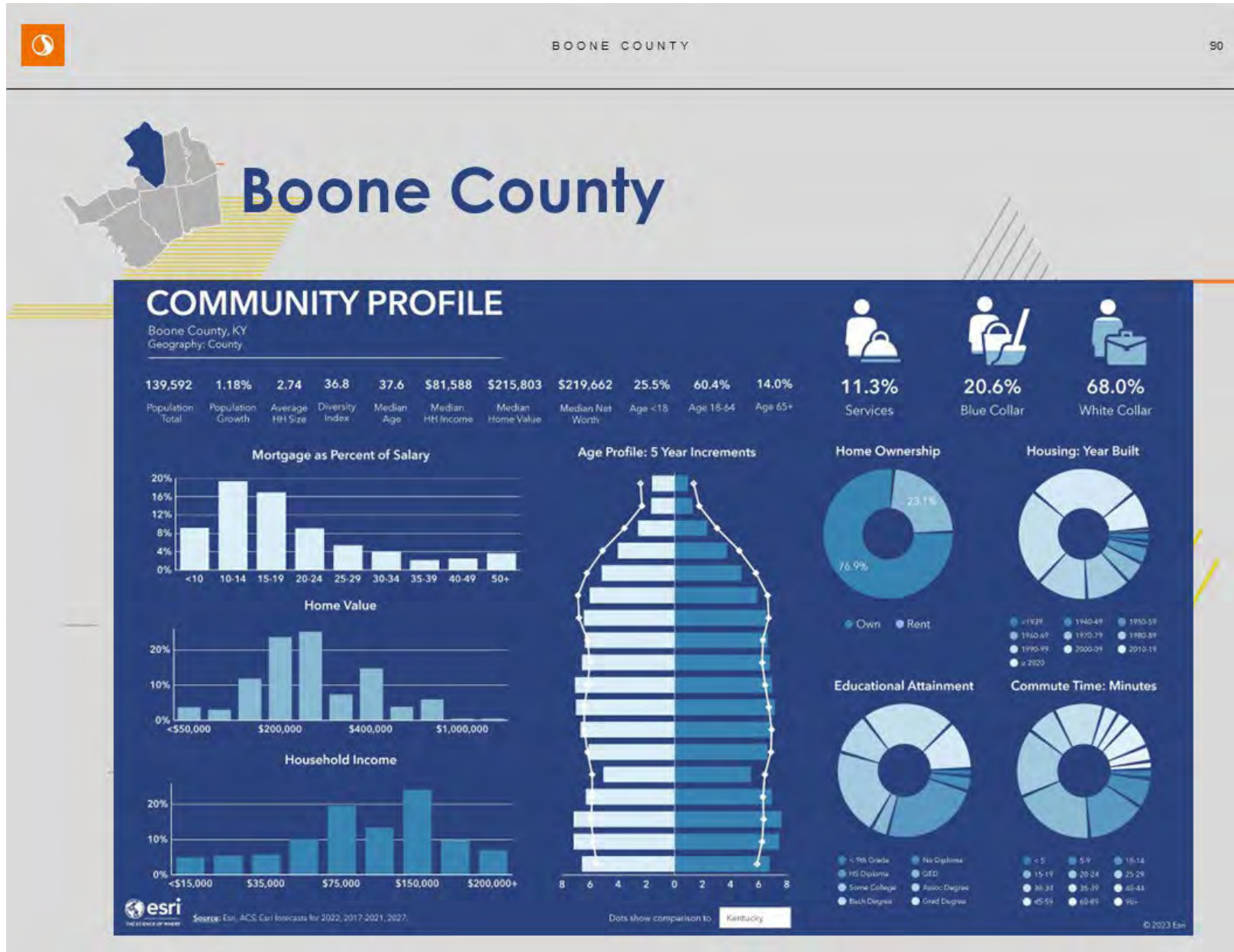
Campbell County Industrial Structure

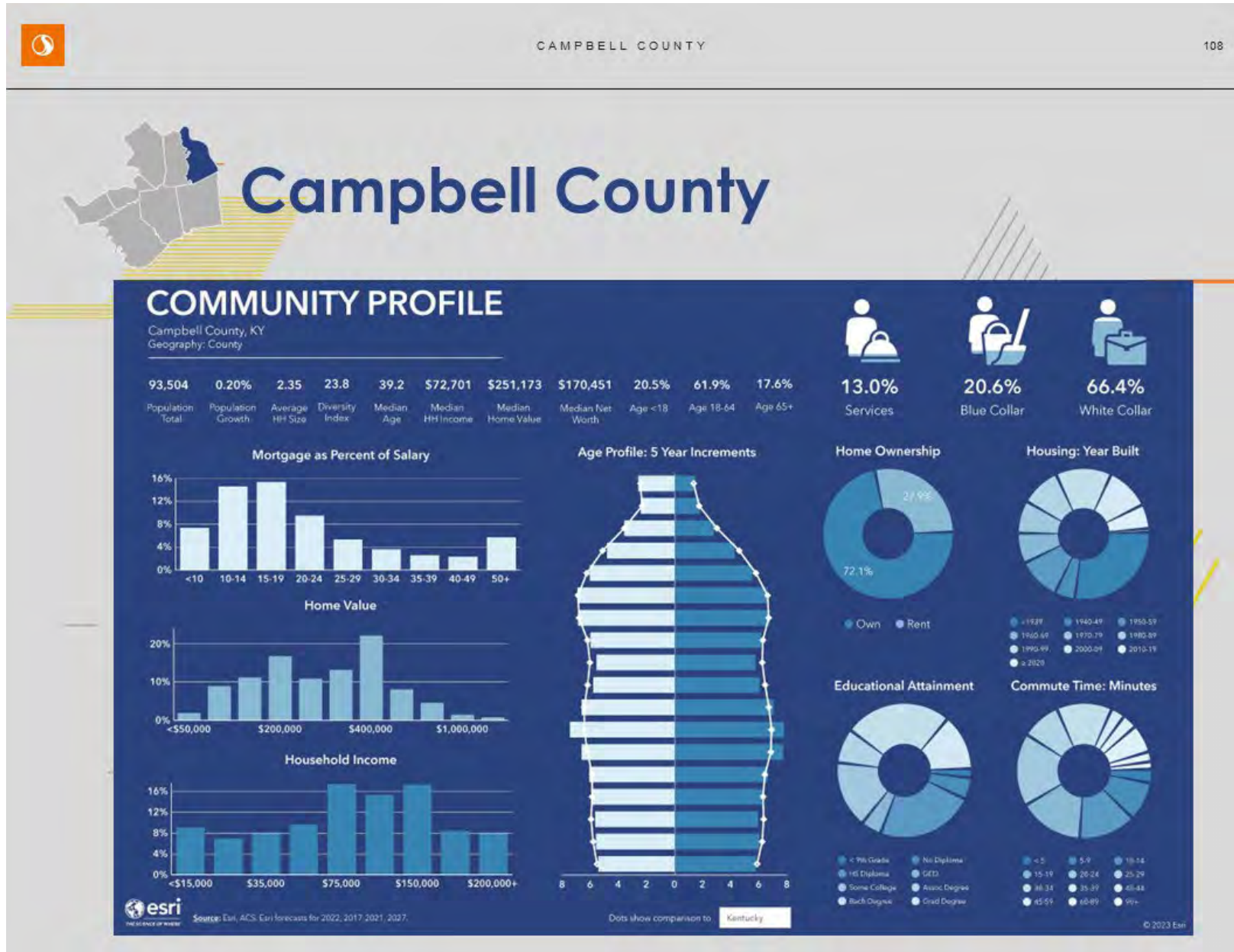
Source: LEHD, 2002-2020

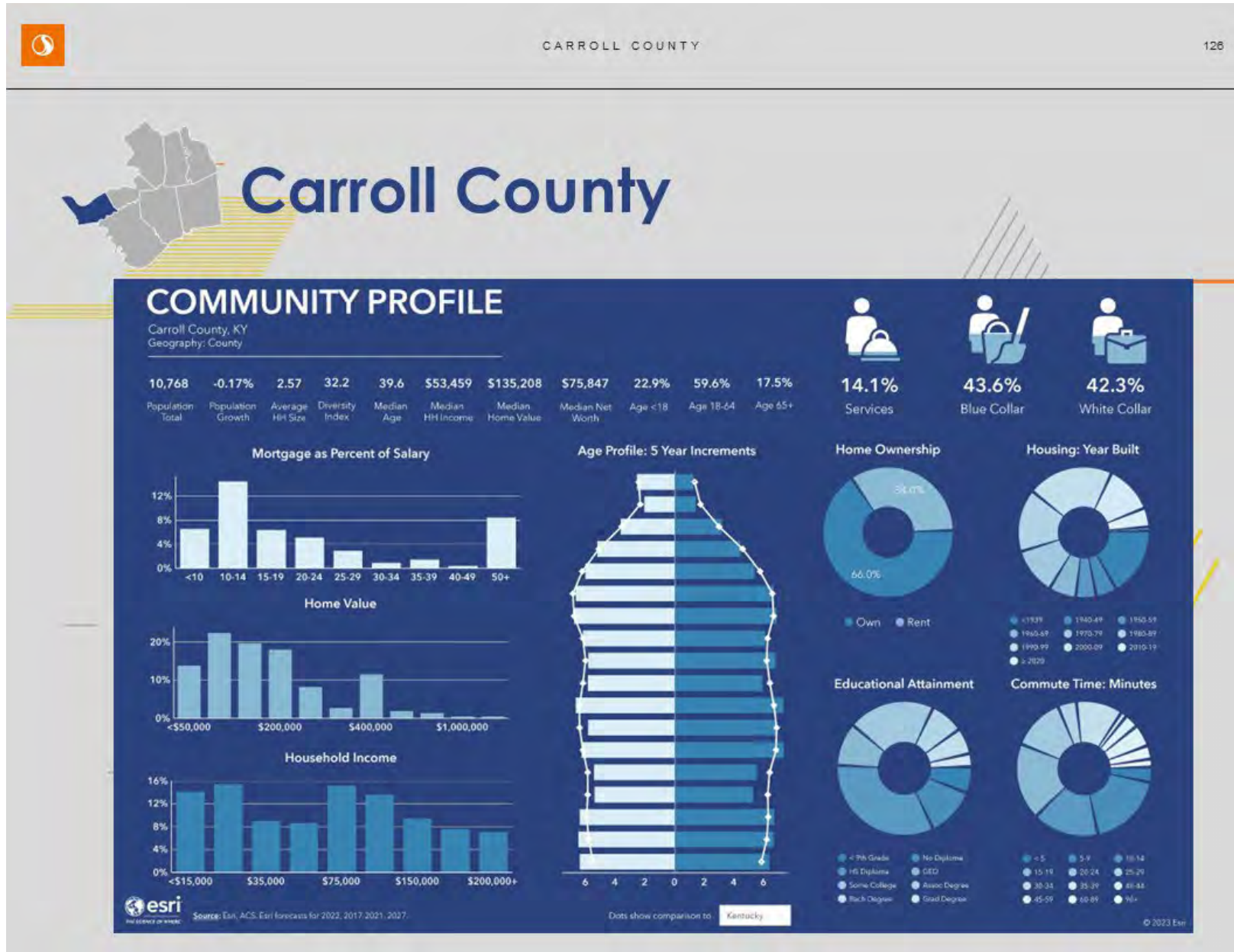


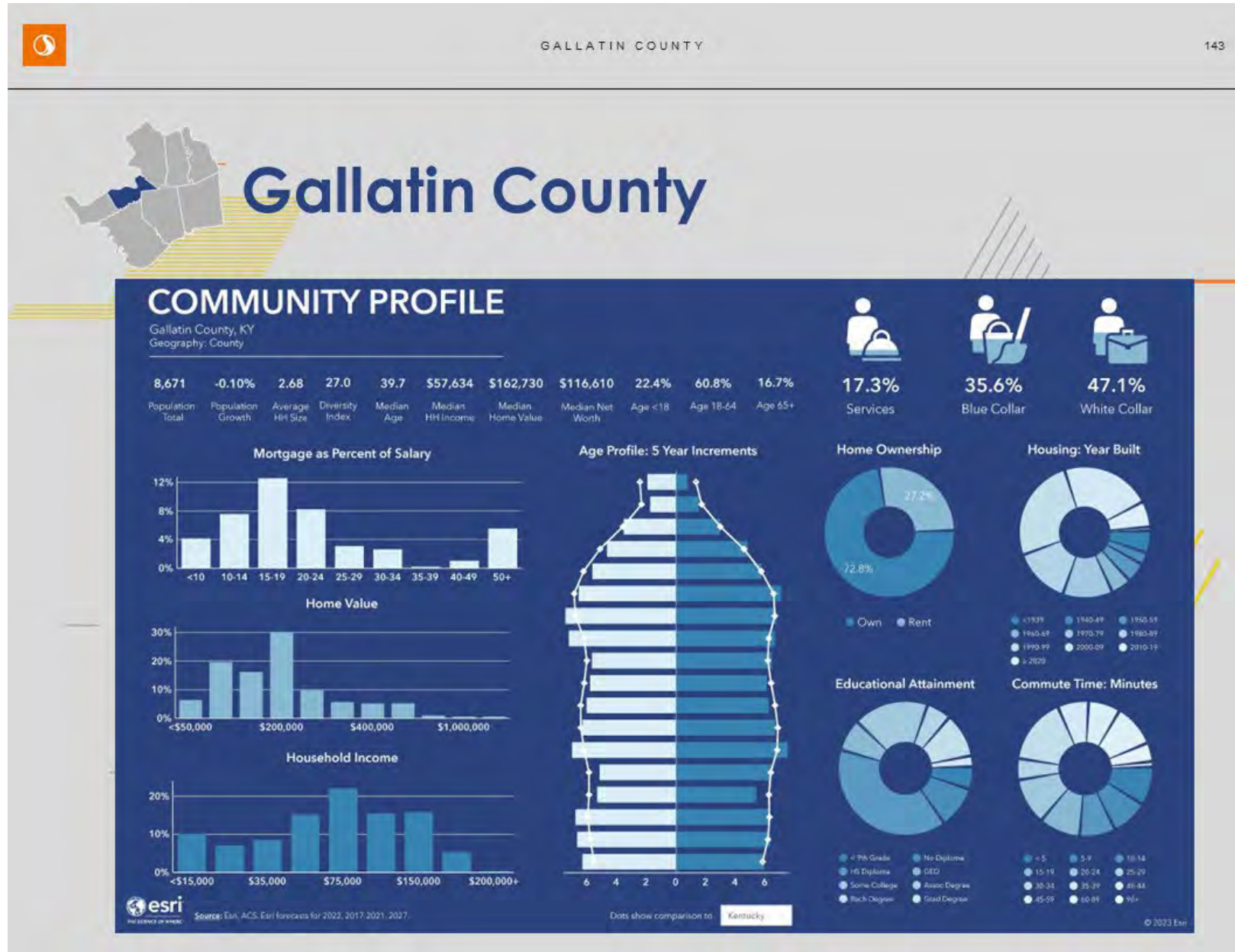


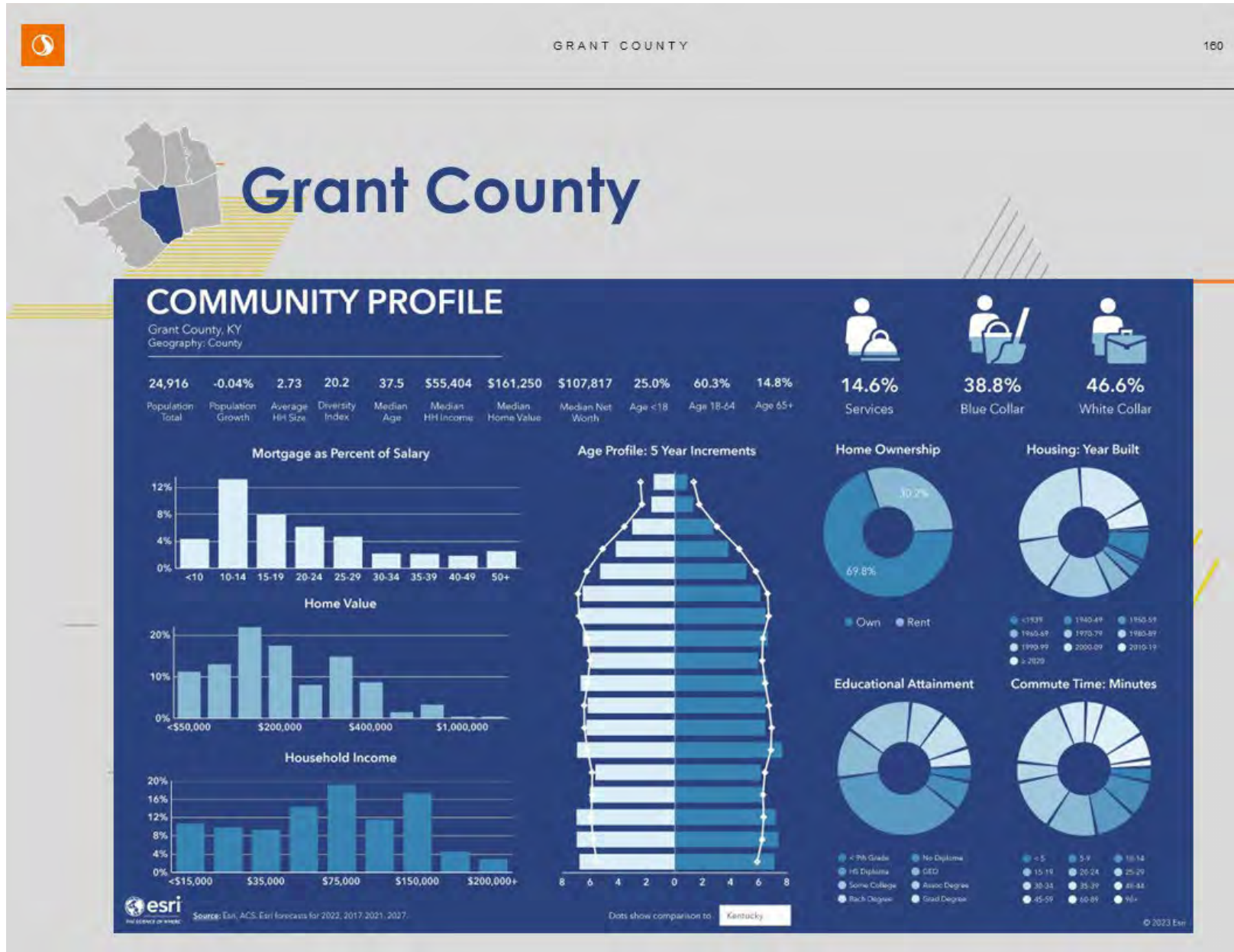
From the housing study, the community profiles provided a snapshot of the current population, median household income, median home value, educational attainment, and other data points. These data points align with previous demographic information and economic indicators



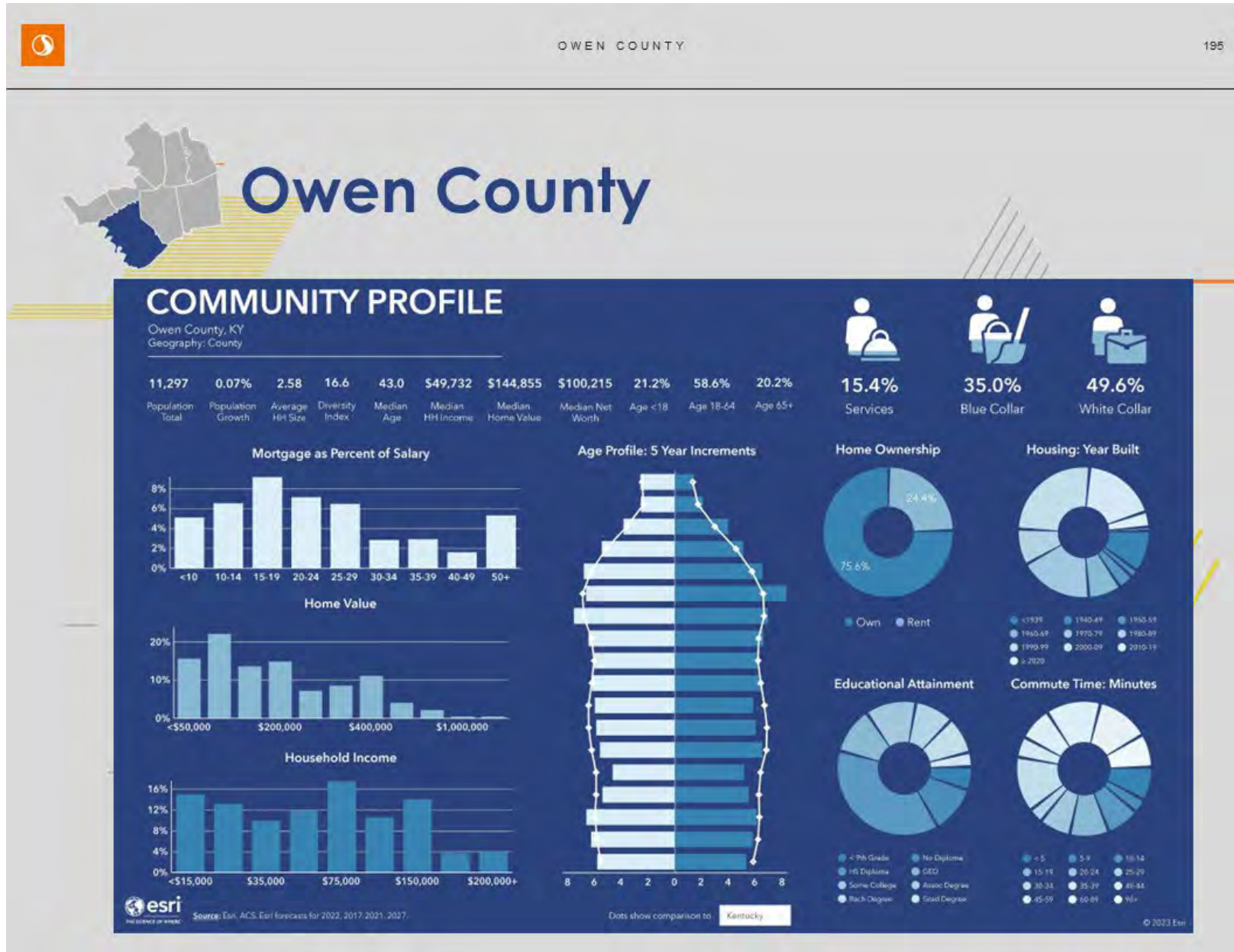


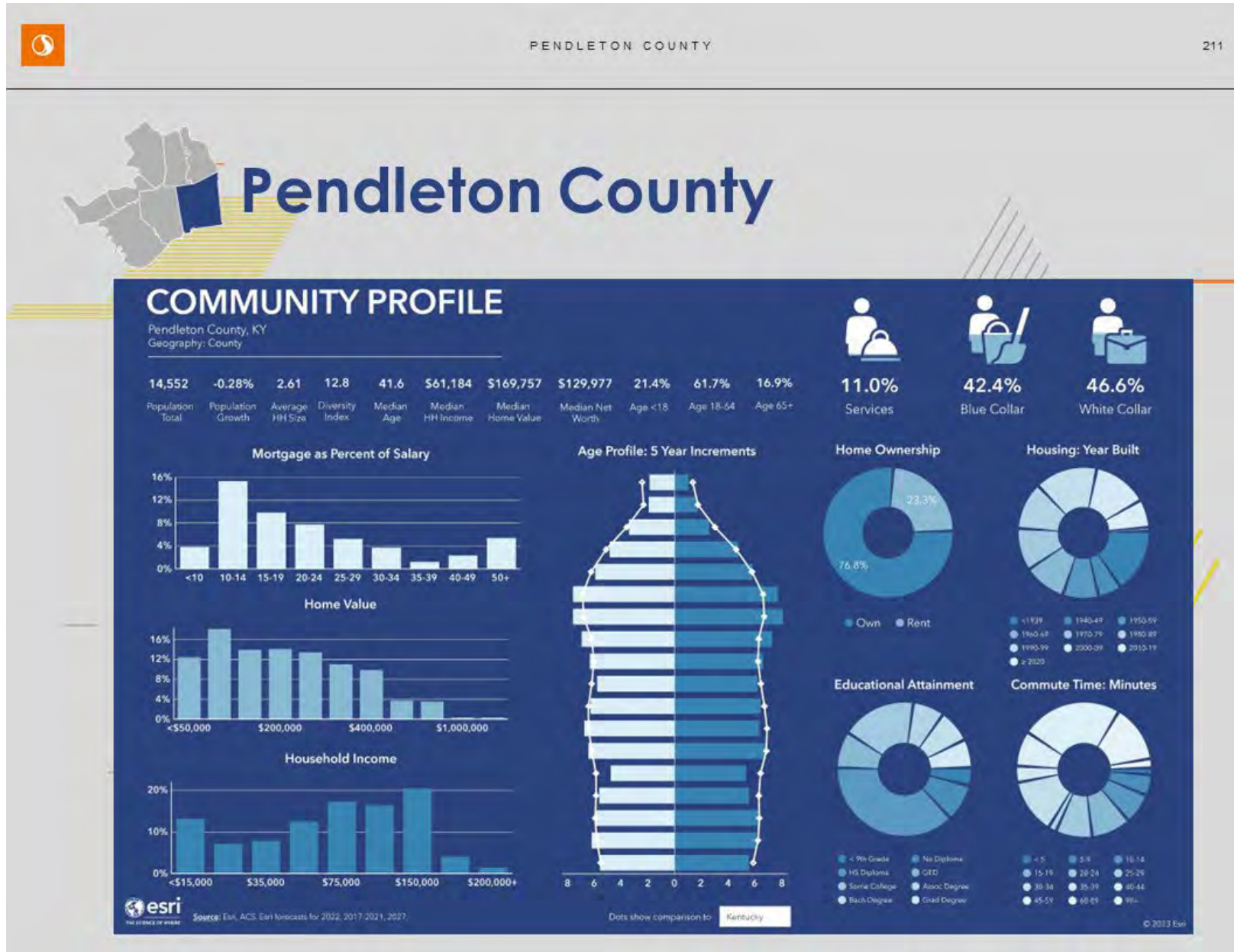






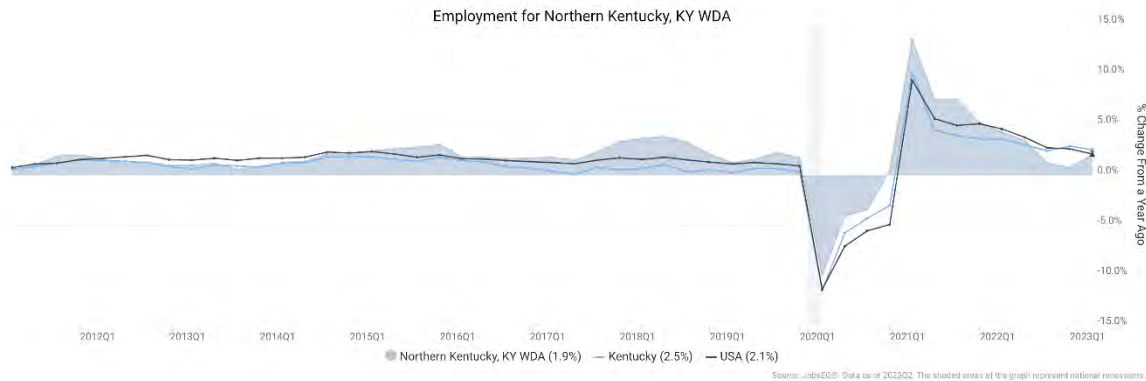






EMPLOYMENT TRENDS

At the end of the third quarter of 2023, the total employment in Northern Kentucky was 245,690, which was a 3.2% increase over the last year. All of the counties in the region remained the same over the previous year. The Workforce Participation Rate in July 2023 for Workforce Participation Rate was 67% or 9% higher than the statewide rate. Boone County had the highest Workforce Participation Rate at 70.4%, while Owen and Gallatin Counties had the lowest at 56.6% and 59.4%, respectively.

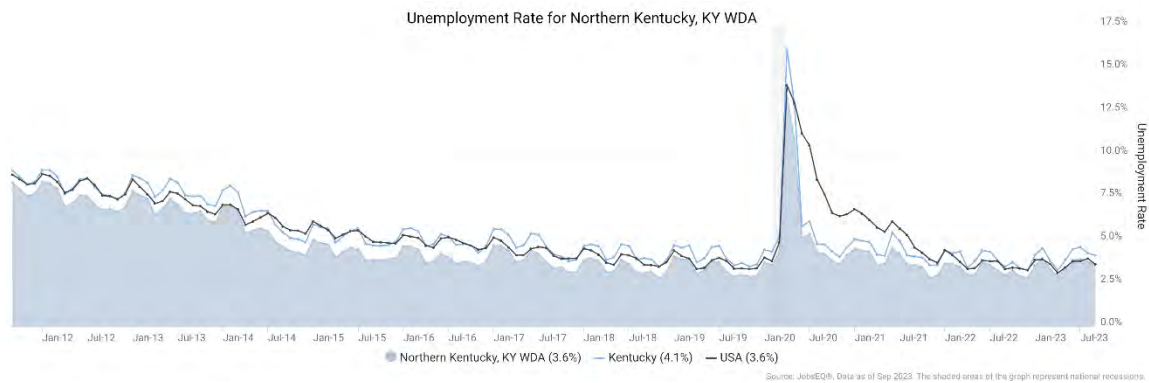


In the previously mentioned BE NKY study, the labor force projection over the next 30 years saw a baseline increase of 8,450 or a 4.1% increase. The optimistic change in the labor force was 34,306 (16.5%), with aspirational change being 7,423 (3.6%) and a negative pessimistic change of 17,949 (-8.7%).¹⁹

UNEMPLOYMENT RATES

In September 2023, Northern Kentucky's unemployment rate was 3.6%, lower than the national rate of 3.8% and .06% higher than the regional September 2023 unemployment rate. During the same period, Carroll County had the lowest unemployment rate at 3.4%, while Gallatin, Grant, and Pendleton counties' unemployment rates were 4.0% and 4.2%, respectively. The unemployment rate from 2022 mirrored the current year's rates.

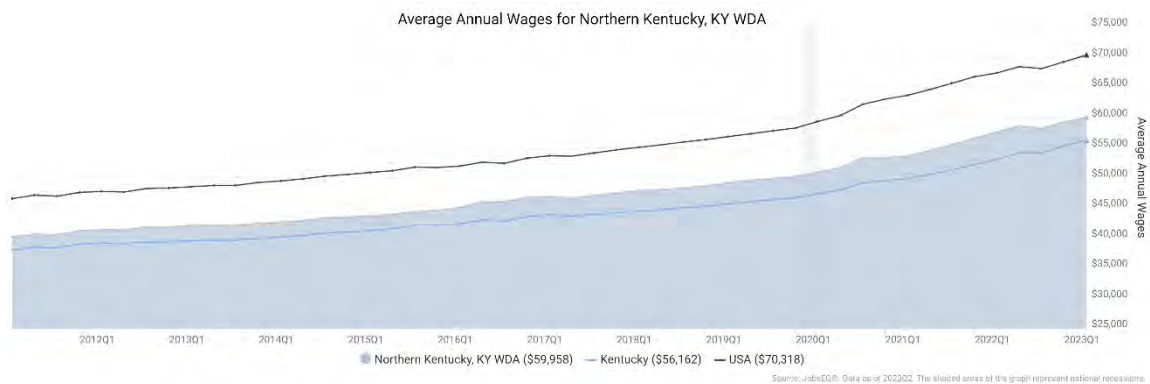
¹⁹ U.S. Bureau of Economic Analysis, U.S. Census American Community Survey 2022 1-year estimates, CEAD Analysis



WAGE TRENDS

The average annual wage for a worker in Northern Kentucky for 2023 was \$59,958, a 4.1% increase over the same period in the four previous quarters. Kenton County, an urban county, and Carroll County, a rural county, have some of the highest annual average wages in the region at \$68,018 and \$71,804, respectively. However, even with those high wages, Kenton County's hourly wage is only four-nine cents above the living wage²⁰ for a two-adult (1 working adult)/two-children family. Meanwhile, in Carroll County, the average hourly wage is \$3.37 more than the living wage of \$31.15 for a one-adult/one-child family.

Pendleton County and Owen County's average annual wages are some of the lowest in the region. With an average yearly wage of \$44,887, families with two working adults and two children, on average, are making \$2.07 less than a living wage. At the same time, the average wage of single parents with one child is \$12.11 below a living wage.



COST OF LIVING

Many are drawn to Northern Kentucky with a cost of living 6.5%²¹ below the national average cost of living, however, some counties see higher averages while some see a much lower cost of living.

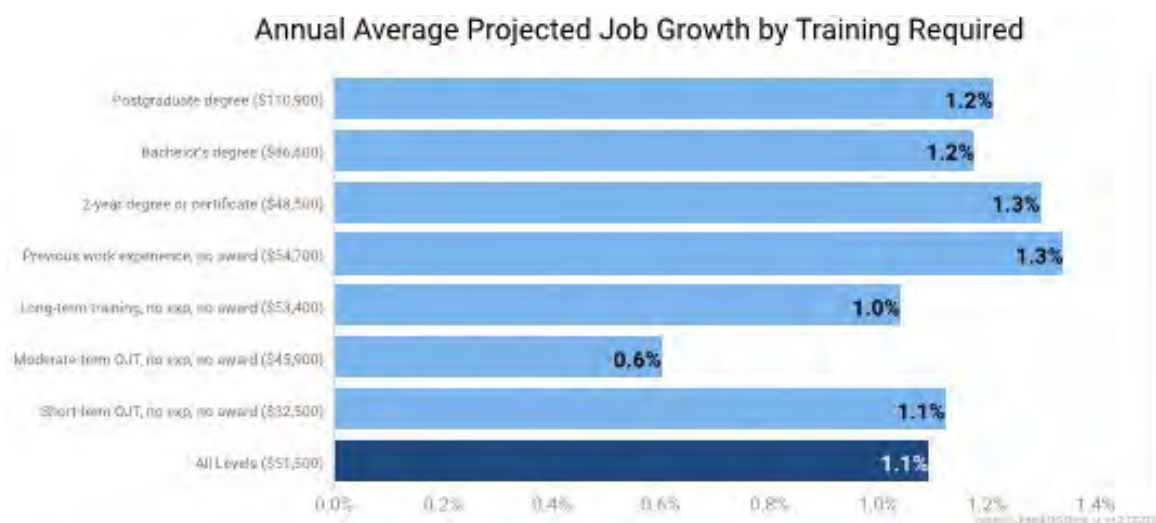
²⁰ Living wage is the minimum income necessary for a worker to meet their basic needs.

²¹ [Living in NKY – BE NKY \(be-nky.com\)](https://www.be-nky.com/)

	Cost of Living	Median House Value (of owner-occupied units)	Mean Commute Time	Use of Public Transportation
Northern Kentucky	91.8	\$170,638	24.8	1.2%
Boone County	94.4	\$194,700	27.2	0.7%
Carroll County	89.6	\$105,800	20.9	0%
Kenton County	92.5	\$167,100	23.3	1.9%
Owen County	83.9	\$116,300	41.2	0%
Pendleton County	86.5	\$130,100	37.2	0.7%
<i>Source: JobsEQ</i>				

EDUCATION LEVELS

Northern Kentucky is expected to see a slight growth in employment in the next ten years. That growth will require a range of educational and training attainment. Education levels required for employment vary among the counties in the region. Most counties see below a 0.7% per year growth rate for employment requiring postgraduate degrees, while Gallatin and Kenton Counties' rate is almost double that, and Boone County's is 2.0%. The counties see a similar growth per year for occupations typically needing a 2-year degree or certification, with the exceptions of Boone and Kenton County, having growth expectations of 1.0% and 1.9% per year.



The Kentucky Cabinet for Economic Development created the Work Ready Communities certification to measure a county's workforce quality²². All Northern Kentucky counties are either Certified Work Ready or Certified Work Ready in Progress. The required criteria include internet availability and speed, high school graduation rate, associate degree or higher, some college or higher degree and working age population (18-64) without a high school diploma. Boone, Campbell, and Kenton Counties meet all the criteria. Grant and Pendleton Counties meet three criteria, Gallatin and Owen Counties meet two

²² https://kystats.ky.gov/Reports/Tableau/2022_WRC

criteria, and Carroll County meets one. The NKADD continues to work with each county to meet each required criteria.

INDUSTRIAL SECTORS

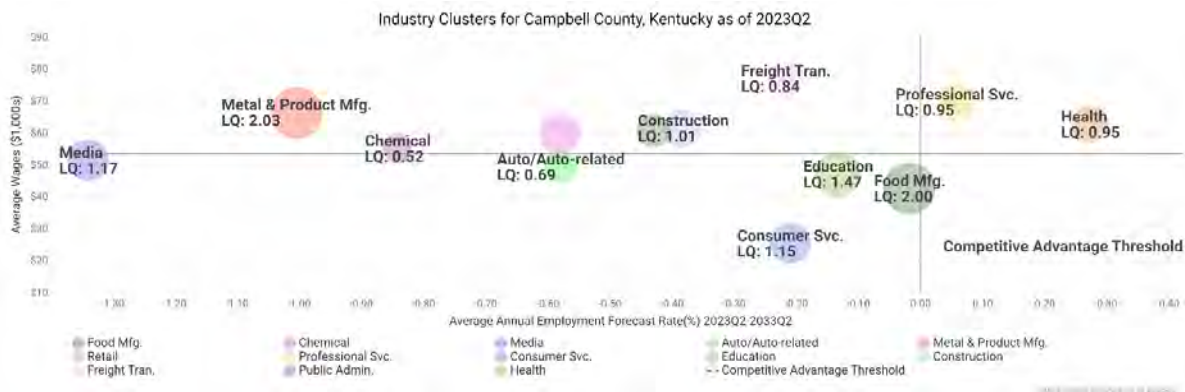
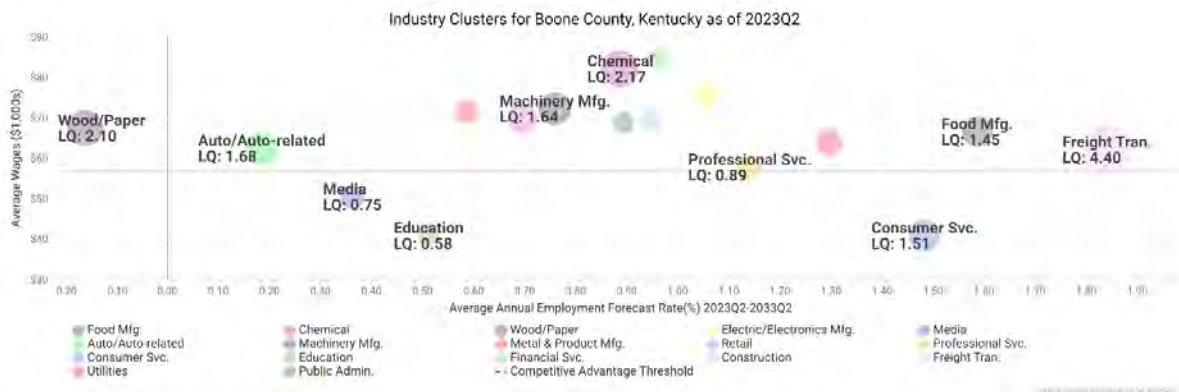
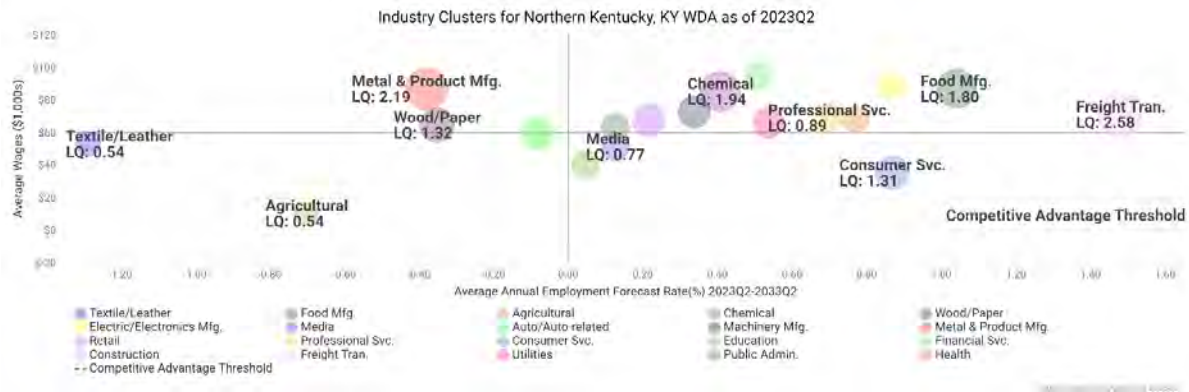
Northern Kentucky economic development agencies understand the importance of attracting employers to the region while retaining existing employers. BE NKY, formally known as Northern Kentucky Tri-ED is the largest economic development agency in the region, serving Boone, Campbell, and Kenton Counties. Kentucky I-71 Economic Development Alliance (KIEDA) serves Carroll, Gallatin, and Owen Counties along with Henry and Oldham Counties south of the region. The other counties are served through local economic development agencies. BE NKY updated its target clusters in 2022 to include Advanced Manufacturing, Life Sciences, Information Technology and Supply Chain Management & Support Services. Within those main clusters, there are 13 smaller niche targets. The other economic development agencies have similar targeted sectors.

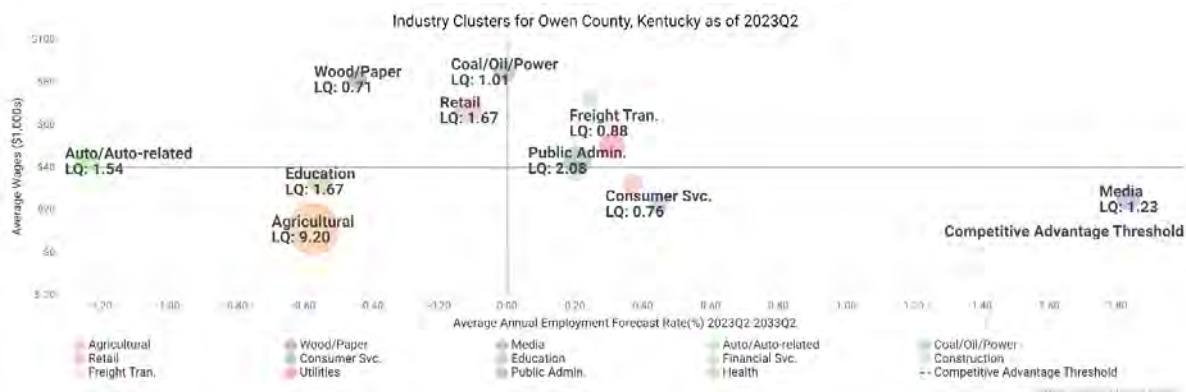
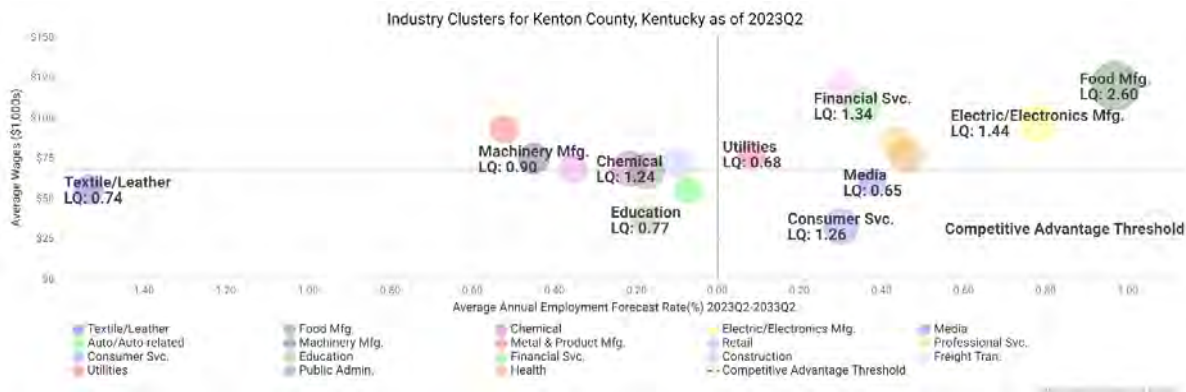
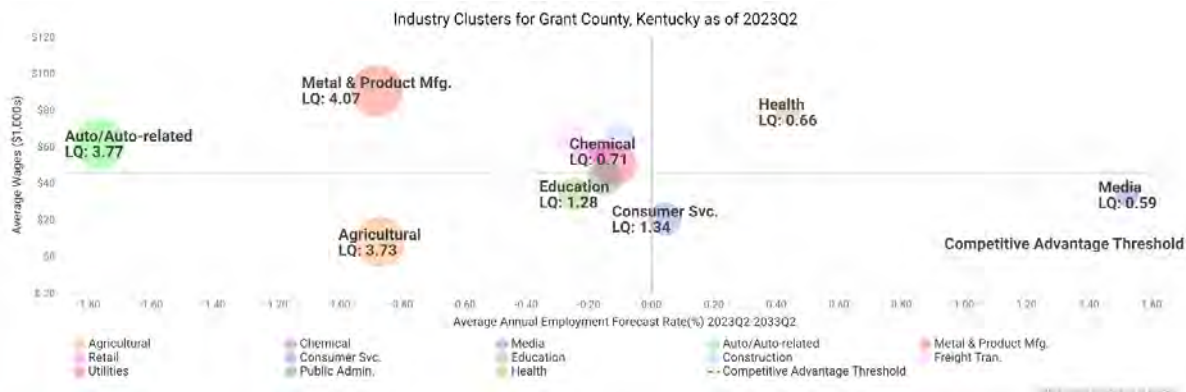
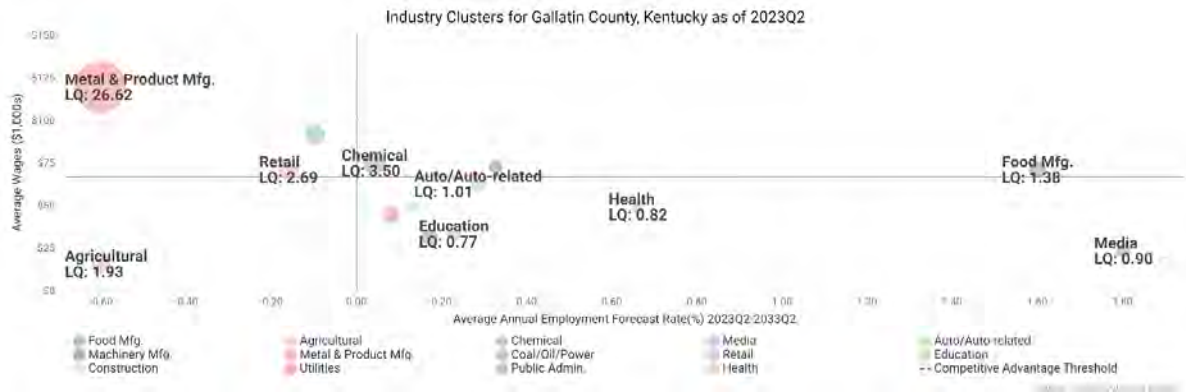
In early 2022, the NKADD Community Development division presented an economic development update to Think Kentucky, Kentucky's Cabinet for Economic Development. In preparing the presentation, staff spoke with local economic development agencies who detailed two hurdles to future development: a lack of build/shovel-ready inventory and a lack of critical infrastructure. For future growth, these two concerns will need to be addressed.

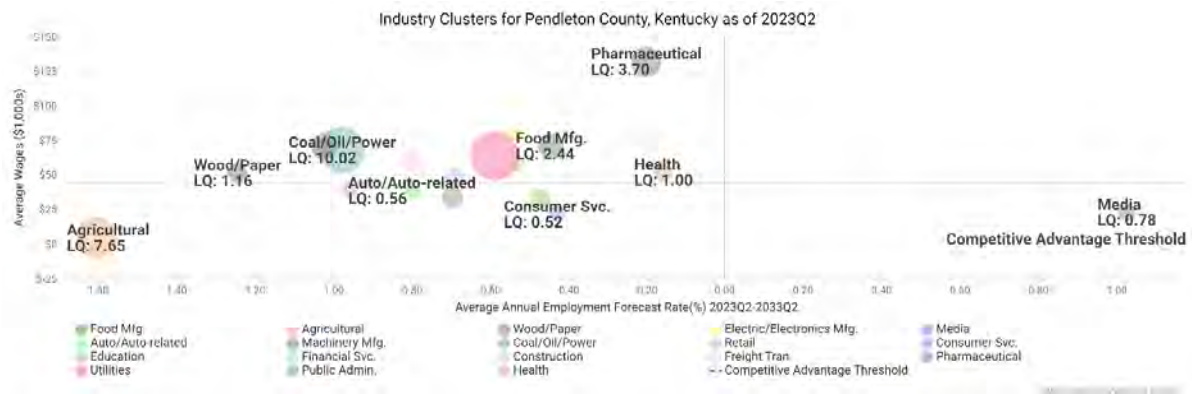
Retaining and expanding existing regional employers is just as important as attracting new businesses to the region. Besides the economic development agencies, the workforce development partners strive to provide a skilled, trained workforce. The priority sectors of the Northern Kentucky Workforce Investment Board (NKWIB) are Advanced Manufacturing, Construction and Trades, Healthcare, IT/Business and Finance, and Transportation and Logistics. The NKWIB works with employers to hire suitable employees while working with job seekers to find employment and make a sustainable wage. The Northern Kentucky workforce ecosystem includes elected officials, community partners, educational institutions, multiple funding streams and training providers. By working together, the ecosystem works to meet the demands of local employers.

INDUSTRY ANALYSIS

The following cluster charts illustrate the projected sector growth using Chmura JobsEQ (2023 Q2) information. The horizontal axis represents the average annual employment forecasted growth rate for each industry supersector over the next ten years.







F. PLAN ADOPTION

1. MULTI-JURISDICTIONAL PLAN ADOPTION

All jurisdictions within the Northern Kentucky region were asked to formally adopt the updated Northern Kentucky Multi-Jurisdictional Hazard Mitigation Plan at a meeting open to the public as their official Hazard Mitigation Plan. NKADD staff provided each jurisdiction with a plan adoption packet. The 2023 Northern Kentucky Regional Hazard Mitigation Plan - Plan Overview and Sample Adoption Resolution includes an introduction, background, a link to the draft plan, a summary of plan, a FAQ, and a sample hazard mitigation plan resolution (Appendix 26). NKADD staff were available to present the plan update. Some jurisdictions asked NKADD staff to present while others had their own staff present the plan and the resolution.

The following chart summarizes the current status of each jurisdiction's approval process. Documentation of approval for each jurisdiction can be found in the appendix.

Jurisdiction	Plan Sent to Jurisdiction for Approval	Plan Presented to Jurisdiction	Plan Adoption Approved	Adoption Documentation Submitted
Boone County				
Florence				
Union				
Walton				
Campbell County				
Alexandria				
Bellevue				
California				
Cold Spring				
Crestview				
Dayton				
Fort Thomas				
Highland Heights				
Melbourne				
Mentor				
Newport				
Silver Grove				
Southgate				
Wilder				
Woodlawn				
Carroll County				
Carrollton				

Jurisdiction	Plan Sent to Jurisdiction for Approval	Plan Presented to Jurisdiction	Plan Adoption Approved	Adoption Documentation Submitted
Ghent				
Prestonville				
Sanders				
Worthville				
Gallatin County				
Glencoe				
Sparta				
Warsaw				
Grant County				
Corinth				
Crittenden				
Dry Ridge				
Williamstown				
Kenton County				
Bromley				
Covington				
Crescent Springs				
Crestview Hills				
Edgewood				
Elsmere				
Erlanger				
Fairview				
Ft. Mitchell				
Ft. Wright				
Independence				
Kenton Vale				
Lakeside Park				
Ludlow				
Park Hills				
Ryland Heights				
Taylor Mill				
Villa Hills				
Owen County				
Gratz				
Monterey				
Owenton				
Pendleton County				
Butler				

Jurisdiction	Plan Sent to Jurisdiction for Approval	Plan Presented to Jurisdiction	Plan Adoption Approved	Adoption Documentation Submitted
Falmouth				

Once the updated plan is approved by all jurisdictions, the state and FEMA, the NKADD Board of Directors will be asked to pass a resolution to adopt the Updated Plan as the official Natural Hazard Mitigation Plan of the Northern Kentucky Area Development District.

G. HIGH HAZARD POTENTIAL DAMS

1. INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

According to the Kentucky Division of Water, High Hazard (C) Structures located such that failure may cause loss of life or serious damage to houses, industrial or commercial buildings, important public utilities, main highways, or major railroads. Moderate Hazard (B) Structures located such that failure may cause significant damage to property and project operation, but loss of human life is not envisioned. Low Hazard (A) Structures located such that failure would cause loss of the structure itself but little or no additional damage to other property.

During the 2023 Regular Session of the Kentucky Assembly, Senate Bill 277 was passed. The Senate Bill updated sections of KRS 151 to include the requirement of Emergency Action Plans (EAPs) for hazardous dams. The EAPs would create plans in case a dam should fail, potentially endangering lives and property downstream. Emergency action plans are documents maintained by dam owners that identify potential ways a dam could fail, identify the responsibilities for monitoring a dam and mandate a procedure for what to do in an emergency situation. In particular, according to the State Association of Dam Safety Officials (ASDSO), these plans include water inundation maps were a dam to fail and a flow chart of who to call in what priority in an emergency situation. In the Northern Kentucky Region, there are at least 13 government owned dams and 18 privately owned dams that are required by the new law to have an EAP but currently don't have an approved plan. Because of this, this vulnerability assessment looks at both Significant and High Hazard Dams, however, since this requirement is relatively new, data on significant hazard dams is limited.

Northern Kentucky Dam Inventory			
	Low	Significant	High
Boone	14	4	2
Campbell	1	3	7
Carroll	4	1	2
Gallatin	3	1	1
Grant	5	3	3
Kenton	11	2	5
Owen	9	2	0
Pendleton	3	0	1
Totals	50	16	21
Total Dams in Northern Kentucky			87

Source: <https://nid.sec.usace.army.mil/#/>

The Ohio River borders six (Carroll, Gallatin, Boone, Kenton, Campbell, and Pendleton) of the eight counties in the Northern Kentucky region. There are two sets of locks and dams along this stretch of the river. The US Army Corps of Engineers maintain these locks and dams. The Markland Locks and Dam is located on the Ohio River at mile 531.5 below Pittsburgh, Pennsylvania. It is 26.5 miles upstream from Madison, Indiana and 3.5 miles downstream from Warsaw, Kentucky. The navigation locks are located on the Kentucky side of the river. The upper pool above the dam extends upstream for a distance of 95.3 miles to the Meldahl Locks and Dam at mile 436.0 and for a short distance up three navigable tributaries — the Miami, Licking, and Little Miami rivers. Captain Anthony Meldahl Locks and Dam are located at mile 436 of the Ohio River in Felicity, Ohio, south of the southeast corner of Pendleton County along Route 8. Non-navigable, high-lift, gated dam, top length 1,756' including 372-foot fixed weir with 310-foot open crest. Twelve tainter gates, clear span 100' between 14-foot intermediate piers and 15-foot end piers, damming height 35' above sills, clearance above maximum high water when fully raised approximately 5'. There are two types of gates, submergible and non-submergible ogee sill units.

a. COORDINATE WITH LOCAL DAM OWNERS

The eight County Emergency Management Offices in Northern Kentucky work with the different dam owners to ensure their dams are properly maintained. With the new state EAP requirements, the Emergency Managers will work with the dam owners to either update their existing EAPs or develop new EAPs to meet the new requirements, including inundation maps and a flow chart of who to call in what priority in an emergency situation. The new requirements are in accordance with the State Association of Dam Safety Officials (ASDAO) for Emergency Action Planning²³.

Inundation maps are a key component of the EAP. Inundation maps show areas that may have to be evacuated in a dam emergency. The maps facilitate notification by displaying flood areas and estimated travel times for the floodwaters. The Kentucky Division of Water used GIS modeling to create High Hazard Dams Inundation maps for the state. The Kentucky Dam, Inundation Area Viewer, is designed to help property owners, local municipalities, and other interested stakeholders determine if properties of interest may be impacted by the failure of a high-hazard dam regulated by the Kentucky Division of Water²⁴. The viewer includes locations of regulated high-hazard dams, modeled inundation areas, building footprints that fall within the inundation areas, and the FEMA National Flood Hazard 1% flood risk areas. The viewer also assists the dam owner and emergency management authorities when identifying critical infrastructure and population-at-risk sites that may require protective measures and warning and evacuation planning. High Hazard dams regulated by the Kentucky Division on Water are included in the viewer. However, High Hazard Dams regulated by the US Army Corps of Engineers, the Division of Mine Reclamation and Enforcement, and other federal and state agencies are not currently represented.

²³ [Emergency Action Planning | Association of State Dam Safety](#)

²⁴ [Dam Inundation Area Viewer \(arcgis.com\)](#)

Northern Kentucky Dam Inventory Significant Dams					
	Types of Ownership				
	Significant	Federal	State	Local Government	Private
Boone	4	0	0	0	4
Campbell	3	0	0	3	0
Carroll	1	0	0	0	1
Gallatin	1	1	0	0	0
Grant	3	0	0	2	1
Kenton	2	0	0	1	1
Owen	2	0	1	0	1
Pendleton	0	0	0	0	0
Totals	16	0	1	6	8

Source: <https://nid.sec.usace.army.mil/#/>

Northern Kentucky Dam Inventory High Potential Dams					
	Types of Ownership				
	High	Federal	State	Local Government	Private
Boone	2	0	0	0	2
Campbell	7	0	0	4	3
Carroll	2	0	0	0	2
Gallatin	1	0	0	0	1
Grant	3	0	3	0	0
Kenton	5	0	1	2	2
Owen	0	0	0	0	0
Pendleton	1	0	1	0	0
Totals	21	0	5	6	10

Source: <https://nid.sec.usace.army.mil/#/>

b. SHARED INFORMATION

HAZARD POTENTIAL CLASSIFICATION, DAM CONDITION AND EMERGENCY ACTION PLAN

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Boone	Bluefield Dam	High	Private	Earth	25			Unsatisfactory	1/19/2022	NR	
Boone	Northern Ky Airport Dam	High	Private	Roller-Compacted Concrete	33	1200	1999	Satisfactory	1/19/2022	NR	
Boone	Boone Lake Dam	Low	Private	Earth	27	310	1940	Poor	9/21/2017	NR	
Boone	Boontucky Farm Dam	Low	Private	Earth	33	525	1968	Not Rated		NR	
Boone	Cincinnati - Northern Ky Airport Dam #3	Low	Local Government	Roller-Compacted Concrete	24	678	2005	Satisfactory	10/24/2023	NR	
Boone	Dr Ke Lanter Lake Dam	Low	Private	Earth	44	430	1973	Not Rated		NR	
Boone	Harold Bennett Dam	Low	Private	Earth	40	420	1967	Not Rated		NR	
Boone	Lakeview Farm Dam	Low	Private	Earth	55	615	1973	Not Rated		NR	
Boone	Matt Dedden Dam	Low	Private	Earth	32	300	2006	Fair	10/5/2017	NR	
Boone	McDavid Lake Dam	Low	Private	Earth	26	570	1981	Not Rated		NR	
Boone	Schneider Lake Dam	Low	Private	Earth	55	408		Not Rated		NR	
Boone	Steeplechase Dam (Upper)	Low	Private	Earth	24	300	1998	Not Rated		NR	
Boone	Traditions Golf Course Dam	Low	Private	Earth	55	450	1990	Not Rated		NR	
Boone	Wallace Farm Lake Dam	Low	Private	Earth	27	615	1959	Not Rated		NR	
Boone	Walton Reservoir (Boone) Dam	Low	Private	Earth	22	500	1940	Poor	10/5/2017	NR	
Boone	Big Bone Lick State Park Dam	Low	State	Earth	70	490	1971	Poor	7/20/2017	Yes	1/28/2013
Boone	Camp Ernst Dam	Significant	Private	Earth	65	560	1950	Fair	4/26/2017	NR	
Boone	Latonia Racetrack Dam	Significant	Private	Earth	38	800	1957	Poor	9/21/2017	NR	
Boone	Marydale Dam	Significant	Private	Earth	32	300	1956	Poor	9/21/2017	NR	
Boone	East Bend Power Plant	Significant	Private	Earth	60	4000	1976	Satisfactory	10/5/2017	Yes	7/30/2015
Campbell	Campbell County Lake Dam	High	Local Government	Earth	56	700	1962	Poor	7/27/2023	NR	

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Campbell	Claryville Lake Dam	High	Private	Earth	15	520	1940	Fair	7/27/2023	NR	
Campbell	Dietz Lake Dam	High	Private	Earth	22	325	1960	Fair	7/27/2023	NR	
Campbell	Lower Alexandria Dam	High	Local Government	Earth	58	400	1958	Poor	7/27/2023	NR	
Campbell	Shadow Lake Dam	High	Private	Earth	63	200	1998	Poor	5/18/2017	NR	
Campbell	Upper Alexandria Dam	High	Local Government	Earth	35	400	1930	Poor	7/27/2023	NR	
Campbell	Newport Waterworks Road Detention Dam	High	Local Government	Earth	31	290		Fair	7/27/2023	Yes	7/1/2021
Campbell	Milburn Lake	Low	Private	Earth	42	200	1972	Not Rated		NR	
Campbell	Covington Dam (North)	Significant	Local Government	Earth	22	350	1936	Satisfactory	5/18/2017	NR	
Campbell	Covington Dam (South)	Significant	Local Government	Earth	22	350	1936	Satisfactory	5/18/2017	NR	
Campbell	Newport Reservoir	Significant	Local Government	Earth	52	700	1873	Satisfactory	5/18/2017	Yes	9/23/2014
Carroll	KU Ghent ATB 2	High	Private	Earth	222	4500	1994	Satisfactory	10/24/2023	Yes	6/30/2014
Carroll	KU Ghent Station ATB 1	High	Private	Earth	52	6000	1972	Satisfactory	8/29/2022	Yes	10/20/2014
Carroll	Kemper Dam (South)	Low	Private	Earth	28	305	1992	Fair		NR	
Carroll	Ku Ghent Sediment Pond	Low	Private	Earth	60	800	1994	Fair	8/30/2019	NR	
Carroll	General Butler State Park Lake Dam	Low	State	Earth	24	385	1950	Satisfactory		Yes	1/25/2013
Carroll	Kentucky River Lock and Dam 1	Low	Federal	Timber Crib		462	1839	Not Available		Yes	
Carroll	KU Ghent South Cooling Pond	Significant	Private	Other	17	6000	1994	Satisfactory	8/29/2022	Yes	6/30/2014
Gallatin	Brereton Jones Dam	High	Private	Earth	60	420	2000	Fair	8/7/2023	NR	
Gallatin	Gallatin Fish & Game Club Lake Dam	Low	Private	Earth	22	380	1947	Not Rated		NR	
Gallatin	Jesse James Bluffs Dam	Low	Private	Earth	40	1350	1979	Not Rated		NR	
Gallatin	Zalla Berling Dam	Low	Private	Earth	32	415	1995	Not Rated		NR	
Gallatin	Markland Locks and Dam	Significant	Federal	Concrete	0	1991	1964	Not Available		Yes	2/15/2022
Grant	Corinth Lake Dam	High	State	Earth	67	1100	1962	Poor	10/24/2023	NR	

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Grant	Boltz Lake Dam	High	State	Earth	62	600	1956	Poor	1/19/2023	Yes	7/8/2019
Grant	Bullock Pen Lake Dam	High	State	Earth	50	670	1953	Satisfactory	6/1/2023	Yes	3/12/2019
Grant	Dry Ridge City	Low	Local Government	Earth	32	305		Fair	4/13/2017	NR	
Grant	Eagle Creek Country Club Lake Dam	Low	Private	Earth	46	410	1969	Fair	4/13/2017	NR	
Grant	Eckerson Dam	Low	Private	Earth	27	200	1965	Not Rated		NR	
Grant	Rolfes Dam	Low	Private	Earth	28	170	1955	Poor	4/13/2017	NR	
Grant	Lloyd Dam	Low	State	Earth	34	460	1967	Not Rated		Yes	1/28/2013
Grant	MHT Lake Dam	Significant	Private	Earth	34	200	1993	Poor	6/1/2023	NR	
Grant	Williamstown Lake Dam	Significant	Local Government	Earth	62	680	1957	Fair	4/13/2017	NR	
Grant	Williamstown Reservoir Dam	Significant	Local Government	Earth	40	300	1947	Fair	4/13/2017	NR	
Kenton	Banklick Creek FRS No 3	High	Local Government	Earth	112	950	1980	Fair	1/19/2023	NR	
Kenton	County Squire (Lower)	High	Private	Earth	39	325	1996	Poor	1/19/2023	NR	
Kenton	County Squire (Upper)	High	Private	Earth	35	310	1996	Fair	1/19/2023	NR	
Kenton	KYTC Bioretention Dam	High	State	Earth	44	380	2010	Poor	2/22/2023	NR	
Kenton	Amsterdam Valley Retention Basin Dam	High	Local Government	Earth	30	347		Satisfactory	2/6/2023	Yes	2/18/2020
Kenton	Cavanaugh Farm Lake Dam	Low	Private	Earth	28		1976	Not Rated		NR	
Kenton	Crystal Lake Dam No 1	Low	Local Government	Earth	45	280	1980	Not Rated		NR	
Kenton	Crystal Lake Dam No 2	Low	Private	Earth	48	330	1980	Not Rated		NR	
Kenton	Independence Towne Centre Dam	Low	Private	Earth	35	800	1997	Fair	4/26/2017	NR	9/23/2014
Kenton	Robert Loomis Lake Dam	Low	Private	Earth	28	320	1977	Poor	10/5/2017	NR	
Kenton	Ryland Lakes Dam No 1	Low	Private	Earth	38	600	1959	Poor	7/12/2017	NR	
Kenton	Ryland Lakes Dam No 2	Low	Private	Earth	34	450	1960	Fair	7/12/2017	NR	
Kenton	Ryland Lakes Dam No 3	Low	Private	Earth	40	500	1920	Poor	7/12/2017	NR	
Kenton	Thornhill Lake	Low	Private	Earth	13	400	1950	Satisfactory	8/2/2017	NR	

County	Dam Name	Hazard Potential Classification	Primary Owner Type	Primary Dam Type	Dam Height (Ft)	Dam Length (Ft)	Year Completed	Condition Assessment	Condition Assessment Date	EAP Prepared	EAP Last Revision Date
Kenton	Villa Hills	Low	Private	Earth	27	250		Not Rated		NR	
Kenton	Walton Reservoir(Kenton) Dam	Low	Private	Earth	39	440	1955	Not Rated		NR	
Kenton	City of Fort Wright Dam	Significant	Local Government	Earth	39	120	2004	Fair	2/16/2023	NR	
Kenton	Prospect Point Dam	Significant	Private	Earth	45	200	1975	Satisfactory	4/26/2017	NR	
Owen	Elk Lake Club Water Supply Dam	Low	Private	Earth	24	302	1959	Poor	6/15/2017	NR	
Owen	Et Reed Dam	Low	Private	Earth	29	390	1971	Not Rated		NR	
Owen	Kreutzjans Farm Lake Dam	Low	Private	Earth	58	350		Satisfactory	11/10/2021	NR	
Owen	Lake Holiday Dam	Low	Private	Earth	44	1009	1969	Not Rated		NR	
Owen	Richard Detzel Dam	Low	Private	Earth	28	310	1977	Not Rated		NR	
Owen	Thomas Lakes (Lower) Dam	Low	Local Government	Earth	30	250	1940	Poor	10/25/2016	NR	
Owen	Thomas Lakes (Upper) Dam	Low	Local Government	Earth	29	230	1940	Poor	10/25/2016	NR	
Owen	Timberwood Lake Dam	Low	Private	Earth	30	450	1969	Poor	2/20/2017	NR	
Owen	Kentucky River Lock and Dam 3	Low	Federal	Timber Crib		503	1844	Not Available		Yes	
Owen	Elk Lake Dam	Significant	Private	Earth	43	550	1959	Poor	6/15/2017	Yes	
Owen	Elmer Davis Lake Dam	Significant	State	Earth	68	520	1958	Poor	6/15/2017	Yes	1/25/2013
Pendleton	Kincaid Creek Dam	High	State	Earth	61	480	1961	Fair	12/13/2022	NR	
Pendleton	Griffin Industries	Low	Private	Earth	45	450	1992	Not Rated		NR	
Pendleton	Mays Lake Dam	Low	Private	Earth	30	300	1970	Fair	5/18/2017	NR	
Pendleton	Pendleton County Country Club	Low	Private	Earth	48	580	1994	Not Rated		NR	

Source: <https://nid.sec.usace.army.mil/#/>

Inundation Areas

NKADD

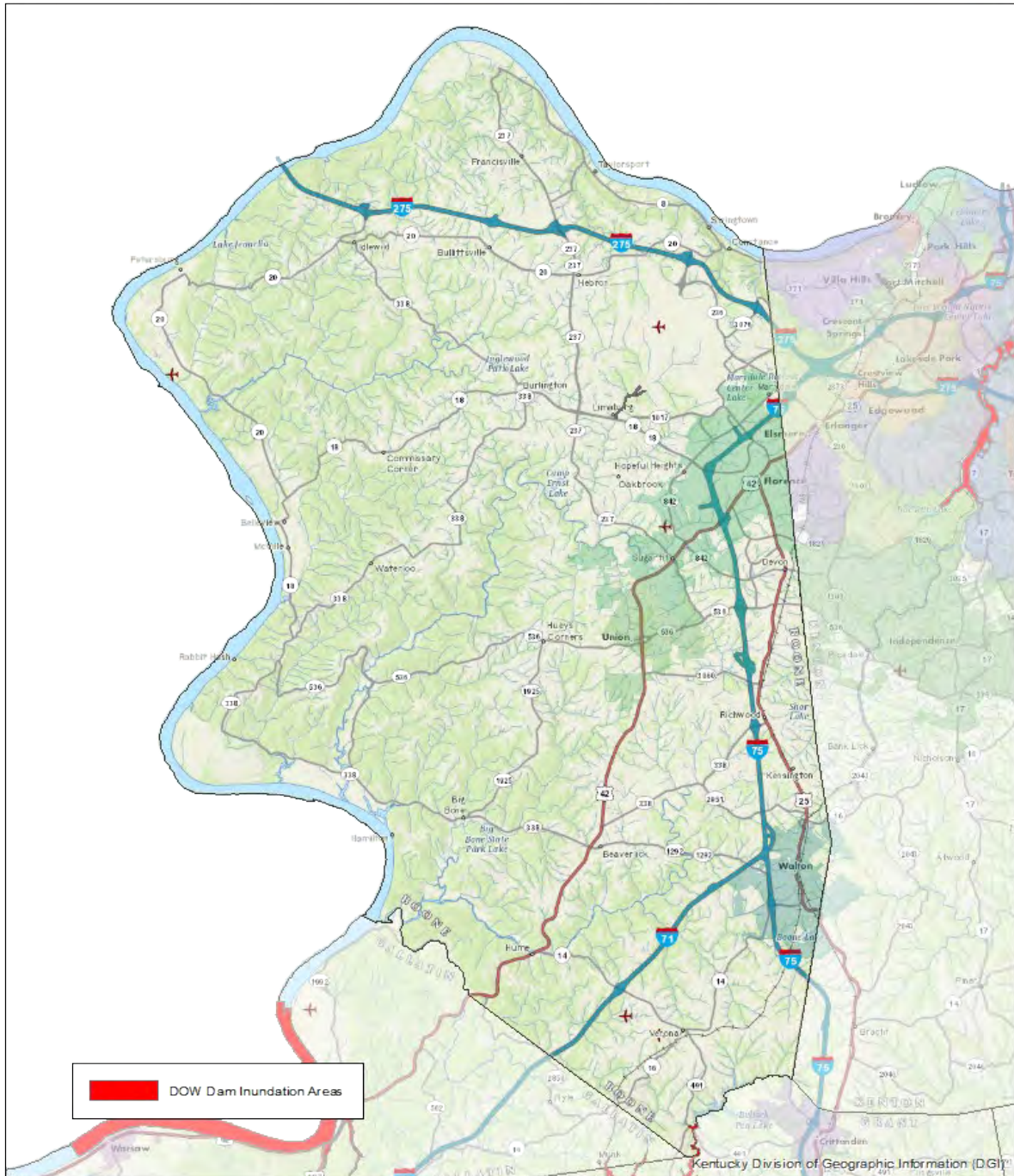


JRB 1/4/2023

0 5 10 20 Miles

Inundation Areas

Boone County

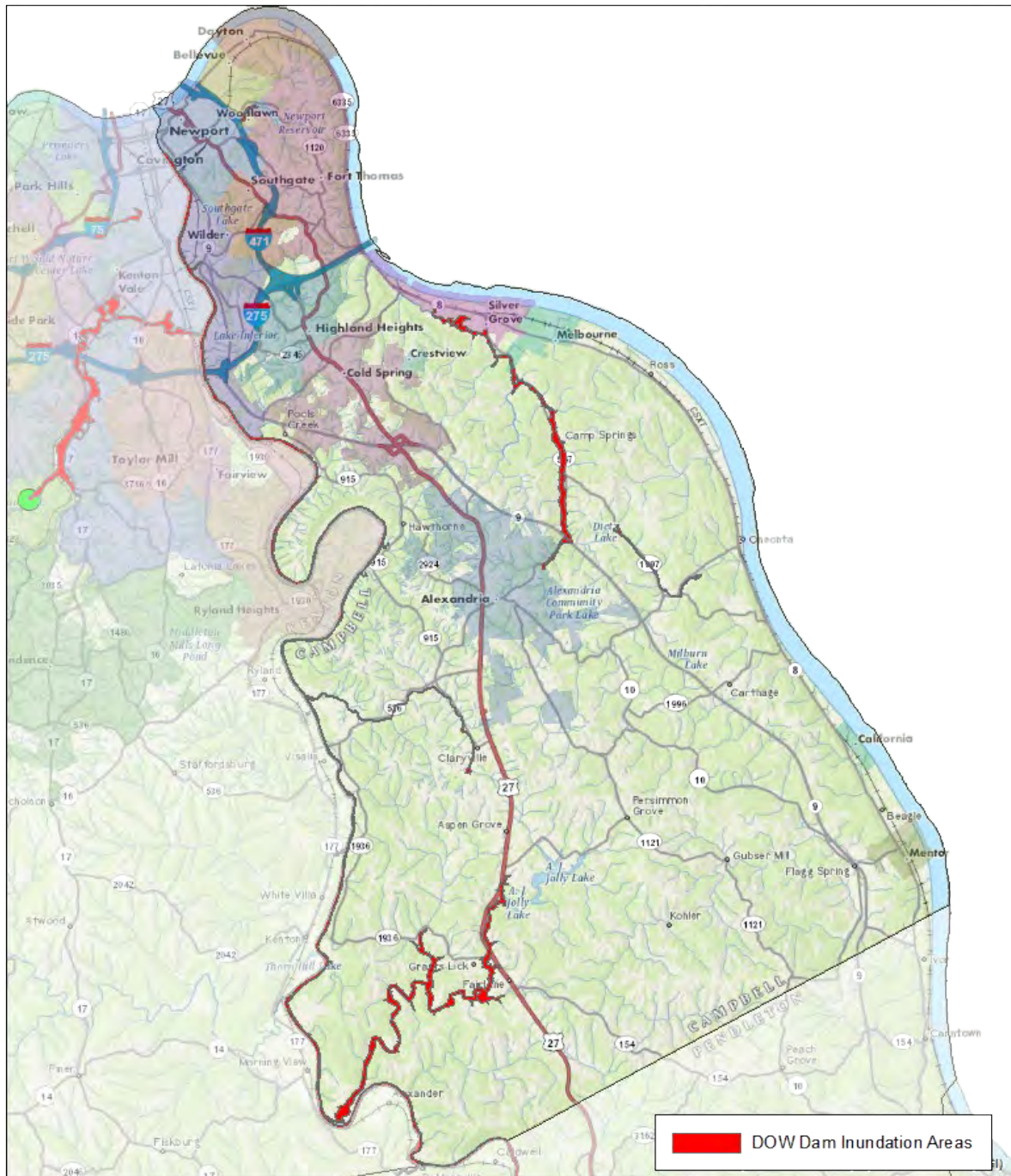


JRB 1/4/2023

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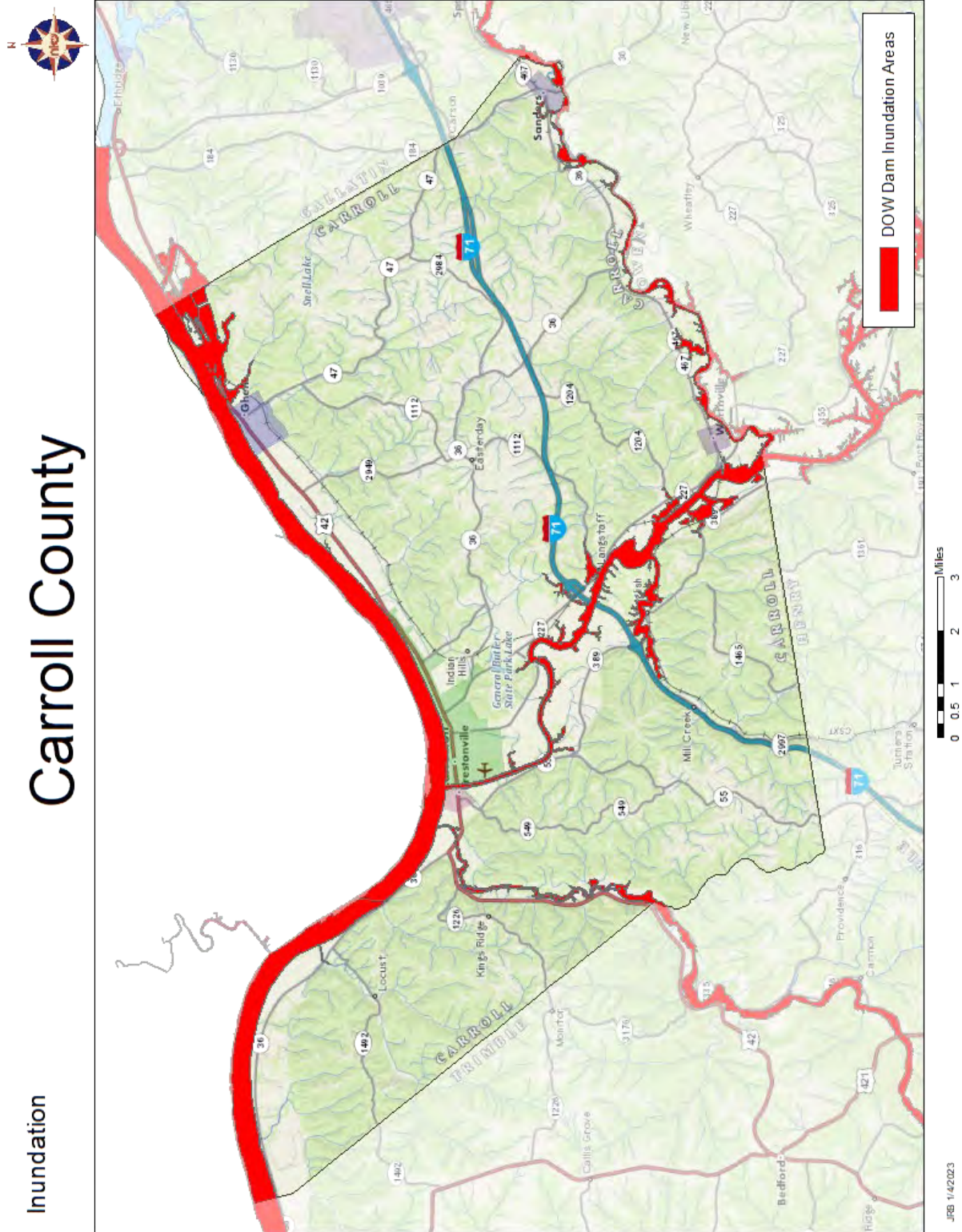
Inundation

Campbell County



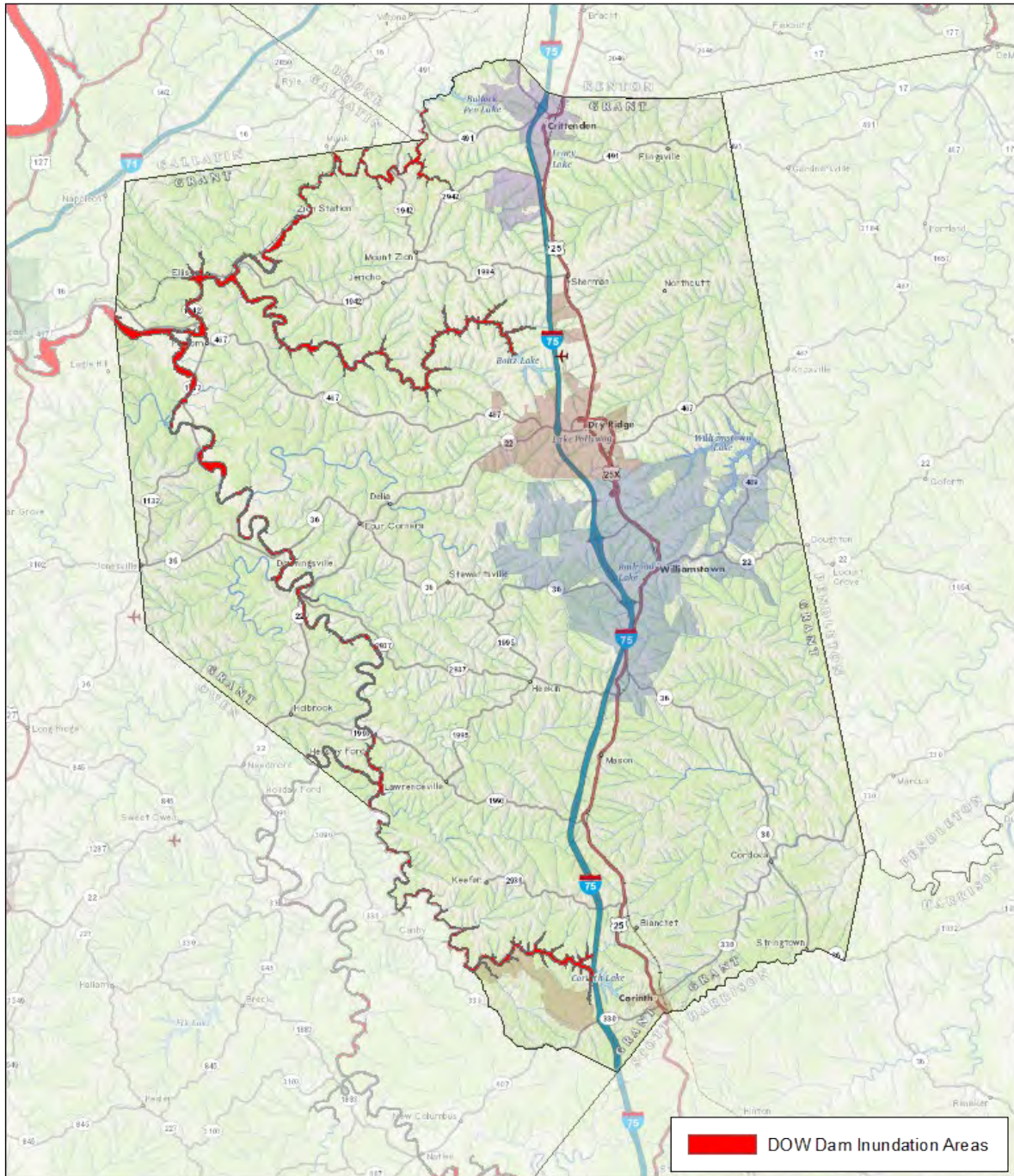
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0 0.5 1 2 3 4 Miles



Inundation

Grant County

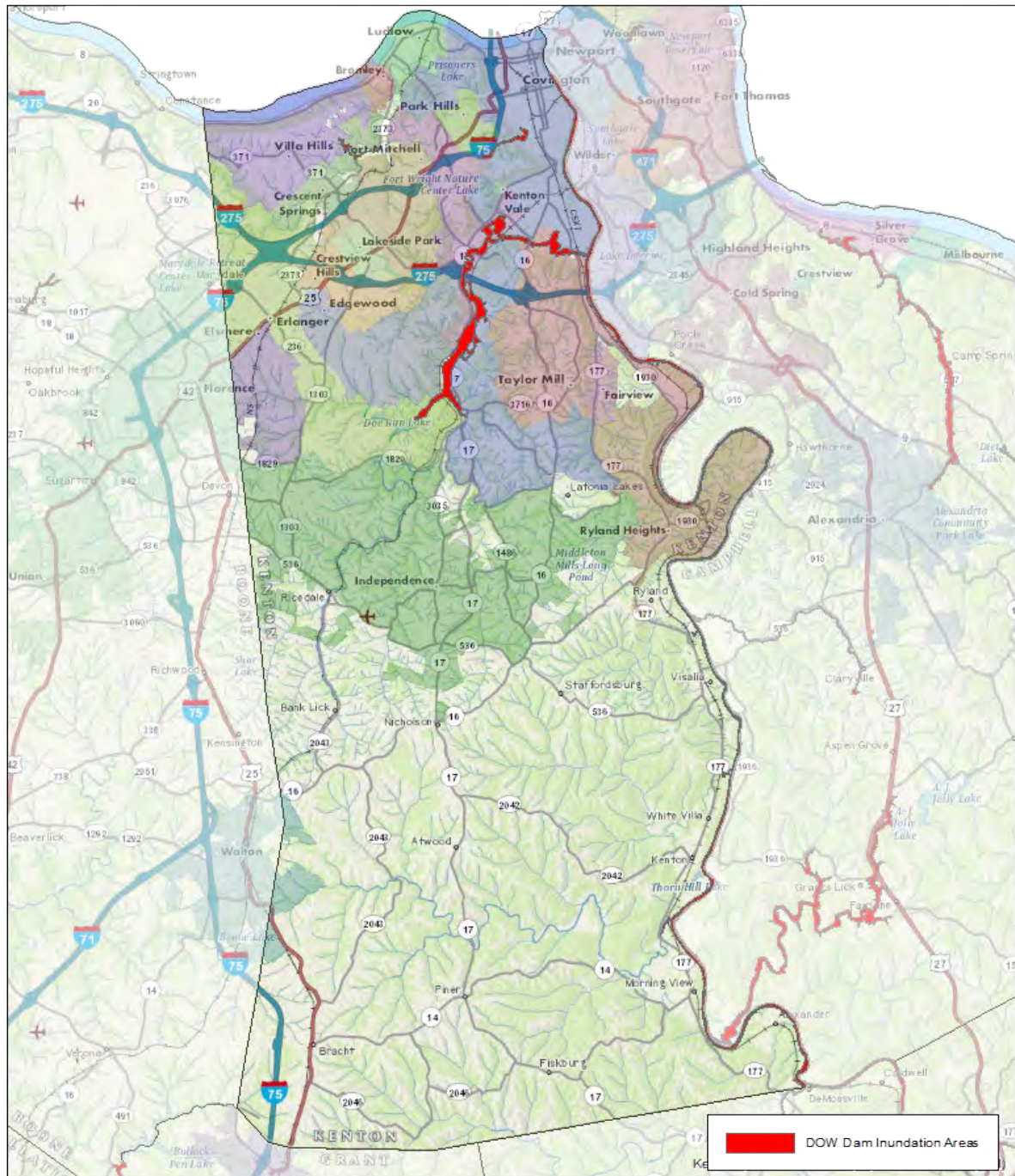


JRB 1/4/2023

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Inundation

Kenton County

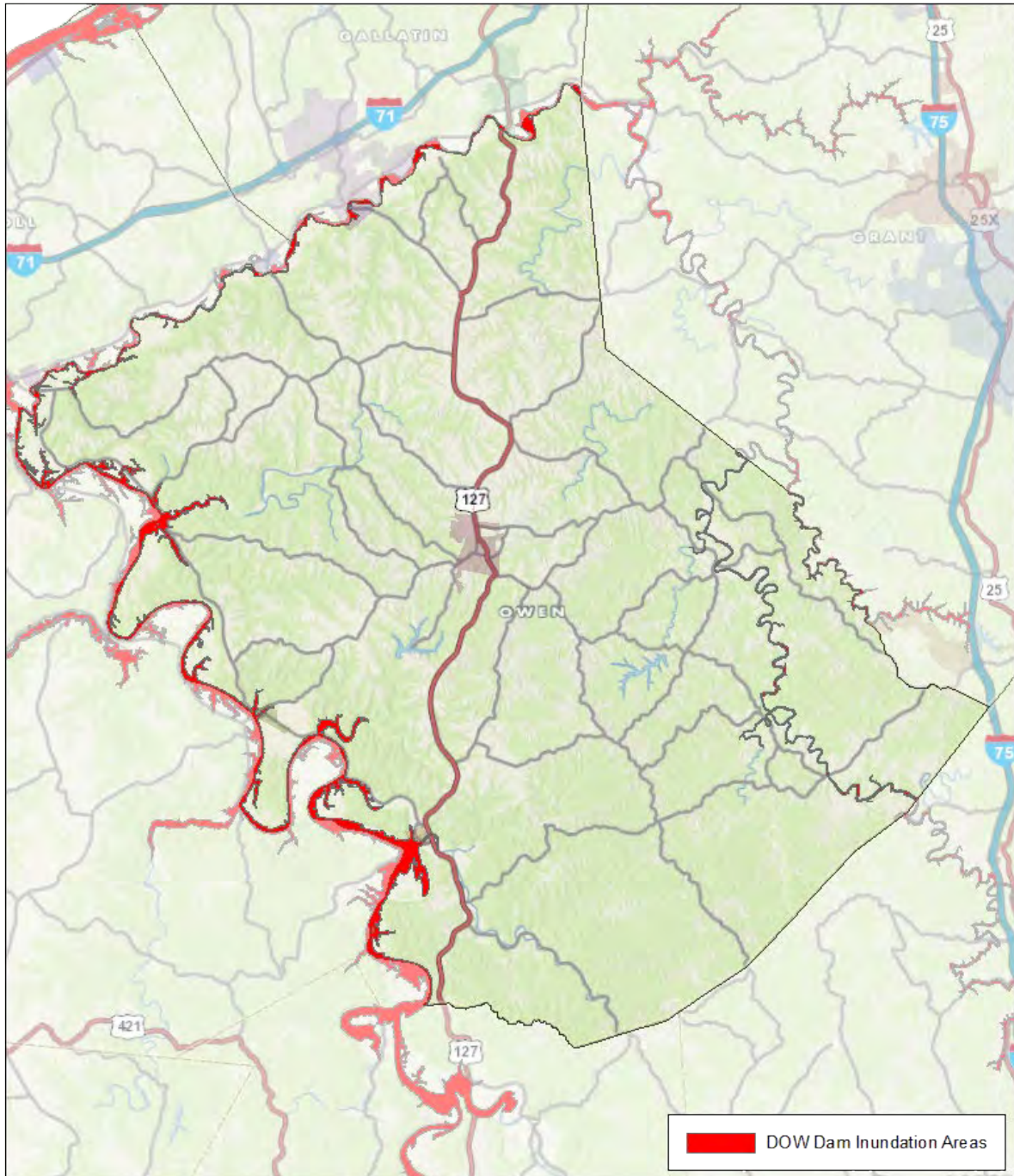


JRB 1/4/2023

0 0.5 1 2 3 4 Miles

Inundation

Owen County

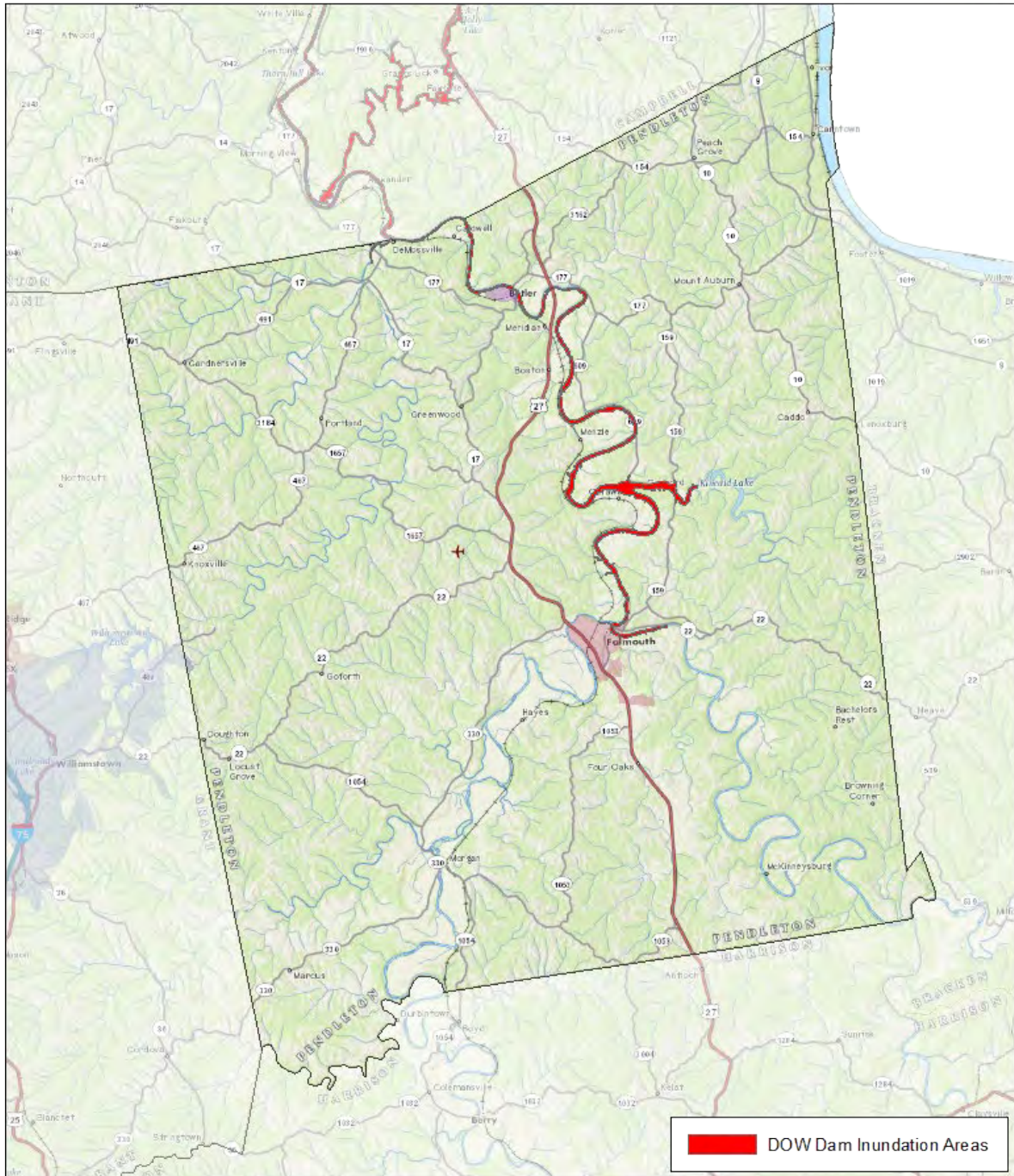


JRB 1/4/2023

0 0.5 1 2 3 4 5 6 Miles

Inundation

Pendleton County



JRB 1/4/2023

0 0.5 1 2 3 4 5 Miles

2. ADDRESSING RISK ASSESSMENT

a. RISKS AND VULNERABILITIES

Of the 21 High Hazard Potential dams in Northern Kentucky, only four of them have EAPs. Those four are:

County	Dam Name	Primary Owner Type	Condition Assessment	Condition Assessment Date	EAP Last Revision Date
Campbell	Newport Waterworks Road Detention Dam	Local Government	Fair	7/27/2023	7/1/2021
Grant	Boltz Lake Dam	State	Poor	1/19/2023	7/8/2019
Grant	Bullock Pen Lake Dam	State	Satisfactory	6/1/2023	3/12/2019
Kenton	Amsterdam Valley Retention Basin Dam	Local Government	Satisfactory	2/6/2023	2/18/2020

Source: <https://nid.sec.usace.army.mil/#/>

As the state works to finalize the requirements from the new senate bill passed in the beginning of 2023, the local emergency managers will work with the dam owners to develop and update each dam's EAP.

Northern Kentucky Dam Inventory Potential High Hazard Dams						
With Emergency Action Plans						
	Government Owned		Privately Owned			
	Significant	High	Owned	EAP	Owned	EAP
Boone	4	2	0	0	6	0
Campbell	3	7	7	2	3	0
Carroll	1	2	0	0	3	0
Gallatin	1	1	1	1	1	0
Grant	3	3	5	2	1	0
Kenton	2	5	4	1	3	0
Owen	2	0	1	1	1	0
Pendleton	0	1	1	0	0	0
Totals	16	21	19	7	18	0

Source: <https://nid.sec.usace.army.mil/#/>

HIGH HAZARD POTENTIAL DAMS BY COUNTY

BOONE COUNTY

The Northern Kentucky Airport Dam restructures the water on Gunpowder Creek and is located to the southwest of Greater Cincinnati/Northern Kentucky Airport at the end of Liamburg Creek Road. The dam's primary purpose is to reduce flood risk. The Bluefield Dam is located within the Thunder Ridge

Subdivision and creates a small pond. The pond collects runoff for the neighborhood and provides recreational opportunities for the community. Residential structures are located on all four sides of the pond.

CAMPBELL COUNTY

Shadow Lake Dam is located within a residential subdivision and creates a small pond. The pond collects runoff for the neighborhoods and provides recreational opportunities for the community. Residential structures are located on all four sides of the ponds. Upper Alexandria Dam and the Lower Alexandria Dam within the Alexandria Community Park. The area to the north of the park would be affected if the dams were to fail. Campbell County Lake Dam creates the Campbell County Lake, a large body of water that is adjacent to the AJ Jolly Golf Course. Homes and businesses in the area would be affected. Newport Waterworks Road Detention Dam off of Waterworks Road to the south of Newport and sits above the city. It is located in an established neighborhood and could cause extensive damage to homes and businesses that sit below the reservoir. Claryville Lake Dam and Dietz Lake Dam are private lakes used for recreation. The density is low in the area surrounding these lakes.

CARROLL COUNTY

There are a total of 7 dams in Carroll County, with two of them being classified as High Hazard Potential. The KU Ghent ATB 2 and KU Ghent Station ATB1 dams create ash ponds for the LG&E and KU Ghent Generation Station. Built along the Ohio River, the generation station is LG&E/KU's largest coal-fired power plant. If either dam fails, the ash will travel into the river and affect communities north and south of the station including flowing into the Kentucky River south of Carrollton.

GALLATIN COUNTY

There are a total of five dams in Gallatin County with one of them being classified as High Hazard Potential. The Brereton Jones Dam is privately owned and sits atop a ridge. The dam is located to the west of US 71, and if it fails, the water will flow down the ridge towards the Ohio River.

GRANT COUNTY

There are a total of 11 dams in Grant County with three of them being classified as High Hazard Potential. Boltz Lake Dam is located on the north of Dry Ridge and on the north side of US-75. The southern side of the Boltz Lake is residential and the north side is agricultural. If the dam were to fail, the water would travel away from the residential area and would travel along Arnolds Creek, Ten Mile Creek, and a few additional creeks and until it reached the Kentucky River to the south.

Located in the northern part of the county, Bullock Pen Lake is surrounded by residential homes. If the Dam were to fail, the water would flow south along Bullock Pen Creek before flowing into Ten Mile Creek. There is mostly undeveloped farmland along this path.

Corinth Lake Dam is located in the southern portion of Grant County. Corinth Lake and Dam are to the east of US-75. If the dam were to fail, the water would flow under the interstate towards the west along Three Forks Creek until it reached Eagle Creek.

KENTON COUNTY

There are 18 dams in Kenton County with five of them being classified as High Hazard Potential.

Amsterdam Valley Retention Basin Dam is located off Amsterdam Road in Covington. SD1, the owner, partnered with a developer, Condoview, LLC, to build this regional storm water detention basin to address some of the storm-water-related issues that exist in the area. The regional detention basin has a capacity of approximately 3.5 million gallons. It will collect storm water runoff from an approximately 145-acre drainage area. The basin reduces flooding in the area and downstream subdivisions and eliminates potential among other things.

Banklick Creek FRS No. 3 is the dam that creates Doe Run Lake Park. Located west of KY 17 and south of US-275, if the dam were to fail the water would travel along the topographies of the area until it flows into the Licking River and a number of residential would be inundated with water and close portions of residential streets.

The County Squire Lower and Upper Dams are located within a heavily populated residential area. If there were to fail a number of residential would be inundated with water and close portions of residential streets. The water would travel along the topographies of the area.

KYTC Bioretention Dam is located in Fort Wright to the south of US 75/71 at the top of the “Cut in the Hill.” If this dam was to fail a number of residential would be inundated with water and close portions of residential streets.

OWEN COUNTY

There are a total of 11 dams in Owen County with none being classified as High Hazard Potential.

PENDLETON COUNTY

There are a total of four dams in Pendleton County with one of them being classified as High Hazard Potential. Kincaid Creek Dam is state owned and is the heart of Kincaid Lake State Park located off of Highway 159 N and to the east of Concord. If the dam were to fail, it would affect property along Kincaid Creek before flowing into the Licking River. Licking River water levels would rise north to at least Wilder Kentucky in Campbell County and south to Falmouth.

b. LIMITATIONS AND APPROACHES TO ADDRESS DEFICIENCIES

With only a few of the region’s High Hazard Dams having existing EAPs, it is difficult to document the limitations and how the dam owners, the counties and regional partners will approach and address deficiencies. The NKADD will collaborate with county’s emergency management team and the local jurisdictions to assist dam owners develop their EAPs. Through this process, limitations, and approaches to addressing the deficiencies will emerge and be added to the Regional Hazard Mitigation Plan.

3. REDUCE LONG-TERM VULNERABILITY MITIGATION GOALS

a. REDUCE LONG-TERM VULNERABILITIES

During the Mitigation Strategy meetings held in each county, incorporating dam safety was discussed. The new goal, object and action items are:

Hazard	Action
Goal 11: Incorporate Dams Construction and Maintenance into Local and Regional Mitigation Planning	
Objective 11.1: Create a Database of All Dams in the Region	
Dams	Inventory all dams to evaluate current status, inundation patterns, emergency action plans, maintenance schedules, proposed upgrades and reducing long-term vulnerabilities.
Dams	Assist dam owners in securing funding to make identified maintenance requirements and proposed upgrades.
Objective 11.2: Assist communities in meeting state and federal regulations for dams	
Dams	Identify all regional hazardous dams that require an emergency action plan to be on file at the State
Dams	Assist dam owners in completing an emergency action plan if required

b. CONNECTING PROPOSED ACTIONS WITH REDUCING LONG-TERM VULNERABILITIES

While working on creating a comprehensive database of all dams in the region, NKADD staff and each county emergency management team will be able to identify long-term vulnerabilities, develop action plans to reduce the vulnerabilities and incorporate the new information into the existing regional hazard mitigation plan.

4. PRIORITIZE MITIGATION ACTION AND REDUCE VULNERABILITY FOR HHPDs

a. RANGE OF SPECIFIC ACTIONS

Currently, the Northern Kentucky Regional Hazard Mitigation Plan does not describe any specific actions beyond working to ensure all high hazard dams have up to date EAPs. However, the plan does address actions that could cause a dam failure during an event or be affected by a dam failure such as, energy resilience mitigation strategy, stormwater management plans, man-made hazardous event response plans, hazard mitigation building code adoption, promote business resilience plan development, and developing outreach/communication plans to quickly inform the community, including underserved and vulnerable populations, of the event, the current status and available resources.

b. CRITERIA USED FOR PRIORITIZING

Creating a database of all dams in the region and assisting communities in meeting state and federal regulations for dams are high priorities in the Northern Kentucky Regional Hazard Mitigation Plan. After

discussing the new state requirements for High Hazard Potential Dams during the county wide Mitigation Strategy meetings, it was decided that working with dam owners and communities that contain a High Hazard Dam were important enough to prioritize them as high.

C. IMPLEMENTING AND ADMINISTERING THE ACTIONS

As a first step, the NKADD will work with the County Emergency Management Team to develop a dam database for the region. By using the database, Local Governments, Planning and Zoning Departments, Emergency Management Teams, and Reginal Organizations will be able to work together with dam owners to implement and administer actions described in the Mitigation Strategy of the Northern Kentucky Regional Hazard Mitigation Plan.

H. APPENDIX

H. APPENDIX

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1. NKADD HAZARD MITIGATION SURVEY QUESTIONS

NKADD Hazard Mitigation Survey

1. During the past five years, in the county that you currently reside in, which of these natural disasters have you or someone in your household experienced? Check all that apply.

☐ Drought

☐ Tornado

☐ Earthquake

☐ Flood

☐ Landslide/Deluge Flow

☐ Wildfire

☐ Windstorm

☐ Severe Winter Storm

☐ Severe Thunder/Lightning

☐ Hail

☐ None of the above

☐ Other _____

3. How recently have you received information about how to make members of your household and your home safer from natural disasters?

- ☐ Within the last 6 months
- ☐ Between 6 and 12 months
- ☐ Between 1 and 2 years
- ☐ Between 2 and 5 years
- ☐ 5 years or more
- ☐ Never received this information

2. How concerned are you about the following natural disasters affecting your county?

	Very concerned	Somewhat concerned	Neutral	Not Very Concerned	Not Concerned
Drought	☐	☐	☐	☐	☐
Dam Failure	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐
Extreme Temperatures	☐	☐	☐	☐	☐
Flooding	☐	☐	☐	☐	☐
Hail	☐	☐	☐	☐	☐
Ice Storms	☐	☐	☐	☐	☐
Landslide/Deluge Flow	☐	☐	☐	☐	☐
Medical Pandemic	☐	☐	☐	☐	☐
Severe Thunderstorm/Lightning	☐	☐	☐	☐	☐
Severe Winter Storm	☐	☐	☐	☐	☐
Tornado	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐
Windstorm	☐	☐	☐	☐	☐

4. What is the MOST effective way for you to receive information about how to make your household and your home safer from natural disasters? Please check up to 3.

- ☐ Newspaper Stories
- ☐ Newspaper Ads
- ☐ Television News
- ☐ Television Ads
- ☐ Radio News
- ☐ Radio Ads
- ☐ Email Newsletters
- ☐ Online News Outlets
- ☐ Facebook
- ☐ Twitter
- ☐ Instagram
- ☐ YouTube
- ☐ Schools
- ☐ Outdoor Advertisements (Billboards, etc)
- ☐ Books
- ☐ Mail
- ☐ Fire Department/Rescue
- ☐ Fact Sheet/Brochure
- ☐ Chamber of Commerce
- ☐ Public Workshops/Meetings
- ☐ Magazine
- ☐ University or Research Institution
- ☐ Word of Mouth

5. Prior to receiving this survey, were you aware of the Northern Kentucky Regional Hazard Mitigation Plan (HMP)?

- ☐ Yes
☐ No

6. Prior to receiving this survey, were you aware that the Federal Emergency Management Agency (FEMA) requires the NKADD, in coordination with your county, to update the HMP every 5 years in order for your county to be eligible for federal pre and post-disaster hazard mitigation funds?

- ☐ Yes
☐ No

7. Community Assets are features, characteristics, or resources that either make a community unique or allow the community to function. In your opinion, which of the following CATEGORIES are most susceptible to the impacts caused by natural hazards in your county? (Please rank in order of vulnerability, 1 being the MOST vulnerable, 6 being the LEAST vulnerable)

Human: Loss of life and/or injuries
Economic: Business closures and/or job losses
Infrastructure: Damage or loss of bridges, utilities, schools, etc.
Cultural/Historic: Damage or loss of libraries, museums, fairgrounds, etc.
Environmental: Damage or loss of forests, farmland, waterways, etc.
Governance: Ability to maintain order and/or provide public amenities and services

hazard risks ☐ ☐ ☐ ☐ ☐ ☐

9. Natural hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities regarding planning for natural hazards in your county. Please tell us how important each one is to you.

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting Private Property	☐	☐	☐	☐	☐
Protecting critical facilities (e.g. transportation networks, hospitals, fire stations)	☐	☐	☐	☐	☐
Preventing development in hazard areas	☐	☐	☐	☐	☐
Enhancing the function of natural features (e.g. streams, wetlands)	☐	☐	☐	☐	☐
Protecting historical and cultural landmarks	☐	☐	☐	☐	☐
Protecting and reducing damage to utilities	☐	☐	☐	☐	☐
Strengthening emergency services (e.g. police, fire, ambulance)	☐	☐	☐	☐	☐
Disclosing the natural hazard risks during real estate transactions	☐	☐	☐	☐	☐
Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	☐	☐	☐	☐	☐

8. A number of activities can reduce your community's risk from natural hazards. These activities can be both regulatory and non-regulatory. Please check the box that best represents your opinion of the following strategies to reduce the risk and loss associated with natural disasters.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Sure
I support policies to prohibit development in areas subject to natural hazards.	☐	☐	☐	☐	☐	☐
I support the use of tax dollars (federal and/or local) to compensate landowners for not developing in areas subject to natural hazards.	☐	☐	☐	☐	☐	☐
I support the use of local tax dollars to reduce risks and losses from natural disasters.	☐	☐	☐	☐	☐	☐
I support protecting historical and cultural structures.	☐	☐	☐	☐	☐	☐
I would be willing to make my home more disaster resistant.	☐	☐	☐	☐	☐	☐
I support steps to safeguard the local economy following a disaster event.	☐	☐	☐	☐	☐	☐
I support a local inventory of at risk buildings and infrastructure.	☐	☐	☐	☐	☐	☐
I support the	☐	☐	☐	☐	☐	☐

10. In the following list, please check those activities that you HAVE DONE in your households, PLAN TO DO in the near future, HAVE NOT DONE, or are UNABLE TO DO.

	Have Done	Plan to Do	Have Not Done	Unable to Do
Attended meetings or received written information on natural disasters or emergency preparedness?	☐	☐	☐	☐
Talked with members in your household about what to do in case of a natural disaster or emergency?	☐	☐	☐	☐
Developed a Household Emergency Plan in order to decide what everyone would do in the event of a disaster?	☐	☐	☐	☐
Prepared a Disaster Supply Kit (stored extra food, water, batteries, or other supplies)?	☐	☐	☐	☐
Has anyone in your household been trained in First Aid or CPR?	☐	☐	☐	☐
Prepared your home by having smoke detectors on each level of the house?	☐	☐	☐	☐
Discussed or created a utility shutoff procedure in the event of a natural disaster?	☐	☐	☐	☐

11. Finally, we would appreciate any information you are willing to share with us about you and your household. This information will remain confidential and is for survey comparison purposes only. In what County do you live?

- ☐ Boone
- ☐ Campbell
- ☐ Carroll
- ☐ Galtion
- ☐ Grant
- ☐ Kershaw
- ☐ Owen
- ☐ Pendleton
- ☐ Other _____

12. Do you rent or own your home?

- ☐ Rent
- ☐ Own

13. Do you own/rent a:

- ☐ Single-family home
- ☐ Duplex
- ☐ Apartment (1-4 unit structure)
- ☐ Apartment (5 or more units)
- ☐ Condominium/condominium
- ☐ Manufactured home

14. Gender

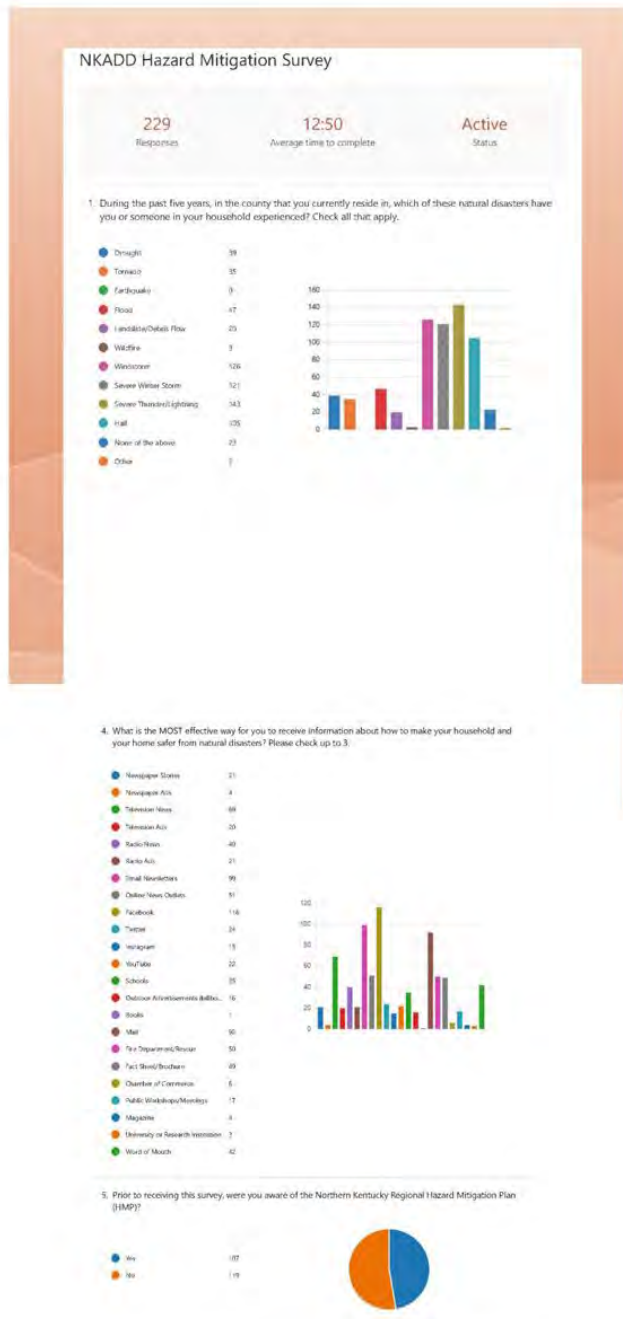
- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Prefer not to disclose

15. Please feel free to provide any additional comments in the space provided:

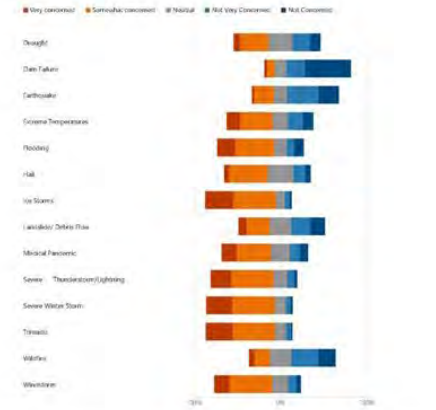
This content is neither created nor endorsed by Microsoft. The data you submit will be used by the form owner.



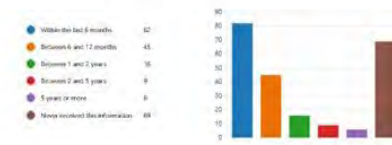
2. NKADD HAZARD MITIGATION SURVEY RESULTS



2. How concerned are you about the following natural disasters affecting your county?



3. How recently have you received information about how to make members of your household and your home safer from natural disasters?



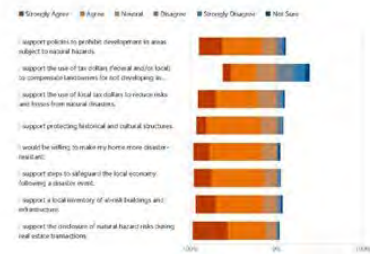
6. Prior to receiving this survey, were you aware that the Federal Emergency Management Agency (FEMA) requires the NKADD, in coordination with your county, to update the HMP every 5 years in order for your county to be eligible for federal pre and post disaster hazard mitigation funds?



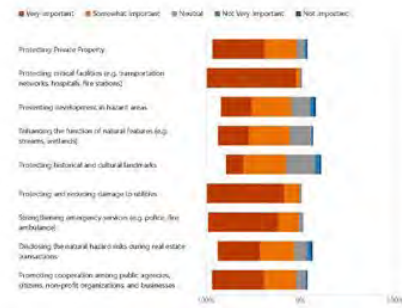
7. Community Assets are features, characteristics, or resources that either make a community unique or allow the community to function. In your opinion, which of the following CATEGORIES are most susceptible to the impacts caused by natural hazards in your county? (Please rank in order of vulnerability, 1 being the MOST vulnerable, 6 being the LEAST vulnerable)



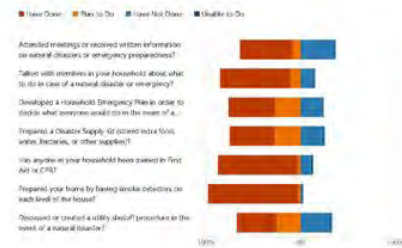
8. A number of activities can reduce your community's risk from natural hazards. These activities can be both regulatory and non regulatory. Please check the box that best represents your opinion of the following strategies to reduce the risk and loss associated with natural disasters.



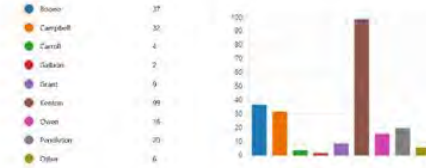
9. Natural hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities regarding planning for natural hazards in your county. Please tell us how important each one is to you.



10. In the following list, please check those activities that you HAVE DONE in your households, PLAN TO DO in the near future, HAVE NOT DONE, or are UNABLE TO DO.



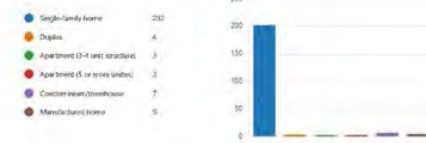
11. Finally, we would appreciate any information you are willing to share with us about you and your household. This information will remain confidential and is for survey comparison purposes only. In what County do you live?



12. Do you rent or own your home?



13. Do you own/rent a:



14. Gender

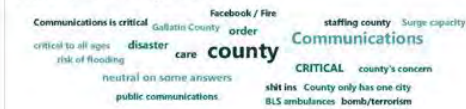


15
Responses

Latest Responses

"This survey is a waste of time, since Gallatin County only has one city locat...
For the city of Fairbault, restore the natural flow of the South Licking River L...

4 respondents (27%) answered county for this question.



3. NKADD HAZARD MITIGATION QR CODE TABLE TENT



Risk Assessment



Mitigation
Strategy



Adoption by
Governing Bodies



We want to know.

Use the *QR code* to tell us
about events that have
happened in your area.



Your Input is Important to us.

4. HAZARD MITIGATION COMMUNITY-FOCUSED MEETING CALENDAR

January 17- March 10 – Jurisdiction Focused Meetings

Boone – 1 meeting

Campbell – 4 meetings with 4 jurisdictions

Carroll – 1 to 2 meetings

Gallatin – 1 meeting

Grant – 1 to 2 meetings

Kenton – 4 to 5 meetings

Owen – 1 meeting

Pendleton – 1 meeting

If the county requires multiple meetings, each jurisdiction needs to be assigned a meeting date to ensure equal representation from all jurisdictions. Please indicate which meetings you can help facilitate a jurisdiction's roundtable. The meeting agenda and roundtable discussion questions can be found at [Haz Mit Meeting and Roundtable Questions.docx](#). The questions will help guide the discussion. You will also be provided with additional jurisdictional information if available.

Date	Time	County	Jurisdiction	Location	Facilitator Team			
2/24/2023	1-2:30 pm	Boone	Boone	Northern Kentucky Area Development District	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Burt
2/24/2023	1-2:30 pm	Boone	Florence		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Burt
2/24/2023	1-2:30 pm	Boone	Union		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Burt
2/24/2023	1-2:30 pm	Boone	Walton		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Burt

2/14/2024

Date	Time	County	Jurisdiction	Location	Facilitator Team			
1/26/2023	6-7:30 pm	Campbell	Bellevue	Group 1 – Campbell Co. Fiscal Court Chambers	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/26/2023	6-7:30 pm	Campbell	Dayton		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/26/2023	6-7:30 pm	Campbell	Newport		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/26/2023	6-7:30 pm	Campbell	Silver Grove		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/31/2023	6-7:30 pm	Campbell	Cold Spring	Group 3 – Campbell Co. Fire Training Facility	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/31/2023	6-7:30 pm	Campbell	Fort Thomas		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/31/2023	6-7:30 pm	Campbell	Highland Heights		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
1/31/2023	6-7:30 pm	Campbell	Southgate		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/7/2023	6-7:30 pm	Campbell	Campbell	Group 4 – Alexandria Fire Department	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/7/2023	6-7:30 pm	Campbell	Alexandria		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/7/2023	6-7:30 pm	Campbell	Wilder		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/7/2023	6-7:30 pm	Campbell	Woodlawn		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/27/2023	6-7:30 pm	Campbell	California	Group 2 – Eastern Campbell Fire Department	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/27/2023	6-7:30 pm	Campbell	Crestview		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/27/2023	6-7:30 pm	Campbell	Melbourne		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen
2/27/2023	6-7:30 pm	Campbell	Mentor		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	Jeff Thelen

2/14/2024

Date	Time	County	Jurisdiction	Location	Facilitator Team			
2/7/2023	9-10:30 am	Carroll	Carroll	Group 1 - Carroll County Fiscal Court, 2 nd floor Fiscal Courtroom	Katie Jo Kirkpatrick			
2/7/2023	10:30-noon	Carroll	Carrollton		Katie Jo Kirkpatrick			
2/7/2023	9-10:30 am	Carroll	Ghent		Katie Jo Kirkpatrick			
2/7/2023	9-10:30 am	Carroll	Prestonville		Katie Jo Kirkpatrick			
2/7/2023	10:30-noon	Carroll	Sanders	Group 2 - Carroll County Fiscal Court, 2 nd floor Fiscal Courtroom	Katie Jo Kirkpatrick			
2/7/2023	10:30-noon	Carroll	Worthville		Katie Jo Kirkpatrick			
3/23/2023	4:30-6:30 pm	Gallatin	Gallatin	Gallatin County Senior Center 400 3 rd St. Warsaw, KY 41095	Katie Jo Kirkpatrick			
3/23/2023	4:30-6:30 pm	Gallatin	Glencoe		Katie Jo Kirkpatrick			
3/23/2023	4:30-6:30 pm	Gallatin	Sparta		Katie Jo Kirkpatrick			
3/23/2023	4:30-6:30 pm	Gallatin	Warsaw		Katie Jo Kirkpatrick			
3/1/2023	9-11 am	Grant	Grant	Group 1 - Grant County Fiscal Court 101 N Main St # 8 Williamstown, KY 41097	Katie Jo Kirkpatrick	Simon Boxall		
3/1/2023	9-11 am	Grant	Corinth		Katie Jo Kirkpatrick	Simon Boxall		
3/1/2023	9-11 am	Grant	Crittenden		Katie Jo Kirkpatrick	Simon Boxall		

2/14/2024

Date	Time	County	Jurisdiction	Location	Facilitator Team			
3/13/2023	2:30-4:30 pm	Grant	Dry Ridge	Group 2 - Grant County Fiscal Court 101 N Main St # 8 Williamstown, KY 41097	Katie Jo Kirkpatrick	Simon Boxall		
3/13/2023	2:30-4:30 pm	Grant	Williamstown		Katie Jo Kirkpatrick	Simon Boxall		
2/9/2023	1-2:30 pm	Kenton	Crescent Springs	Group 1 - Ft. Mitchell City Building	Katie Jo Kirkpatrick	Jeff Thelen	Elisha Chamberlain	Jeff Bert
2/9/2023	1-2:30 pm	Kenton	Ft. Mitchell		Katie Jo Kirkpatrick	Jeff Thelen	Elisha Chamberlain	Jeff Bert
2/9/2023	1-2:30 pm	Kenton	Ft. Wright		Katie Jo Kirkpatrick	Jeff Thelen	Elisha Chamberlain	Jeff Bert
2/9/2023	1-2:30 pm	Kenton	Lakeside Park		Katie Jo Kirkpatrick	Jeff Thelen	Elisha Chamberlain	Jeff Bert
2/9/2023	1-2:30 pm	Kenton	Park Hills		Katie Jo Kirkpatrick	Jeff Thelen	Elisha Chamberlain	Jeff Bert
2/17/2023	1-2:30 pm	Kenton	Crestview Hills		Katie Jo Kirkpatrick	Jeff Thelen	Simon Boxall	Bob Schrage
2/17/2023	1-2:30 pm	Kenton	Edgewood	Group 2 - Edgewood City Building	Katie Jo Kirkpatrick	Jeff Thelen	Simon Boxall	Bob Schrage
2/17/2023	1-2:30 pm	Kenton	Elsmere		Katie Jo Kirkpatrick	Jeff Thelen	Simon Boxall	Bob Schrage
2/17/2023	1-2:30 pm	Kenton	Erlanger		Katie Jo Kirkpatrick	Jeff Thelen	Simon Boxall	Bob Schrage
2/24/2023	8-9:30 am	Kenton	Fairview FD – Taylor mill, Ryland, Piner		Katie Jo Kirkpatrick		Simon Boxall	
2/24/2023	8-9:30 am	Kenton	Independence	Group 3 - Independence Senior Center	Katie Jo Kirkpatrick		Simon Boxall	
2/24/2023	8-9:30 am	Kenton	Kenton Vale FD – fort wright?		Katie Jo Kirkpatrick		Simon Boxall	
2/24/2023	8-9:30 am	Kenton	Ryland Heights		Katie Jo Kirkpatrick		Simon Boxall	

2/14/2024

Date	Time	County	Jurisdiction	Location	Facilitator Team			
2/24/2023	8-9:30 am	Kenton	Taylor Mill		Katie Jo Kirkpatrick		Simon Boxall	
2/24/2023	8-9:30 am	Kenton	Kenton		Katie Jo Kirkpatrick		Simon Boxall	
3/29/2023	1-2:30 pm	Kenton	Bromley	Group 4 - Kenton County Administrative Building	Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	
3/29/2023	1-2:30 pm	Kenton	Covington		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	
3/29/2023	1-2:30 pm	Kenton	Ludlow		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	
3/29/2023	1-2:30 pm	Kenton	Villa Hills		Katie Jo Kirkpatrick	Bob Schrage	Simon Boxall	
3/24/2023	5:30 -7 pm	Owen	Owen		Katie Jo Kirkpatrick			
3/24/2023	5:30 -7 pm	Owen	Gratz	Owen County Courthouse (Second Floor Court Room) 100 North Thomas St. Owenton KY 40359	Katie Jo Kirkpatrick			
3/24/2023	5:30 -7 pm	~~Owen~~	~~Monterey~~		Katie Jo Kirkpatrick			
3/24/2023	5:30 -7 pm	Owen	Owenton		Katie Jo Kirkpatrick			
	10 am – 11:30 am	Pendleton	Pendleton	Pendleton County Emergency Operations Center 2275 Hwy 27 N Falmouth KY 41040	Katie Jo Kirkpatrick	Jeff Thelen	Bob Schrage	Simon Boxall
3/28/2023	10 am – 11:30 am	Pendleton	Butler		Katie Jo Kirkpatrick	Jeff Thelen	Bob Schrage	Simon Boxall
3/28/2023	10 am – 11:30 am	Pendleton	Falmouth		Katie Jo Kirkpatrick	Jeff Thelen	Bob Schrage	Simon Boxall

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	23	24	25 Carroll County Hazard Mitigation Meetings 9 am to noon	26	27
Afternoon				12pm NKADD Board Meeting 1pm NKY Newly Elected Officials Orientation	
PM				Campbell County Hazard Mitigation Meeting Group 1 Campbell Co. Fiscal Court Chambers 1098 Monmouth Street Newport, KY 6 – 9 PM	
AM	30	31	February 1	2	3
Afternoon					

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
PM		Campbell County Hazard Mitigation Meeting Group 3 Campbell County Fire Training Center 10 Training Center Drive Highland Heights, KY 6 – 9 PM			
AM	February 6	7	8	9	10
Afternoon				Kenton County Fort Mitchell City Building 2355 Dixie Highway 1-3 p,	
PM		Campbell County Hazard Mitigation Meeting Group 4 Alexandria Fire Department 7951 Alexandria Pike Alexandria, KY 6 – 9 PM			

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	13	14	15	16	17
Afternoon					Kenton County Edgewood city Building (downstairs training Room) 1-3 pm
PM					
AM	20	21		23	24 Kenton County Independence Senior Center 8-10 am
Afternoon					Boone County NKADD 22 Spiral Drive 1:30-3 pm

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
PM					
AM	27	28	March 1 Grant County Fiscal Court 101 N Main St #8 Williamstown, KY 41097	2	3
Afternoon					
PM	Campbell County Hazard Mitigation Meeting Group 2 Eastern Campbell Fire Department 3707 Smith Road California, KY 6 – 9 PM				
AM	6	7	8	9	10

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
Afternoon					
PM					
AM	13	14	15	16	17
Afternoon	Grant County Fiscal Court 101 N Main St #8 Williamstown, KY 41097				
PM					

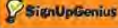
2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	20	21	22	23	24
Afternoon					
PM					Owen County Owen County Courthouse 100 N Thomas Street Owenton KY 40359 5:30 -7 pm
AM	27	28 Pendleton County Pendleton County Emergency Operations Center 2275 Hwy 27 N Falmouth KY	29	30	31
Afternoon			Kenton County Kenton County Administration Building 2 nd Floor Training Room 1840 Simon Kenton Way 1-3 pm		

2/14/2024

	Monday	Tuesday	Wednesday	Thursday	Friday
PM					

5. SAMPLE OF THE SIGNUPGENIUS



Northern Kentucky Area Development District

NKY Jurisdiction Focused Hazard Mitigation Meetings

Created By: Katie Jo Kirkpatrick

(Dates are in mm/dd/yyyy)

03/13/2023 (Mon.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name: Lex Whalen	Email: rblaweth@yahoo.com	Phone:

03/15/2023 (Wed.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:

03/16/2023 (Thu.)			
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name:	Email:	Phone:

03/17/2023 (Fri.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name:	Email:	Phone:

03/20/2023 (Mon.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:

03/21/2023 (Tue.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:

03/23/2023 (Thu.)			
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name:	Email:	Phone:

03/24/2023 (Fri.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name: Larry Karoner	Email: emadirector@owenscountyny.gov	Phone:

03/27/2023 (Mon.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:

03/28/2023 (Tue.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name: Mike Moore	Email: emadirector@owenscountyny.gov	Phone:
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name:	Email:	Phone:

03/29/2023 (Wed.)			
AM Meeting (anytime between 8 am and Noon) (1)	Name:	Email:	Phone:
Afternoon Meeting (anytime between 1 pm and 4:30 pm) (1)	Name:	Email:	Phone:
Evening Meeting (anytime between 5:30 pm and 8:30 pm) (1)	Name:	Email:	Phone:

(anytime between 1 pm and 4:30 pm) (1)

Evening Meeting
(anytime between 5:30 pm and 8:30 pm) (1)

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6. HAZARD MITIGATION COMMUNITY FOCUS PUBLIC MEETING POWERPOINT



What is Hazard Mitigation?

Sustained action taken to eliminate long-term or short-term risks to life and property.

A local mitigation plan should be prepared before a disaster to guide risk reduction activities before an event; it should also be reviewed, and amended regularly, so as not to overlook opportunities for vulnerability reduction (mitigation).

What is the Hazard Mitigation Process?

- Analyzes the community's risk from hazards
- Coordinates available resources
- Implements actions to reduce or eliminate risks
- Monitors mitigation measures and goals

What is the Benefit?

- Assisting local communities with reducing risks
- Building partnerships and reducing duplication of efforts
- Creating more sustainable and disaster-resistant communities
- Communicating needs to state and federal officials when funding becomes available
- Increasing public awareness of local hazards and disaster preparedness



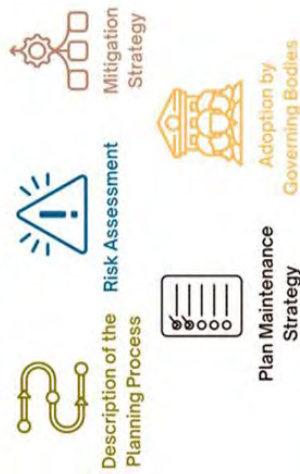
Background

Disaster Mitigation Act, amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act in 2000 (Section 322)

Requires that all jurisdictions have an approved plan in place

- Increased Hazard Mitigation Grant Program (HMGP) funds and established mitigation planning criteria for state and local governments.
- A local government must have a mitigation plan approved by FEMA in order to receive HMGP project grants and other forms of non-emergency disaster assistance.
- Why is the NKADD involved?

Plan Components



Planning Process

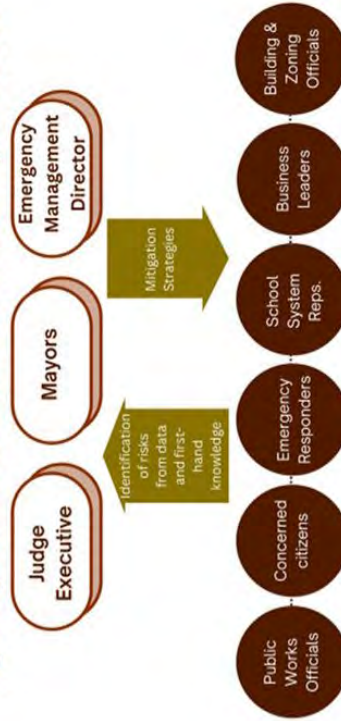


Plan Components



Description of the Planning Process

Agency Stakeholders & Community Lifelines



Planning Process



Risk Assessment

Risk Assessment

Risk: The possibility of loss (of life or property) as a result of a disaster event.



Landslide in Kenton County, Mait Crawford, www.uky.edu/KGS



Flooding in Covington, 2015, aroundnorthkentucky.blogspot.com/



2012 Pinet Tornado, South of Crittenden, Fox 19

Hazard Classification

- Historic events
- Maps & GIS
- Public Input
- Government agencies
 - FEMA & KYEM
 - USGS & KGS
 - NCDC/NOAA
 - KY DOW
 - USACOE

Hazards Considered

Threats

- Flooding
- Tornadoes
- Severe Winter Storms
- Thunderstorms
- Landslides
- Dam/Levee Failure
- Earthquake

Not Threats

- Tsunami
- Hurricane
- Drought/Heat Wave
- Fog
- Wildfires
- Volcanoes

Community Survey Results

- Over 176 Completed Surveys
- In the past 5 years, most have experienced Severe Thunder/Lighting, Windstorm and Severe Winter Storm
- Most concerned about Tornadoes, Ice Storms and Severe Winter Storm
- Most concerned about Human Life/Injury and Infrastructure Damage/Loss from an event
- Prioritized Protecting Critical Facilities, Protecting and Reducing Damage to Utilities and Strengthening Emergency Services in planning for hazardous events

Risk Assessment Survey

Per new policy, every jurisdiction must participate in the update of this Hazard Mitigation plan. We need your input!

nk

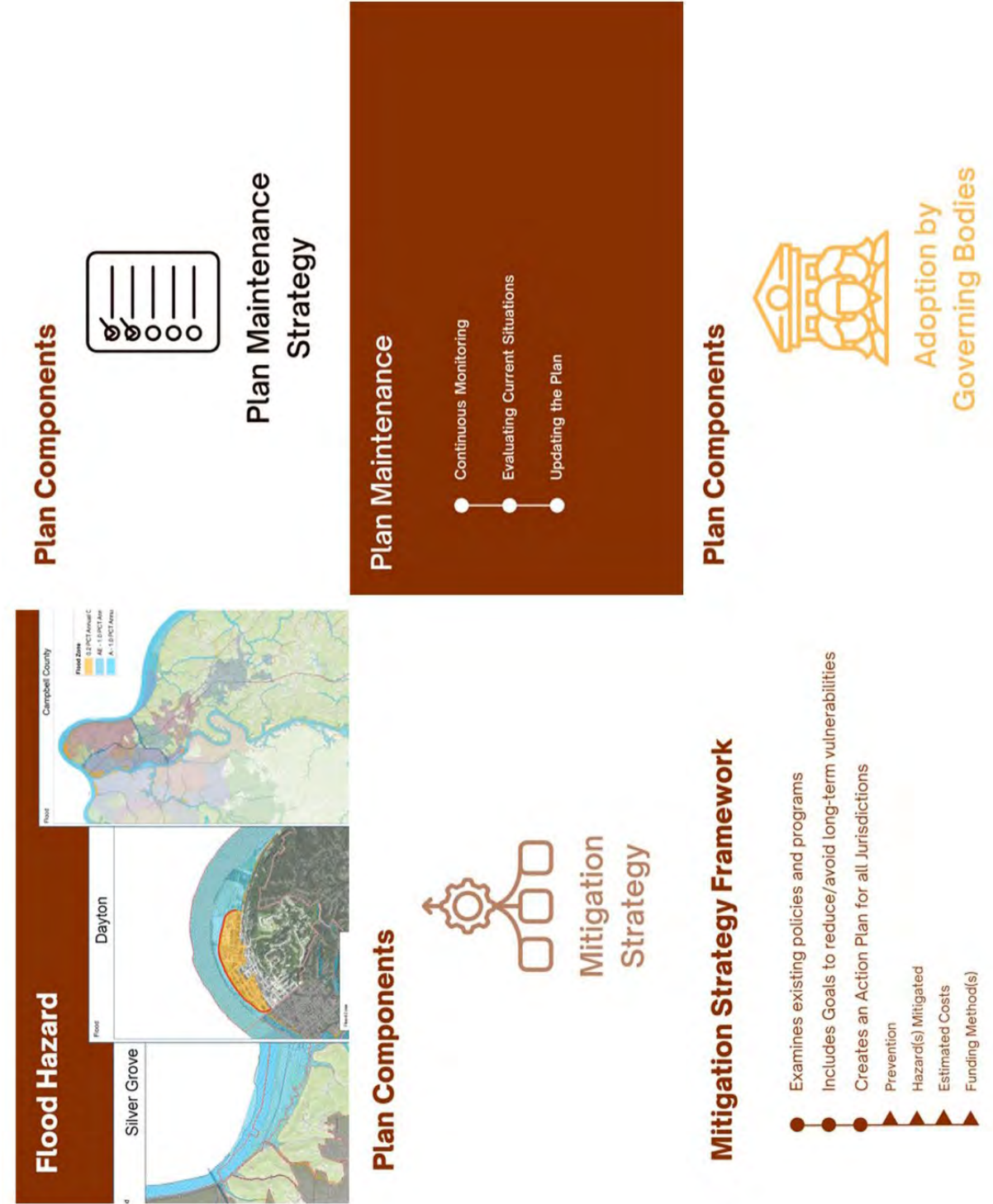
We want to know.

What is the most significant hazard to your community? What is the most significant threat to your community? What is the most significant vulnerability to your community? What is the most significant opportunity to your community?

What is the most significant hazard to your community? What is the most significant threat to your community? What is the most significant vulnerability to your community? What is the most significant opportunity to your community?

Critical Infrastructure





Plan Approval and Adoption

	Old FEMA Policy	New FEMA Policy
Determine Mitigation Strategy	Jan. 2023 - March 2023	Jan. 2023 - March 2023
Create & Adopt Plan	April 2023 - August 2023	April 2023 - August 2023
Gain KYEM & FEMA Approval	August 2023 - Dec. 2023	June 2023 - Oct 2023
Adopt Plan	Dec. 2023 - April 2024	

Submitting Adoption Resolutions with Plan

Jurisdictions adopts the plan before submitting it to FEMA

- Note – it is important that the state and/or FEMA may require revisions to the plan that will change the plan’s final content.

FEMA encourages jurisdictions to use flexible adoption resolution language

- In accordance with (local rule for adopting resolutions), the (local governing body) adopts the Northern Kentucky 2023 Hazard Mitigation Plan. While content related to (local government) may require revisions to meet the plan approval requirements, changes occurring after adoption will not require (local government) to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopting the Plan

- Continuous Monitoring
- Evaluating Current Situations
- Updating the Plan

Jurisdictional Roundtable Discussions



Risk Assessment



Mitigation Strategy

Roundtable Accomplishments

- Risk Assessment and Anecdotal Data
- Mitigation Strategy
- National Flood Insurance Program (NFIP)
- Recently Updated Community Plans
- Hazard Mitigation Plan Maps

Next Steps



7. HAZARD MITIGATION MEETING AND ROUNDTABLE QUESTIONS TEMPLATE

Jurisdiction:

Date: _____

Roundtable Facilitator: _____

Hazard Mitigation Meeting and Roundtable Questions

List of Jurisdiction Focus meetings and NKADD staff meeting sign up [Jurisdiction Focused Meetings List and Sign Up Sheet.docx](#)

Meeting Agenda

1. Welcome and Introductions
2. Background
3. Plan Components
4. Community Survey Results
5. Jurisdiction Roundtable Discussions
6. Next Steps

PowerPoint Presentation [Hazard Mitigation Community Focus Public Meeting Template- Risk Assessment.pptx](#)

Roundtable Discussion Questions

1. *Risk Assessment and Anecdotal Data*

- o Discuss recent hazard events.
- o They can provide anecdotal information by using the online forum <https://www.cognitofirms.com/Church35/NorthernKentuckyHazardMitigationPlanRiskAssessment>
- o There will be flyers at each table with the QR Code that links to the survey
- o Or they can provide you with information at the tables. Please use the ***Hazard Mitigation Planning Jurisdiction Risk Assessment Worksheets (at the end of this packet)***

Example of questions asked during this section

Jurisdiction:			
Event	How? Deep the water, many feet of land moved,	Extent of Damages	Cost of Damages
Flooding			
Landslides			
Sinkholes			

- o Identify any jurisdiction-specific risks if varies from the entire planning area
- o What are the vulnerabilities in your community, ie reducing the risk to existing buildings, structures, systems, populations, infrastructures and other assets, as well as limiting risk to new development and redevelopment
- o How is your community vulnerable to each of the identified hazards?
 - Flooding/ Flash Flooding
 - Thunderstorms/ Severe Winds
 - Landslides
 - Sinkholes
 - Hail
 - Tornadoes
 - Severe Winter Storms
 - Dam/Levee Failure
 - Earthquake
 - Hurricane Wind
 - Other
- o Suggests on how to mitigate the risk?
- o What are some potential future hazard events – general descriptors must be quantitatively defined.
 - [Probability of future hazard events](#) means the likelihood of the hazard occurring or reoccurring. It may be defined in historical frequencies, statistical probabilities, hazard probability maps and/or general descriptors (e.g., unlikely, likely, highly likely). If general descriptors are used, they must be quantified or defined in the plan. For example, “highly likely” could be defined as “100% chance of occurrence next year” or “one event every year.”

2. Mitigation Strategy

- o Any goals to reduce the risk of the identified hazards?
- o List one or more mitigation actions for each hazard addressed in the risk assessment.
- o How can each community expand on and improve the capabilities described in the plan?

3. Does the community participate in the National Flood Insurance Program (NFIP)?

- o If yes,
 - Adoption of NFIP minimum floodplain management criteria via local regulation.
 - Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable.
 - Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.
 - Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP.
 - Description of how participants implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event.
- o If no,

- Jurisdictions not currently participating in the NFIP, where a Flood Hazard Boundary Map or FIRM has been issued, may meet this requirement by describing why the community does not participate in the NFIP.
 - How does the jurisdiction address repetitive flooded NFIP-insured structures by including the estimate of numbers and types.
- 4. Enquire about comprehensive, emergency operations and other community plans (may have a list of current documents)**
- Have these plans been updated?
 - Discuss of existing building codes and land use and development ordinances or regulations that would support mitigation strategy
 - Assessing recent impactful land use changes and development trends
- 5. Review plan's maps for updates** <https://www.nkadd.org/hazard-mitigation-planning/>
- Discuss existing and future critical infrastructure and facilities maps and potential dollar losses
 -

Hazard Mitigation Planning Jurisdiction Risk Assessment Worksheet

Types of Identified Hazard Events		
Flooding/ Flash Flooding	Thunderstorms/ Severe Winds	Landslides
Sinkholes	Hail	Tornadoes
Severe Winter Storms	Dam/Levee Failure	Earthquake
Hurricane Wind	Other	

Jurisdiction:
Event: Flooding
How? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event: Landslides
How? Deep the water, many feet of land moved,

Extent of Damages
Cost of Damages
Event: Sinkholes
How? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event
How? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event
How? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event

How's? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event
How's? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages
Event
How's? Deep the water, many feet of land moved,
Extent of Damages
Cost of Damages

8. NORTHERN KENTUCKY HAZARD MITIGATION – RISK ASSESSMENT FORM

Northern Kentucky Hazard Mitigation Plan - Risk Assessment



Mitigation planning is the foundation for guiding risk reduction investments. These investments build community resilience to future natural hazard events. The local mitigation planning process brings partners together to inform a risk reduction strategy that can be implemented using a wide range of public and private resources. Local mitigation plans demonstrate the commitment to mitigation across multiple sectors, such as infrastructure and economic development, to reduce natural hazard risk.

For this update, FEMA requires representatives from all 52 Northern Kentucky jurisdictions, community agencies, stakeholders and critical community lifelines to participate.

What Northern Kentucky organization do you represent? *

The Risk Assessment is an important part of updating the Northern Kentucky Hazard Mitigation Plan. The Assessment identifies the hazards that can affect our local jurisdictions. It analyzes each of these hazards with respect to location, potential magnitude, previous occurrences, future probability, vulnerability, and potential consequences.

To ensure that the updated Hazard Mitigation Plan is as complete as possible, we would like to ask you some questions about past occurrences. From the list below, choose an event and complete the questions. Once you have provided all the information for the selected event, choose another event, and complete the process again.

If you have any questions, please contact Katie Jo Kirkpatrick, katiejo.kirkpatrick@nkadd.org

Understanding Previous Events

☒ Flooding/ Flash Flooding
 ☐ Severe Winter Storms

☐ Thunderstorms/ Severe Winds
 ☐ Dam/Levee Failure

☐ Landslides
 ☐ Earthquake

☐ Sinkholes
 ☐ Hurricane Wind

☐ Hail
 Other

☐ Tornadoes

Flooding/ Flash Flooding



If you have provided information about all the listed events that have occurred in your area, please click the submit button.

Thank you so much for helping us with this updating the Hazard Mitigation Plan Risk Assessment. We appreciate your participation.

If you have any questions, please contact Katie Jo Kirkpatrick, katiejo.kirkpatrick@nkadd.org.

Date of Event

What are the facts about the event? (e.g. How deep was the water? How many feet of land moved? How strong were the winds? How much snow or ice accrued?)

What were the extent of the damages?

What were the costs of the damages?

Is there additional information that is important for this event?

Please upload an incident report and emergency response information.

or drag files here.

Has your jurisdiction experienced additional events since 2010?

☐ Yes ☒ No

Are you done with this event? Please go back to the top of the form and pick another event.

9. MITIGATION STRATEGY REVIEW MEETING SOCIAL MEDIA POSTS



**Boone County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Tuesday, November 14, 2023
6:30 PM to 8:00 PM**

**Boone County Public Safety Campus
3000 Conrad Lane
Burlington, KY 41005**

nke ADD



**Carroll County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Tuesday, November 28, 2023
10:00 AM to 11:30 AM**

**Carroll County Fiscal Court
440 Main Street
Carrollton, KY 41008**

nke ADD



**Grant County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Tuesday, December 5, 2023
6:00 PM to 7:30 PM**

**Grant County Library
201 Barnes Roads
Williamstown, KY 41097**

nke ADD



**Kenton County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Wednesday, December 6, 2023
5:30 PM to 7:00 PM**

**Kenton County Administration Building
1840 Simon Kenton Way
Covington, KY 41011**

nke ADD



Gallatin County Hazard Mitigation Plan Mitigation Strategy and Energy Resilience Meeting

Monday, December 11, 2023
10:00 AM to 11:30 AM

Gallatin County Public Library
209 W. Market Street
Warsaw, KY 41095



Owen County Hazard Mitigation Plan Mitigation Strategy and Energy Resilience Meeting

Tuesday, December 12, 2023
5:45 PM to 7:00 PM

Owen County Fiscal Court
100 N. Thomas Street
Owenton, KY 40359



**Pendleton County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Thursday, December 21, 2023
6:00 PM to 7:30 PM**

**Pendleton County Courthouse
233 Main Street
Falmouth, KY 41040**

nk ADD



**Campbell County
Hazard Mitigation Plan
Mitigation Strategy and
Energy Resilience Meeting**

**Wednesday, December 13, 2023
1:30 PM to 3:00 PM**

**Campbell County Fire Training Center
10 Training Center Dr.
Highland Heights, KY 41076**

nk ADD

10. HISTORICAL FLOODING/FLASH FLOODING EVENTS

County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	SUGARTIT	6/19/2021	Flood			\$5,000	
BOONE CO.	RICHWOOD	2/28/2021	Flood				
BOONE CO.	UNION	2/28/2021	Flood				

2/14/2024

County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	VERONA	2/28/2021	Flood				
BOONE CO.	WALTON	5/24/2020	Flash Flood				
BOONE CO.	PETERSBURG	7/30/2019	Flood			\$5,000	
BOONE CO.	CONSTANCE	6/16/2019	Flash Flood			\$15,000	
BOONE CO.	SUGARTIT	3/30/2019	Flood				
BOONE CO.	BURLINGTON	2/12/2019	Flood				
BOONE CO.	UNION	9/24/2018	Flood				
BOONE CO.	WALTON	9/24/2018	Flood				
BOONE CO.	BIG BONE	9/9/2018	Flood				
BOONE CO.	FLORENCE	7/20/2018	Flood				
BOONE CO.	FLORENCE	2/24/2018	Flash Flood			\$3,000	
BOONE CO.	SUGARTIT	4/29/2017	Flash Flood				
BOONE CO.	PETERSBURG	3/1/2017	Flash Flood			\$50,000	
BOONE CO.	SUGARTIT	10/19/2016	Flash Flood			\$10,000	
BOONE CO.	FLORENCE	8/28/2016	Flash Flood				
BOONE CO.	FLORENCE	8/28/2016	Flash Flood				
BOONE CO.	BEAVERLICK	7/17/2015	Flood				
BOONE CO.	BIG BONE	7/6/2013	Flash Flood			\$1,000	
BOONE CO.	VERONA	7/6/2013	Flood				
BOONE CO.	UNION	3/2/2012	Flood				
BOONE CO.	LIMABURG	1/27/2012	Flood			\$1,000	
BOONE CO.	UNION	4/19/2011	Flash Flood			\$1,000	
BOONE CO.	WALTON	4/19/2011	Flash Flood			\$1,000	
BOONE CO.	FLORENCE	6/15/2010	Flash Flood			\$1,000	
BOONE CO.	FLORENCE	6/9/2010	Flood			\$3,000	
BOONE CO.	VERONA	7/30/2009	Flash Flood			\$2,000	
BOONE CO.	BULLITTSVILLE	6/25/2009	Flash Flood			\$60,000	
BOONE CO.	SUGARTIT	6/4/2008	Flash Flood			\$10,000	
BOONE CO.	RABBIT HASH	4/4/2008	Flash Flood			\$1,000	
BOONE CO.	BURLINGTON	3/12/2006	Flash Flood				
BOONE CO.		11/15/2005	Flood				
BOONE CO.		8/30/2005	Flood				
BOONE CO.		6/30/2005	Flood				
BOONE CO.		6/14/2005	Flood				
BOONE CO.		3/28/2005	Flood				
BOONE CO.		10/18/2004	Flood				
BOONE CO.		7/31/2004	Flood				
BOONE CO.		7/31/2004	Flood				
BOONE CO.	RABBIT HASH	6/15/2004	Flash Flood				
BOONE CO.	COUNTYWIDE	5/10/2003	Flash Flood				
BOONE CO.	WALTON	5/10/2003	Flash Flood				
BOONE CO.		6/6/2002	Flood				
BOONE CO.	COUNTYWIDE	5/8/2002	Flash Flood				
BOONE CO.	RICHWOOD	5/7/2002	Flash Flood			\$2,000	
BOONE CO.		4/28/2002	Flood				
BOONE CO.		4/21/2002	Flood				
BOONE CO.	NORTHWEST PORTION	8/11/2001	Flash Flood				
BOONE CO.	UNION	7/18/2001	Flash Flood				
BOONE CO.	FLORENCE	5/18/2001	Flash Flood			\$5,000	
BOONE CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$10,000	
BOONE CO.	COUNTYWIDE	2/13/2000	Flash Flood			\$5,000	
BOONE CO.	COUNTYWIDE	1/3/2000	Flash Flood			\$10,000	

County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	COUNTYWIDE	6/11/1998	Flash Flood			\$5,000	
BOONE CO.	COUNTYWIDE	6/18/1997	Flash Flood			\$5,000	
BOONE CO.	COUNTYWIDE	6/1/1997	Flash Flood			\$25,000	
BOONE CO.	COUNTYWIDE	12/1/1996	Flash Flood				
BOONE CO.	UNION	7/1/1996	Flash Flood			\$1,000,000	
BOONE CO.	UNION	6/30/1996	Flash Flood			\$1,000,000	
BOONE CO.	COUNTYWIDE	5/28/1996	Flash Flood			\$5,000	
BOONE CO.		5/15/1996	Flood				
BOONE CO.	FLORENCE	5/4/1996	Flash Flood			\$5,000	
BOONE CO.	COUNTYWIDE	4/29/1996	Flash Flood			\$2,000	
BOONE CO.		1/23/1996	Flood			\$20,000	
CAMPBELL CO.	SOUTHGATE	2/17/2022	Flood				
CAMPBELL CO.	BRENT	2/28/2021	Flood				
CAMPBELL CO.	CLARYVILLE	5/24/2020	Flood				
CAMPBELL CO.	CLARYVILLE	5/24/2020	Flash Flood				
CAMPBELL CO.	NEWPORT	5/19/2020	Flash Flood			\$50,000	
CAMPBELL CO.	ONEONTA	5/19/2020	Flood				
CAMPBELL CO.	NEWPORT	7/17/2019	Flood				
CAMPBELL CO.	BELLEVUE	6/16/2019	Flash Flood				
CAMPBELL CO.	BRENT	3/30/2019	Flood				
CAMPBELL CO.	SOUTHGATE	3/30/2019	Flood				
CAMPBELL CO.	COLD SPG	2/12/2019	Flood				
CAMPBELL CO.	NEW RICHMOND	2/7/2019	Flash Flood				
CAMPBELL CO.	ONEONTA	2/7/2019	Flash Flood				
CAMPBELL CO.	ALEXANDRIA	9/9/2018	Flood				
CAMPBELL CO.	SOUTHGATE	9/7/2018	Flash Flood			\$10,000	
CAMPBELL CO.	ALEXANDRIA	2/24/2018	Flash Flood				
CAMPBELL CO.	BRENT	4/16/2017	Flash Flood				
CAMPBELL CO.	ALEXANDRIA	10/19/2016	Flash Flood				
CAMPBELL CO.	BRENT	8/28/2016	Flash Flood				
CAMPBELL CO.	NEWPORT	8/28/2016	Flash Flood				
CAMPBELL CO.	HIGHLAND HGTS	8/17/2016	Flash Flood			\$1,000	
CAMPBELL CO.	NEWPORT	7/28/2016	Flash Flood			\$50,000	
CAMPBELL CO.	CLARYVILLE	12/21/2013	Flash Flood			\$3,000	
CAMPBELL CO.	NEWPORT	7/4/2013	Flood			\$50,000	
CAMPBELL CO.	NEWPORT	7/1/2013	Flash Flood			\$1,000	
CAMPBELL CO.	ALEXANDRIA	1/27/2012	Flood			\$1,000	
CAMPBELL CO.	COLD SPG	12/5/2011	Flood			\$1,000	
CAMPBELL CO.	BELLEVUE	6/21/2011	Flash Flood			\$1,000	
CAMPBELL CO.	ALEXANDRIA	7/21/2010	Flash Flood			\$5,000	
CAMPBELL CO.	NEWPORT	7/13/2010	Flash Flood			\$1,000	
CAMPBELL CO.	CLARYVILLE	6/15/2010	Flash Flood			\$1,000	
CAMPBELL CO.	GRANTS LICK	6/15/2010	Flash Flood			\$1,000	
CAMPBELL CO.	SOUTHGATE	9/8/2009	Flood			\$10,000	
CAMPBELL CO.	SILVER GROVE	7/30/2009	Flash Flood			\$2,000	
CAMPBELL CO.	ALEXANDRIA	6/4/2008	Flash Flood			\$10,000	
CAMPBELL CO.	GRANTS LICK	5/15/2008	Flood			\$2,000	
CAMPBELL CO.	CLARYVILLE	4/4/2008	Flash Flood			\$1,000	
CAMPBELL CO.	ALEXANDRIA	3/18/2008	Flood			\$10,000	
CAMPBELL CO.	NEW RICHMOND	3/4/2008	Flood			\$3,000	
CAMPBELL CO.	ALEXANDRIA	7/21/2006	Flash Flood				
CAMPBELL CO.	ALEXANDRIA	3/12/2006	Flash Flood				
CAMPBELL CO.		11/15/2005	Flood				

2/14/2024

County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
CAMPBELL CO.		3/28/2005	Flood				
CAMPBELL CO.		10/18/2004	Flood				
CAMPBELL CO.		7/31/2004	Flood				
CAMPBELL CO.		7/31/2004	Flood				
CAMPBELL CO.		8/8/2003	Flood				
CAMPBELL CO.	NEWPORT	8/8/2003	Flash Flood				
CAMPBELL CO.		7/18/2003	Flood				
CAMPBELL CO.		7/10/2003	Flood				
CAMPBELL CO.		5/10/2003	Flood				
CAMPBELL CO.	DAYTON	5/10/2003	Flash Flood			\$50,000	
CAMPBELL CO.		11/10/2002	Flood				
CAMPBELL CO.		6/6/2002	Flood				
CAMPBELL CO.	ALEXANDRIA	5/8/2002	Flash Flood				
CAMPBELL CO.	SILVER GROVE	5/7/2002	Flash Flood			\$2,000	
CAMPBELL CO.		4/21/2002	Flood				
CAMPBELL CO.	CALIFORNIA	7/18/2001	Flash Flood				
CAMPBELL CO.	COUNTYWIDE	7/18/2001	Flash Flood			\$5,000	
CAMPBELL CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$15,000	
CAMPBELL CO.	COUNTYWIDE	1/3/2000	Flash Flood			\$10,000	
CAMPBELL CO.	COUNTYWIDE	6/11/1998	Flash Flood			\$10,000	
CAMPBELL CO.	COUNTYWIDE	6/1/1997	Flash Flood			\$10,000	
CAMPBELL CO.	COUNTYWIDE	5/31/1997	Flash Flood			\$10,000	
CAMPBELL CO.		5/15/1996	Flood				
CAMPBELL CO.		1/23/1996	Flood			\$20,000	
CARROLL CO.	LOCUST	9/3/2022	Flash Flood				
CARROLL CO.	PRESTONVILLE	9/3/2022	Flash Flood			\$20,000	
CARROLL CO.	CARROLLTON	6/18/2021	Flood				
CARROLL CO.	SANDERS	3/1/2021	Flood				
CARROLL CO.	EAGLE STATION	2/28/2021	Flood				
CARROLL CO.	SANDERS	2/28/2021	Flood			\$6,000	
CARROLL CO.	CARROLLTON	6/9/2019	Flood				
CARROLL CO.	CARROLLTON	9/9/2018	Flood				
CARROLL CO.	EAGLE STATION	9/9/2018	Flood				
CARROLL CO.	SANDERS	9/9/2018	Flood				
CARROLL CO.	WORTHVILLE	9/9/2018	Flood				
CARROLL CO.	CARROLLTON	2/24/2018	Flash Flood				
CARROLL CO.	CARROLLTON	5/24/2017	Flood				
CARROLL CO.	PRESTONVILLE	5/20/2017	Flash Flood				
CARROLL CO.	EAGLE STATION	4/29/2017	Flash Flood				
CARROLL CO.	CARROLLTON	8/1/2016	Flash Flood				
CARROLL CO.	ENGLISH	8/1/2016	Flash Flood				
CARROLL CO.	CARROLLTON	7/14/2015	Flash Flood			\$2,000	
CARROLL CO.	ENGLISH	7/14/2015	Flash Flood			\$25,000	
CARROLL CO.	CARROLLTON	4/3/2015	Flood				
CARROLL CO.	LOCUST	4/4/2014	Flash Flood			\$100,000	
CARROLL CO.	PRESTONVILLE	4/4/2014	Flash Flood			\$1,000	
CARROLL CO.	WORTHVILLE	4/3/2014	Flood				
CARROLL CO.	LOCUST	12/21/2013	Flash Flood			\$1,000	
CARROLL CO.	SANDERS	7/7/2013	Flood			\$1,000	
CARROLL CO.	CARROLLTON	5/12/2010	Flash Flood			\$3,000	
CARROLL CO.	CARROLLTON	5/2/2010	Flood				
CARROLL CO.	CARROLLTON	5/2/2010	Flash Flood			\$1,000	
CARROLL CO.	CARROLLTON	8/4/2009	Flood			\$1,000	

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
CARROLL CO.	PRESTONVILLE	8/4/2009	Flash Flood			\$10,000	
CARROLL CO.	LOCUST	3/19/2008	Flood			\$5,000	
CARROLL CO.		5/19/2005	Flood				
CARROLL CO.		3/28/2005	Flood				
CARROLL CO.		10/18/2004	Flood				
CARROLL CO.		10/18/2004	Flood				
CARROLL CO.		5/30/2004	Flood				
CARROLL CO.		5/27/2004	Flood				
CARROLL CO.		8/10/2003	Flood				
CARROLL CO.		7/10/2003	Flood				
CARROLL CO.	CARROLLTON	7/9/2003	Flash Flood			\$20,000	
CARROLL CO.		9/27/2002	Flood				
CARROLL CO.		6/25/2002	Flood				
CARROLL CO.	GHENT	6/25/2002	Flash Flood				
CARROLL CO.	COUNTYWIDE	8/9/2000	Flash Flood			\$5,000	
CARROLL CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$10,000	
CARROLL CO.	COUNTYWIDE	1/3/2000	Flash Flood			\$50,000	
CARROLL CO.	COUNTYWIDE	7/20/1998	Flash Flood				
CARROLL CO.	SANDERS	4/30/1998	Flash Flood				
CARROLL CO.	COUNTYWIDE	4/16/1998	Flash Flood				
CARROLL CO.	COUNTYWIDE	3/1/1997	Flash Flood			\$500,000	
CARROLL CO.	COUNTYWIDE	12/1/1996	Flash Flood				
CARROLL CO.	COUNTYWIDE	5/11/1996	Flash Flood			\$25,000	
CARROLL CO.	COUNTYWIDE	5/4/1996	Flash Flood			\$3,000	
CARROLL CO.		1/23/1996	Flood			\$20,000	
GALLATIN CO.	NAPOLEON	8/29/2022	Flash Flood			\$100,000	
GALLATIN CO.	RYLE	8/29/2022	Flash Flood			\$8,000	
GALLATIN CO.	WARSAW	8/9/2022	Flood				
GALLATIN CO.	GLENCOE	2/28/2021	Flood			\$2,000	
GALLATIN CO.	SUGAR BAY	2/28/2021	Flood			\$3,000	
GALLATIN CO.	WARSAW	2/7/2019	Flood				
GALLATIN CO.	SPARTA	9/9/2018	Flood				
GALLATIN CO.	SPARTA	9/9/2018	Flood				
GALLATIN CO.	SPARTA	2/24/2018	Flash Flood				
GALLATIN CO.	ETHRIDGE	5/24/2017	Flash Flood				
GALLATIN CO.	ETHRIDGE	5/24/2017	Flash Flood				
GALLATIN CO.	GLENCOE	4/3/2015	Flood				
GALLATIN CO.	GLENCOE	4/3/2015	Flood				
GALLATIN CO.	GLENCOE	4/3/2015	Flood				
GALLATIN CO.	WARSAW	4/3/2015	Flood				
GALLATIN CO.	WARSAW	4/3/2015	Flood				
GALLATIN CO.	ETHRIDGE	7/7/2014	Flood				
GALLATIN CO.	GLENCOE	12/22/2013	Flash Flood			\$30,000	
GALLATIN CO.	GLENCOE	7/6/2013	Flood				
GALLATIN CO.	GLENCOE	7/6/2013	Flash Flood			\$1,000	
GALLATIN CO.	NAPOLEON	7/1/2013	Flash Flood			\$1,000	
GALLATIN CO.	WARSAW	3/15/2012	Flash Flood			\$1,000	
GALLATIN CO.	WARSAW	1/27/2012	Flood			\$1,000	
GALLATIN CO.	SPARTA	12/5/2011	Flood			\$1,000	
GALLATIN CO.	WARSAW	5/12/2010	Flash Flood			\$3,000	
GALLATIN CO.	WARSAW	5/2/2010	Flood				
GALLATIN CO.	WARSAW	5/2/2010	Flash Flood			\$5,000	
GALLATIN CO.	CARSON	8/4/2009	Flash Flood			\$5,000	

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
GALLATIN CO.	SPARTA	5/15/2008	Flood			\$2,000	
GALLATIN CO.	SPARTA	4/4/2008	Flash Flood			\$2,000	
GALLATIN CO.	SPARTA	3/19/2008	Flood			\$5,000	
GALLATIN CO.	COUNTYWIDE	3/12/2006	Flash Flood				
GALLATIN CO.		11/15/2005	Flood				
GALLATIN CO.		7/20/2005	Flood				
GALLATIN CO.		3/28/2005	Flood				
GALLATIN CO.		10/18/2004	Flood				
GALLATIN CO.		10/18/2004	Flood				
GALLATIN CO.		5/27/2004	Flood				
GALLATIN CO.		7/10/2003	Flood				
GALLATIN CO.	WARSAW	7/9/2003	Flash Flood				
GALLATIN CO.		5/10/2003	Flood				
GALLATIN CO.	NORTHEAST PORTION	5/10/2003	Flash Flood				
GALLATIN CO.		2/22/2003	Flood				
GALLATIN CO.	COUNTYWIDE	5/8/2002	Flash Flood				
GALLATIN CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$10,000	
GALLATIN CO.	SPARTA	2/13/2000	Flash Flood			\$5,000	
GALLATIN CO.	COUNTYWIDE	1/3/2000	Flash Flood			\$25,000	
GALLATIN CO.	COUNTYWIDE	7/20/1998	Flash Flood				
GALLATIN CO.	GLENCOE	4/30/1998	Flash Flood				
GALLATIN CO.	COUNTYWIDE	4/16/1998	Flash Flood				
GALLATIN CO.	COUNTYWIDE	6/1/1997	Flash Flood			\$5,000	
GALLATIN CO.	COUNTYWIDE	3/1/1997	Flash Flood	1		\$100,000	
GALLATIN CO.	COUNTYWIDE	5/15/1996	Flash Flood			\$5,000	
GALLATIN CO.	WARSAW	5/11/1996	Flash Flood			\$5,000	
GALLATIN CO.	COUNTYWIDE	4/29/1996	Flash Flood			\$3,000	
GALLATIN CO.		1/23/1996	Flood			\$20,000	
GRANT CO.	CORDOVA	1/3/2023	Flash Flood				
GRANT CO.	CORDOVA	1/3/2023	Flash Flood				
GRANT CO.	DOWINGSVILLE	1/3/2023	Flash Flood				
GRANT CO.	WILLIAMSTOWN	4/28/2021	Flood				
GRANT CO.	DRY RIDGE	5/24/2020	Flash Flood				
GRANT CO.	STEWARTSVILLE	9/8/2018	Flood				
GRANT CO.	CORDOVA	7/2/2018	Flood				
GRANT CO.	CORDOVA	7/2/2018	Flood				
GRANT CO.	DRY RIDGE	5/18/2018	Flash Flood				
GRANT CO.	HEEKIN	5/18/2018	Flash Flood				
GRANT CO.	MT ZION	5/18/2018	Flash Flood			\$10,000	
GRANT CO.	WILLIAMSTOWN	5/18/2018	Flash Flood			\$30,000	
GRANT CO.	DOWINGSVILLE	4/3/2015	Flood			\$500	
GRANT CO.	HOLBROOK	4/3/2015	Flood			\$25,000	
GRANT CO.	DRY RIDGE	7/7/2014	Flood				
GRANT CO.	TWIN BRIDGES	4/4/2014	Flash Flood			\$1,000	
GRANT CO.	DOWINGSVILLE	7/6/2013	Flood				
GRANT CO.	MT ZION	7/6/2013	Flood				
GRANT CO.	CORINTH	4/4/2011	Flash Flood			\$1,000	
GRANT CO.	WILLIAMSTOWN	5/12/2010	Flash Flood			\$2,000	
GRANT CO.	ELLISTON	10/9/2009	Flash Flood			\$10,000	
GRANT CO.	DOWINGSVILLE	4/4/2008	Flash Flood			\$2,000	
GRANT CO.	ELLISTON	3/18/2008	Flood			\$3,000	
GRANT CO.		8/30/2005	Flood				

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
GRANT CO.		10/18/2004	Flood				
GRANT CO.		10/18/2004	Flood				
GRANT CO.		5/30/2004	Flood				
GRANT CO.		5/27/2004	Flood				
GRANT CO.	CORINTH	5/27/2004	Flash Flood				
GRANT CO.	LAWRENCEVILLE	8/22/2003	Flash Flood				
GRANT CO.	CORINTH	8/11/2003	Flash Flood				
GRANT CO.		7/10/2003	Flood				
GRANT CO.	DRY RIDGE	7/9/2003	Flash Flood				
GRANT CO.		2/22/2003	Flood				
GRANT CO.		6/25/2002	Flood				
GRANT CO.		3/20/2002	Flood				
GRANT CO.	SOUTHWEST PORTION	6/6/2001	Flash Flood			\$3,000	
GRANT CO.	CORINTH	6/5/2001	Flash Flood			\$50,000	
GRANT CO.	WILLIAMSTOWN	8/9/2000	Flash Flood			\$5,000	
GRANT CO.	COUNTYWIDE	4/3/2000	Flash Flood			\$3,000	
GRANT CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$15,000	
GRANT CO.	CORINTH	2/13/2000	Flash Flood			\$5,000	
GRANT CO.	DOWINGSVILLE	1/3/2000	Flash Flood			\$10,000	
GRANT CO.	COUNTYWIDE	6/18/1997	Flash Flood			\$5,000	
GRANT CO.	COUNTYWIDE	3/1/1997	Flash Flood			\$1,000,000	
GRANT CO.	COUNTYWIDE	5/15/1996	Flash Flood			\$3,000	
KENTON CO.	LUDLOW	5/20/2022	Flood				
KENTON CO.	ERLANGER	8/27/2021	Flash Flood				
KENTON CO.	RICEDALE	8/10/2021	Flood				
KENTON CO.	INDEPENDENCE	2/28/2021	Flood				
KENTON CO.	MAURICE	2/28/2021	Flood			\$1,000	
KENTON CO.	PARK HILLS	6/30/2020	Flood				
KENTON CO.	RYLAND	5/24/2020	Flash Flood				
KENTON CO.	KENTON	5/19/2020	Flash Flood				
KENTON CO.	BROMLEY	7/15/2019	Flood				
KENTON CO.	ERLANGER	7/15/2019	Flash Flood			\$20,000	
KENTON CO.	SOUTH FT MITCHELL	7/15/2019	Flash Flood				
KENTON CO.	PARK HILLS	6/16/2019	Flash Flood				
KENTON CO.	INDEPENDENCE	9/9/2018	Flood				
KENTON CO.	INDEPENDENCE	9/6/2018	Flood				
KENTON CO.	COVINGTON	2/24/2018	Flash Flood				
KENTON CO.	COVINGTON	4/16/2017	Flash Flood				
KENTON CO.	COVINGTON	8/28/2016	Flash Flood			\$2,000	
KENTON CO.	SOUTH FT MITCHELL	8/28/2016	Flash Flood			\$50,000	
KENTON CO.	FT WRIGHT	7/29/2016	Flood				
KENTON CO.	LAKESIDE PARK	5/26/2015	Flood				
KENTON CO.	PARK HILLS	6/4/2014	Flood				
KENTON CO.	RICEDALE	9/21/2013	Flood				
KENTON CO.	CRESTVIEW HILLS	7/6/2013	Flash Flood			\$1,000	
KENTON CO.	FT WRIGHT	7/6/2013	Flash Flood			\$2,000	
KENTON CO.	INDEPENDENCE	7/6/2013	Flash Flood			\$5,000	
KENTON CO.	FT WRIGHT	7/4/2013	Flood				
KENTON CO.	COVINGTON	7/1/2013	Flash Flood			\$50,000	
KENTON CO.	PARK HILLS	7/1/2013	Flash Flood			\$1,000	
KENTON CO.	COVINGTON	4/23/2011	Flash Flood			\$1,000	

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
KENTON CO.	SPRINGLAKE	4/23/2011	Flash Flood			\$1,000	
KENTON CO.	COVINGTON	7/21/2010	Flash Flood			\$1,000	
KENTON CO.	COVINGTON	7/13/2010	Flash Flood			\$10,000	
KENTON CO.	FT WRIGHT	7/13/2010	Flash Flood			\$10,000	
KENTON CO.	INDEPENDENCE	7/30/2009	Flash Flood			\$2,000	
KENTON CO.	INDEPENDENCE	6/4/2008	Flash Flood			\$1,000	
KENTON CO.	SOUTH HILLS	6/4/2008	Flash Flood			\$5,000	
KENTON CO.	BANK LICK	5/15/2008	Flood			\$2,000	
KENTON CO.	RICEDALE	4/4/2008	Flash Flood			\$1,000	
KENTON CO.	COVINGTON	3/18/2008	Flood			\$5,000	
KENTON CO.	PARK HILLS	3/4/2008	Flood			\$3,000	
KENTON CO.	COVINGTON	7/21/2006	Flash Flood				
KENTON CO.	COVINGTON	3/12/2006	Flash Flood				
KENTON CO.		6/30/2005	Flood				
KENTON CO.		3/28/2005	Flood			\$10,000	
KENTON CO.		10/18/2004	Flood				
KENTON CO.		7/31/2004	Flood				
KENTON CO.		7/31/2004	Flood				
KENTON CO.		8/8/2003	Flood				
KENTON CO.		7/18/2003	Flood				
KENTON CO.		7/10/2003	Flood				
KENTON CO.	COVINGTON	5/10/2003	Flash Flood				
KENTON CO.	CRESCENT SPGS	5/10/2003	Flash Flood			\$50,000	
KENTON CO.		2/22/2003	Flood				
KENTON CO.		11/10/2002	Flood				
KENTON CO.		6/6/2002	Flood				
KENTON CO.	COUNTYWIDE	5/8/2002	Flash Flood				
KENTON CO.	COUNTYWIDE	5/7/2002	Flash Flood			\$4,000	
KENTON CO.		4/28/2002	Flood				
KENTON CO.		4/21/2002	Flood				
KENTON CO.	FT MITCHELL	7/18/2001	Flash Flood				
KENTON CO.	INDEPENDENCE	5/18/2001	Flash Flood			\$5,000	
KENTON CO.	COVINGTON	12/16/2000	Flash Flood			\$10,000	
KENTON CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$20,000	
KENTON CO.	COUNTYWIDE	2/13/2000	Flash Flood			\$10,000	
KENTON CO.	INDEPENDENCE	1/3/2000	Flash Flood			\$10,000	
KENTON CO.	FT MITCHELL	9/21/1998	Flash Flood				
KENTON CO.	COUNTYWIDE	6/11/1998	Flash Flood			\$100,000	
KENTON CO.	INDEPENDENCE	4/8/1998	Flash Flood				
KENTON CO.	FT MITCHELL	6/18/1997	Flash Flood			\$5,000	
KENTON CO.	INDEPENDENCE	6/16/1997	Flash Flood			\$50,000	
KENTON CO.	INDEPENDENCE	7/1/1996	Flash Flood			\$1,000,000	
KENTON CO.	INDEPENDENCE	6/30/1996	Flash Flood			\$1,000,000	
KENTON CO.		5/15/1996	Flood				
KENTON CO.	COUNTYWIDE	4/29/1996	Flash Flood			\$2,000	
KENTON CO.		1/23/1996	Flood			\$20,000	
OWEN CO.	GRATZ	1/3/2023	Flash Flood			\$40,000	
OWEN CO.	TACKETTS MILL	1/3/2023	Flash Flood				
OWEN CO.	NEW LIBERTY	8/4/2022	Flood				
OWEN CO.	OWENTON	5/14/2022	Flood				
OWEN CO.	OWENTON	2/17/2022	Flood				
OWEN CO.	NEW	6/13/2021	Flash Flood			\$30,000	
OWEN CO.	PERRY PARK	3/4/2021	Flood	1			

County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
OWEN CO.	OWENTON	2/28/2021	Flood				
OWEN CO.	SQUIRESVILLE	9/24/2018	Flood				
OWEN CO.	MOXLEY	9/9/2018	Flood				
OWEN CO.	MOXLEY	9/9/2018	Flood				
OWEN CO.	POPLAR GROVE	5/22/2018	Flood			\$500	
OWEN CO.	OWENTON	4/3/2018	Flash Flood			\$3,000	
OWEN CO.	CULL	6/23/2016	Flood				
OWEN CO.	HARMONY	6/23/2016	Flash Flood				
OWEN CO.	NATLEE	6/23/2016	Flash Flood				
OWEN CO.	NEW	6/23/2016	Flash Flood				
OWEN CO.	TERESITA	6/23/2016	Flash Flood				
OWEN CO.	TERESITA	5/1/2016	Flash Flood	1		\$50,000	
OWEN CO.	NEW	4/8/2015	Flash Flood				
OWEN CO.	PLEASANT HOME	4/8/2015	Flood				
OWEN CO.	BRECK	4/3/2015	Flood				
OWEN CO.	NEW LIBERTY	4/3/2015	Flood				
OWEN CO.	WHEATLEY	4/3/2015	Flood				
OWEN CO.	WHEATLEY	4/4/2014	Flood				
OWEN CO.	BRECK	7/6/2013	Flash Flood			\$1,000	
OWEN CO.	OWENTON	3/15/2012	Flash Flood			\$1,000	
OWEN CO.	SQUIRESVILLE	4/23/2011	Flash Flood			\$2,000	
OWEN CO.	OWENTON	5/2/2010	Flood				
OWEN CO.	OWENTON	5/2/2010	Flash Flood			\$1,000	
OWEN CO.	GRATZ	8/4/2009	Flash Flood			\$5,000	
OWEN CO.	NEW LIBERTY	8/4/2009	Flash Flood			\$10,000	
OWEN CO.	OWENTON	8/4/2009	Flash Flood			\$10,000	
OWEN CO.	NEW LIBERTY	4/4/2008	Flash Flood			\$1,000	
OWEN CO.	WHEATLEY	3/19/2008	Flood			\$5,000	
OWEN CO.	COUNTYWIDE	9/23/2006	Flash Flood			\$5,000	
OWEN CO.	GRATZ	8/10/2006	Flash Flood			\$2,000	
OWEN CO.		8/19/2005	Flood				
OWEN CO.		5/19/2005	Flood				
OWEN CO.		3/28/2005	Flood				
OWEN CO.		11/11/2004	Flood				
OWEN CO.		5/31/2004	Flood				
OWEN CO.	COUNTYWIDE	5/30/2004	Flash Flood				
OWEN CO.	PERRY PARK	5/27/2004	Flash Flood				
OWEN CO.		5/25/2004	Flood				
OWEN CO.		8/22/2003	Flood				
OWEN CO.		7/10/2003	Flood				
OWEN CO.		6/25/2002	Flood				
OWEN CO.		6/25/2002	Flood				
OWEN CO.		3/20/2002	Flood				
OWEN CO.	MONTEREY	1/24/2002	Flash Flood				
OWEN CO.	ROCKDALE	8/29/2001	Flash Flood				
OWEN CO.	OWENTON	6/20/2001	Flash Flood			\$5,000	
OWEN CO.	NEW COLUMBUS	6/6/2001	Flash Flood			\$3,000	
OWEN CO.	SOUTH PORTION	6/5/2001	Flash Flood			\$5,000	
OWEN CO.	COUNTYWIDE	8/9/2000	Flash Flood			\$5,000	
OWEN CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$10,000	
OWEN CO.	COUNTYWIDE	2/13/2000	Flash Flood			\$5,000	
OWEN CO.	COUNTYWIDE	1/3/2000	Flash Flood			\$10,000	
OWEN CO.	COUNTYWIDE	7/20/1998	Flash Flood				

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
OWEN CO.	COUNTYWIDE	6/1/1997	Flash Flood			\$5,000	
OWEN CO.	COUNTYWIDE	3/1/1997	Flash Flood	2		\$2,100,000	
OWEN CO.	OWENTON	8/27/1996	Flash Flood			\$20,000	
PENDLETON CO.	FOUR OAKS	1/3/2023	Flash Flood				
PENDLETON CO.	FOUR OAKS	1/3/2023	Flash Flood				
PENDLETON CO.	KNOXVILLE	1/3/2023	Flood				
PENDLETON CO.	MARCUS	1/3/2023	Flash Flood				
PENDLETON CO.	PORTLAND	1/3/2023	Flood				
PENDLETON CO.	KNOXVILLE	2/17/2022	Flood				
PENDLETON CO.	PORTLAND	2/17/2022	Flood				
PENDLETON CO.	BUTLER	4/28/2021	Flood				
PENDLETON CO.	GREENWOOD	4/28/2021	Flood				
PENDLETON CO.	HAYES	2/28/2021	Flood				
PENDLETON CO.	FOUR OAKS	5/25/2020	Flood				
PENDLETON CO.	CALDWELL	5/24/2020	Flood				
PENDLETON CO.	MERIDIAN	5/24/2020	Flood				
PENDLETON CO.	FALMOUTH	6/17/2019	Flash Flood			\$25,000	
PENDLETON CO.	DE MOSSVILLE	2/6/2019	Flood				
PENDLETON CO.	KNOXVILLE	2/6/2019	Flood				
PENDLETON CO.	LYNN	2/6/2019	Flood				
PENDLETON CO.	FALMOUTH	9/9/2018	Flood				
PENDLETON CO.	FOUR OAKS	9/9/2018	Flood				
PENDLETON CO.	MERIDIAN	9/8/2018	Flood				
PENDLETON CO.	FALMOUTH	2/22/2018	Flood				
PENDLETON CO.	BUTLER	4/3/2015	Flood				
PENDLETON CO.	FALMOUTH	4/3/2015	Flood				
PENDLETON CO.	FOUR OAKS	4/3/2015	Flood				
PENDLETON CO.	KNOXVILLE	4/3/2015	Flood				
PENDLETON CO.	PENHURST	4/3/2015	Flood				
PENDLETON CO.	PENHURST	4/3/2015	Flood				
PENDLETON CO.	PORTLAND	4/3/2015	Flood				
PENDLETON CO.	CONCORD	3/4/2015	Flood				
PENDLETON CO.	CONCORD	4/4/2014	Flash Flood			\$1,000	
PENDLETON CO.	PORTLAND	7/6/2013	Flash Flood			\$1,000	
PENDLETON CO.	BOSTON	1/27/2012	Flood			\$1,000	
PENDLETON CO.	KNOXVILLE	12/5/2011	Flood			\$1,000	
PENDLETON CO.	FALMOUTH	5/3/2011	Flood			\$2,000	
PENDLETON CO.	FALMOUTH	5/12/2010	Flash Flood			\$3,000	
PENDLETON CO.	FALMOUTH	5/2/2010	Flood				
PENDLETON CO.	FALMOUTH	5/2/2010	Flash Flood			\$5,000	
PENDLETON CO.	FALMOUTH	9/8/2009	Flood			\$10,000	
PENDLETON CO.	DE MOSSVILLE	6/25/2009	Flash Flood			\$2,000	
PENDLETON CO.	GARDNERSVILLE	6/25/2009	Flash Flood			\$15,000	
PENDLETON CO.	CALDWELL	6/4/2008	Flash Flood			\$5,000	
PENDLETON CO.	MORGAN	4/4/2008	Flash Flood			\$2,000	
PENDLETON CO.	GREENWOOD	3/19/2008	Flood			\$5,000	
PENDLETON CO.	GREENWOOD	3/4/2008	Flood			\$3,000	
PENDLETON CO.	FALMOUTH	9/23/2006	Flash Flood			\$5,000	
PENDLETON CO.		10/18/2004	Flood				
PENDLETON CO.		5/27/2004	Flood				
PENDLETON CO.		7/10/2003	Flood				
PENDLETON CO.		5/10/2003	Flood				
PENDLETON CO.		5/10/2003	Flood				

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County	Community	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
PENDLETON CO.		5/10/2003	Flood				
PENDLETON CO.		2/22/2003	Flood				
PENDLETON CO.		5/8/2002	Flood				
PENDLETON CO.	FALMOUTH	4/28/2002	Flash Flood				
PENDLETON CO.		3/20/2002	Flood				
PENDLETON CO.	COUNTYWIDE	7/25/2001	Flash Flood				
PENDLETON CO.	FALMOUTH	6/5/2001	Flash Flood			\$25,000	
PENDLETON CO.	COUNTYWIDE	12/16/2000	Flash Flood			\$100,000	
PENDLETON CO.		2/18/2000	Flood				
PENDLETON CO.	COUNTYWIDE	2/18/2000	Flash Flood			\$10,000	
PENDLETON CO.	BUTLER	1/3/2000	Flash Flood			\$50,000	
PENDLETON CO.	COUNTYWIDE	6/11/1998	Flash Flood			\$5,000	
PENDLETON CO.		3/1/1997	Flood	5		\$35,000,000	
PENDLETON CO.	COUNTYWIDE	3/1/1997	Flash Flood			\$10,000,000	
PENDLETON CO.	COUNTYWIDE	5/15/1996	Flash Flood			\$5,000	
PENDLETON CO.	COUNTYWIDE	5/4/1996	Flash Flood			\$5,000	
PENDLETON CO.		1/23/1996	Flood			\$20,000	
Data Collected 11/09/2022							
https://www.ncdc.noaa.gov/stormevents/							
Flood - first record 1996							
Flash Flood - first record 1996							

11. HISTORICAL THUNDERSTORMS/STRAIGHT LINE WINDS/STRONG WIND EVENTS

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.		2/9/2023	High Wind	50			
BOONE CO.	BEAVERLICK	9/21/2022	Thunderstorm Wind	50			\$5,000
BOONE CO.	RABBIT HASH	8/3/2022	Thunderstorm Wind	45			\$1,000
BOONE CO.	(CVG)GTR CIN ARPT	7/6/2022	Thunderstorm Wind	50			
BOONE CO.	BURLINGTON	6/22/2022	Thunderstorm Wind	50			\$5,000
BOONE CO.	FLORENCE	6/13/2022	Thunderstorm Wind	45			\$3,000
BOONE CO.	LIMABURG	6/13/2022	Thunderstorm Wind	45			\$5,000
BOONE CO.	(CVG)GTR CIN ARPT	6/8/2022	Thunderstorm Wind	60			
BOONE CO.	SUGARTIT	6/8/2022	Thunderstorm Wind	50			\$20,000
BOONE CO.	HEBRON	5/19/2022	Hail	0.75			
BOONE CO.	PETERSBURG	5/19/2022	Hail	1.75			
BOONE CO.		3/30/2022	High Wind	50			
BOONE CO.	BURLINGTON	10/15/2021	Thunderstorm Wind	45			\$1,000
BOONE CO.	BURLINGTON	6/18/2021	Hail	1.75			
BOONE CO.	HUEYS CORNER	6/18/2021	Thunderstorm Wind	50			\$5,000
BOONE CO.	LIMABURG	6/18/2021	Thunderstorm Wind	50			\$3,000
BOONE CO.	LIMABURG	6/18/2021	Thunderstorm Wind	50			\$10,000
BOONE CO.	PETERSBURG	6/18/2021	Thunderstorm Wind	50			\$10,000
BOONE CO.	WALTON	6/18/2021	Thunderstorm Wind	50			\$3,000
BOONE CO.		11/15/2020	Strong Wind	48			\$4,000
BOONE CO.	DEVON	6/10/2020	Thunderstorm Wind	50			\$1,000
BOONE CO.	FLORENCE	6/10/2020	Thunderstorm Wind	45			\$500
BOONE CO.	RICHWOOD	6/10/2020	Thunderstorm Wind	50			\$1,000
BOONE CO.	(CVG)GTR CIN ARPT	4/8/2020	Thunderstorm Wind	51			
BOONE CO.	ELSMERE	4/8/2020	Thunderstorm Wind	50			\$1,000
BOONE CO.	FLORENCE	4/8/2020	Hail	0.75			
BOONE CO.	FLORENCE	4/8/2020	Thunderstorm Wind	50			\$500
BOONE CO.	HAMILTON	4/8/2020	Thunderstorm Wind	50			\$10,000
BOONE CO.	LIMABURG	4/8/2020	Thunderstorm Wind	50			\$2,000
BOONE CO.	VERONA	4/8/2020	Thunderstorm Wind	50			\$3,000
BOONE CO.	VERONA	4/8/2020	Thunderstorm Wind	50			\$10,000
BOONE CO.		1/11/2020	High Wind	50			
BOONE CO.	ELSMERE	6/17/2019	Thunderstorm Wind	50			\$1,000
BOONE CO.	(CVG)GTR CIN ARPT	6/5/2019	Thunderstorm Wind	63			
BOONE CO.	FLORENCE	6/5/2019	Thunderstorm Wind	55			\$2,000
BOONE CO.	WALTON	5/26/2019	Thunderstorm Wind	50			\$1,000
BOONE CO.	HUME	4/12/2019	Thunderstorm Wind	61			\$1,000
BOONE CO.	(CVG)GTR CIN ARPT	3/14/2019	Thunderstorm Wind	50			\$3,000
BOONE CO.	BURLINGTON	3/14/2019	Hail	0.75			
BOONE CO.	UNION	3/14/2019	Thunderstorm Wind	45			\$1,000
BOONE CO.	BURLINGTON	8/11/2018	Thunderstorm Wind	50			\$1,000
BOONE CO.	RABBIT HASH	8/11/2018	Thunderstorm Wind	50			\$1,000
BOONE CO.	LIMABURG	7/5/2018	Thunderstorm Wind	45			\$2,000
BOONE CO.	BELLEVIEW	6/26/2018	Thunderstorm Wind	50			\$1,000
BOONE CO.	HEBRON	5/31/2018	Thunderstorm Wind	50			\$3,000
BOONE CO.	BURLINGTON	5/6/2018	Thunderstorm Wind	45			\$1,000
BOONE CO.	FLORENCE	4/3/2018	Hail	1			
BOONE CO.	UNION	2/21/2018	Thunderstorm Wind	50			\$1,000
BOONE CO.	HEBRON	1/22/2018	Hail	1			
BOONE CO.	ELSMERE	7/11/2017	Thunderstorm Wind	50			\$1,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.	HUEYS CORNER	3/2/2017	Thunderstorm Wind	74			\$200,000
BOONE CO.	(CVG)GTR CIN ARPT	3/1/2017	Thunderstorm Wind	53			
BOONE CO.	BELLEVIEW	3/1/2017	Thunderstorm Wind	60			\$10,000
BOONE CO.	HAMILTON	3/1/2017	Thunderstorm Wind	60			\$15,000
BOONE CO.	HUEYS CORNER	3/1/2017	Thunderstorm Wind	52			
BOONE CO.	BIG BONE	10/19/2016	Hail	0.75			
BOONE CO.	BIG BONE	10/19/2016	Thunderstorm Wind	55			\$15,000
BOONE CO.	BURLINGTON	10/19/2016	Thunderstorm Wind	55			\$5,000
BOONE CO.	HUEYS CORNER	10/19/2016	Thunderstorm Wind	50			\$8,000
BOONE CO.	RICHWOOD	10/19/2016	Thunderstorm Wind	50			\$3,000
BOONE CO.	RICHWOOD	10/19/2016	Thunderstorm Wind	50			\$10,000
BOONE CO.	UNION	10/19/2016	Hail	1			
BOONE CO.	UNION	10/19/2016	Thunderstorm Wind	50			\$2,000
BOONE CO.	UNION	10/19/2016	Thunderstorm Wind	55			\$7,000
BOONE CO.	BURLINGTON	9/10/2016	Thunderstorm Wind	50			\$500
BOONE CO.	WALTON	9/10/2016	Thunderstorm Wind	45			\$500
BOONE CO.	FLORENCE	8/28/2016	Thunderstorm Wind	50			\$2,000
BOONE CO.	WATERLOO	7/26/2016	Thunderstorm Wind	50			\$1,000
BOONE CO.	UNION	7/14/2016	Thunderstorm Wind	50			\$1,000
BOONE CO.	KENSINGTON	7/13/2016	Thunderstorm Wind	50			\$3,000
BOONE CO.	MC VILLE	7/13/2016	Thunderstorm Wind	50			\$4,000
BOONE CO.	BURLINGTON	6/23/2016	Thunderstorm Wind	50			
BOONE CO.	LIMABURG	6/23/2016	Thunderstorm Wind	50			\$1,000
BOONE CO.	SUGARTIT	6/23/2016	Thunderstorm Wind	50			\$1,000
BOONE CO.	(CVG)GTR CIN ARPT	5/1/2016	Hail	1			
BOONE CO.	WALTON	2/21/2016	Hail	0.75			
BOONE CO.	RABBIT HASH	12/27/2015	Heavy Rain				
BOONE CO.	SUGARTIT	12/27/2015	Heavy Rain				
BOONE CO.	BEAVERLICK	7/17/2015	Hail	1			
BOONE CO.	BEAVERLICK	7/17/2015	Thunderstorm Wind	50			
BOONE CO.	BEAVERLICK	7/17/2015	Thunderstorm Wind	50			\$1,000
BOONE CO.	BELLEVIEW	7/17/2015	Thunderstorm Wind	50			\$3,000
BOONE CO.	RICHWOOD	7/17/2015	Thunderstorm Wind	50			\$1,000
BOONE CO.	HUEYS CORNER	6/30/2015	Thunderstorm Wind	50			\$750
BOONE CO.	WALTON	6/30/2015	Thunderstorm Wind	50			\$750
BOONE CO.	(CVG)GTR CIN ARPT	4/10/2015	Thunderstorm Wind	56			
BOONE CO.	BULLITTSVILLE	4/9/2015	Thunderstorm Wind	50			\$1,000
BOONE CO.	BURLINGTON	4/9/2015	Hail	0.75			
BOONE CO.	HEBRON	4/9/2015	Hail	1			
BOONE CO.	HEBRON	4/9/2015	Hail	1.25			
BOONE CO.	HEBRON	4/9/2015	Thunderstorm Wind	56			\$7,000
BOONE CO.	BULLITTSVILLE	5/21/2014	Hail	0.75			
BOONE CO.	(CVG)GTR CIN ARPT	4/29/2014	Thunderstorm Wind	50			
BOONE CO.	FLORENCE	4/29/2014	Thunderstorm Wind	52			
BOONE CO.	RICHWOOD	4/28/2014	Thunderstorm Wind	50			\$1,000
BOONE CO.	RICHWOOD	4/28/2014	Thunderstorm Wind	50			\$10,000
BOONE CO.	BULLITTSVILLE	4/3/2014	Heavy Rain				
BOONE CO.	RICHWOOD	4/1/2014	Heavy Rain				
BOONE CO.	HEBRON	12/21/2013	Heavy Rain				
BOONE CO.	(CVG)GTR CIN ARPT	11/17/2013	Thunderstorm Wind	51			
BOONE CO.	BURLINGTON	11/17/2013	Thunderstorm Wind	50			\$5,000
BOONE CO.	RICHWOOD	7/6/2013	Heavy Rain				
BOONE CO.	RICHWOOD	7/4/2013	Heavy Rain				

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.	(CVG)GTR CIN ARPT	6/26/2013	Thunderstorm Wind	54			
BOONE CO.	ELSMERE	6/26/2013	Thunderstorm Wind	50			\$2,000
BOONE CO.	HUEYS CORNER	6/23/2013	Thunderstorm Wind	50			\$5,000
BOONE CO.	(CVG)GTR CIN ARPT	9/7/2012	Thunderstorm Wind	51			
BOONE CO.	UNION	8/9/2012	Thunderstorm Wind	50			\$3,000
BOONE CO.	WALTON	8/9/2012	Thunderstorm Wind	50			\$3,000
BOONE CO.	(CVG)GTR CIN ARPT	7/27/2012	Thunderstorm Wind	61			
BOONE CO.	BURLINGTON	7/27/2012	Thunderstorm Wind	50			\$1,000
BOONE CO.	FLORENCE	7/27/2012	Thunderstorm Wind	55			\$3,000
BOONE CO.	LIMABURG	7/27/2012	Thunderstorm Wind	55			\$4,000
BOONE CO.	VERONA	7/26/2012	Thunderstorm Wind	50			\$2,000
BOONE CO.	BURLINGTON	4/25/2012	Hail	0.75			
BOONE CO.	HEBRON	4/25/2012	Hail	1			
BOONE CO.	FLORENCE	3/23/2012	Hail	0.75			
BOONE CO.	FLORENCE	3/15/2012	Hail	0.75			
BOONE CO.	UNION	3/15/2012	Hail	0.75			
BOONE CO.	BURLINGTON	8/21/2011	Thunderstorm Wind	50			\$3,000
BOONE CO.	BURLINGTON	8/3/2011	Thunderstorm Wind	50			\$3,000
BOONE CO.	(CVG)GTR CIN ARPT	6/10/2011	Thunderstorm Wind	58			
BOONE CO.	FRANCISVILLE	6/10/2011	Hail	0.88			
BOONE CO.	HEBRON	5/25/2011	Thunderstorm Wind	50			\$1,000
BOONE CO.	BURLINGTON	5/23/2011	Thunderstorm Wind	50			\$2,000
BOONE CO.	HEBRON	5/22/2011	Hail	0.88			
BOONE CO.	ELSMERE	4/20/2011	Thunderstorm Wind	87			\$150,000
BOONE CO.	FLORENCE	4/20/2011	Thunderstorm Wind	52			
BOONE CO.	SUGARTIT	4/20/2011	Thunderstorm Wind	50			\$10,000
BOONE CO.	VERONA	4/19/2011	Hail	0.75			
BOONE CO.	WALTON	4/19/2011	Hail	1			
BOONE CO.	(CVG)GTR CIN ARPT	10/26/2010	Thunderstorm Wind	50			
BOONE CO.	BURLINGTON	10/26/2010	Thunderstorm Wind	60			\$5,000
BOONE CO.	BURLINGTON	8/14/2010	Thunderstorm Wind	50			\$2,000
BOONE CO.	BURLINGTON	6/21/2010	Thunderstorm Wind	50			\$1,000
BOONE CO.	RABBIT HASH	6/21/2010	Thunderstorm Wind	50			\$1,000
BOONE CO.	LIMABURG	6/15/2010	Thunderstorm Wind	50			\$1,000
BOONE CO.	RICHWOOD	6/12/2010	Thunderstorm Wind	50			\$1,000
BOONE CO.	WALTON	5/21/2010	Hail	0.75			
BOONE CO.	BURLINGTON	3/12/2010	Hail	0.75			
BOONE CO.	HEBRON	3/12/2010	Hail	0.75			
BOONE CO.		12/9/2009	High Wind	50			
BOONE CO.	BURLINGTON	6/25/2009	Hail	1			
BOONE CO.	BURLINGTON	6/25/2009	Hail	1.75			\$30,000
BOONE CO.	FLORENCE	6/2/2009	Hail	0.75			
BOONE CO.	FLORENCE	6/2/2009	Hail	1			
BOONE CO.	FLORENCE	5/30/2009	Hail	0.88			\$3,000
BOONE CO.	FLORENCE	3/8/2009	Thunderstorm Wind	52			\$1,000
BOONE CO.		2/11/2009	High Wind	50			
BOONE CO.	BURLINGTON	2/11/2009	Hail	0.75			\$1,000
BOONE CO.	HEBRON	2/11/2009	Hail	0.75			\$1,000
BOONE CO.		9/14/2008	High Wind	64			\$12,900,000
BOONE CO.	BULLITTSVILLE	8/29/2008	Hail	0.75			\$1,000
BOONE CO.	RABBIT HASH	8/29/2008	Thunderstorm Wind	50			\$10,000
BOONE CO.	RABBIT HASH	7/22/2008	Thunderstorm Wind	50			\$3,000
BOONE CO.	UNION	7/22/2008	Hail	0.88			\$3,000

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.	VERONA	7/22/2008	Thunderstorm Wind	50			\$3,000
BOONE CO.	(CVG)GTR CIN ARPT	7/20/2008	Thunderstorm Wind	50			\$1,000
BOONE CO.	BURLINGTON	7/20/2008	Thunderstorm Wind	50			\$10,000
BOONE CO.	BURLINGTON	7/20/2008	Thunderstorm Wind	61			\$6,000
BOONE CO.	VERONA	7/20/2008	Thunderstorm Wind	50			\$5,000
BOONE CO.	IDLEWILD	7/8/2008	Thunderstorm Wind	50			\$12,000
BOONE CO.	RICHWOOD	6/4/2008	Thunderstorm Wind	56			\$1,000
BOONE CO.	BURLINGTON	6/3/2008	Hail	0.88			\$3,000
BOONE CO.	RICHWOOD	6/3/2008	Hail	0.75			\$3,000
BOONE CO.	BELLEVIEW	10/18/2007	Thunderstorm Wind	50			\$2,000
BOONE CO.	BIG BONE	7/15/2007	Thunderstorm Wind	50			\$3,000
BOONE CO.	BURLINGTON	6/8/2007	Thunderstorm Wind	50			\$2,000
BOONE CO.	BURLINGTON	5/15/2007	Thunderstorm Wind	50			\$2,000
BOONE CO.		12/1/2006	High Wind	36			\$7,000
BOONE CO.	BEAVERLICK	12/1/2006	Thunderstorm Wind	50			\$10,000
BOONE CO.	FLORENCE	6/22/2006	Thunderstorm Wind	52			
BOONE CO.	PETERSBURG	6/7/2006	Thunderstorm Wind	50			\$4,000
BOONE CO.	BURLINGTON	5/25/2006	Thunderstorm Wind	52			
BOONE CO.	FLORENCE	5/25/2006	Thunderstorm Wind	55			\$30,000
BOONE CO.	BURLINGTON	5/18/2006	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	4/14/2006	Hail	1.75			\$10,000
BOONE CO.	BURLINGTON	4/7/2006	Hail	1.75			\$8,000
BOONE CO.	FLORENCE	4/7/2006	Hail	1			
BOONE CO.	PETERSBURG	4/7/2006	Hail	0.75			
BOONE CO.	(CVG)GTR CIN ARPT	4/2/2006	Thunderstorm Wind	66			
BOONE CO.	RICHWOOD	4/2/2006	Thunderstorm Wind	60			\$30,000
BOONE CO.	UNION	4/2/2006	Thunderstorm Wind	60			
BOONE CO.	WALTON	3/31/2006	Thunderstorm Wind	50			\$5,000
BOONE CO.	WALTON	8/20/2005	Thunderstorm Wind	50			\$5,000
BOONE CO.	FLORENCE	6/14/2005	Hail	1			
BOONE CO.	HEBRON	8/4/2004	Thunderstorm Wind	50			\$30,000
BOONE CO.	BURLINGTON	7/10/2004	Thunderstorm Wind	50			\$2,000
BOONE CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$12,000
BOONE CO.	WALTON	8/7/2003	Hail	1			
BOONE CO.	FLORENCE	7/21/2003	Thunderstorm Wind	50			\$2,000
BOONE CO.	FLORENCE	5/2/2003	Hail	0.88			
BOONE CO.	VERONA	11/10/2002	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	8/11/2002	Thunderstorm Wind	50			\$3,000
BOONE CO.	BIG BONE	7/29/2002	Thunderstorm Wind	50			\$1,000
BOONE CO.	COUNTYWIDE	4/19/2002	Thunderstorm Wind	50			\$25,000
BOONE CO.	WALTON	3/15/2002	Thunderstorm Wind	55			\$15,000
BOONE CO.		3/9/2002	High Wind	55			\$12,000
BOONE CO.	FLORENCE	2/20/2002	Hail	1.5			
BOONE CO.	(CVG)GTR CIN ARPT	10/24/2001	Thunderstorm Wind	52			
BOONE CO.	(CVG)GTR CIN ARPT	7/8/2001	Thunderstorm Wind	53			\$50,000
BOONE CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
BOONE CO.	FLORENCE	6/21/2001	Thunderstorm Wind	50			\$3,000
BOONE CO.	BIG BONE	4/6/2001	Thunderstorm Wind	50			\$2,000
BOONE CO.		12/11/2000	High Wind	50			\$25,000
BOONE CO.	COUNTYWIDE	11/9/2000	Thunderstorm Wind	50			\$25,000
BOONE CO.	PETERSBURG	8/17/2000	Thunderstorm Wind	50			\$5,000
BOONE CO.	COUNTYWIDE	8/9/2000	Thunderstorm Wind	50			\$5,000
BOONE CO.	FLORENCE	8/9/2000	Hail	1.75			

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.	WALTON	10/13/1999	Thunderstorm Wind	50			\$3,000
BOONE CO.	COUNTYWIDE	7/26/1999	Thunderstorm Wind	50			\$10,000
BOONE CO.	COUNTYWIDE	11/10/1998	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	6/29/1998	Thunderstorm Wind	50			\$3,000
BOONE CO.	COUNTYWIDE	6/12/1998	Thunderstorm Wind	50			\$10,000
BOONE CO.	(CVG)GTR CIN ARPT	4/8/1998	Thunderstorm Wind	51			
BOONE CO.	BURLINGTON	4/8/1998	Hail	1			
BOONE CO.	FLORENCE	3/28/1997	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	11/7/1996	Thunderstorm Wind	60			\$30,000
BOONE CO.	FLORENCE	5/28/1996	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	5/24/1996	Hail	0.75			
BOONE CO.	WALTON	5/8/1996	Thunderstorm Wind	50			\$3,000
BOONE CO.	FLORENCE	4/29/1996	Thunderstorm Wind	50			
BOONE CO.	VERONA	1/18/1996	Thunderstorm Wind	50			\$2,000
BOONE CO.	Big Bone	6/22/1995	Hail	0.75			
BOONE CO.	Florence	6/9/1995	Hail	0.75			
BOONE CO.	Burlington	5/14/1995	Thunderstorm Wind				\$3,000
BOONE CO.	Maysville	5/10/1995	Hail	0.75			
BOONE CO.	Burlington	4/8/1995	Hail	0.75			
BOONE CO.		7/25/1994	Thunderstorm Wind				\$50,000
BOONE CO.	Ludlow	6/21/1994	Hail				
BOONE CO.		8/16/1993	Thunderstorm Wind				
BOONE CO.		8/16/1993	Thunderstorm Wind				\$5,000
BOONE CO.		10/15/1992	Thunderstorm Wind				
BOONE CO.		6/18/1992	Thunderstorm Wind				
BOONE CO.		4/10/1992	Thunderstorm Wind				
BOONE CO.		8/8/1991	Hail	0.75			
BOONE CO.		8/3/1991	Thunderstorm Wind				
BOONE CO.		6/2/1991	Thunderstorm Wind				
BOONE CO.		9/29/1990	Thunderstorm Wind				
BOONE CO.		8/28/1990	Thunderstorm Wind				
BOONE CO.		8/29/1989	Thunderstorm Wind				
BOONE CO.		7/26/1987	Thunderstorm Wind			10	
BOONE CO.		5/7/1986	Hail	0.75			
BOONE CO.		5/7/1986	Hail	1			
BOONE CO.		3/10/1986	Thunderstorm Wind			6	
BOONE CO.		4/5/1985	Thunderstorm Wind	53			
BOONE CO.		3/4/1985	Thunderstorm Wind	50		1	
BOONE CO.		1/1/1985	Thunderstorm Wind				
BOONE CO.		7/4/1983	Thunderstorm Wind				
BOONE CO.		5/2/1983	Hail	1			
BOONE CO.		5/2/1983	Hail	1.75			
BOONE CO.		5/2/1983	Hail	3			
BOONE CO.		5/29/1982	Thunderstorm Wind	51			
BOONE CO.		7/8/1980	Thunderstorm Wind	72			
BOONE CO.		4/8/1980	Hail	1			
BOONE CO.		6/12/1978	Thunderstorm Wind				
BOONE CO.		4/18/1978	Hail	1.75			
BOONE CO.		10/1/1977	Thunderstorm Wind	51			
BOONE CO.		4/2/1977	Thunderstorm Wind				
BOONE CO.		1/13/1976	Thunderstorm Wind	62			
BOONE CO.		4/3/1974	Hail	1.75			
BOONE CO.		4/1/1974	Thunderstorm Wind	62			

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.		12/26/1973	Thunderstorm Wind	50			
BOONE CO.		3/15/1971	Thunderstorm Wind				
BOONE CO.		4/23/1968	Hail	0.75			
BOONE CO.		10/24/1967	Thunderstorm Wind				
BOONE CO.		2/15/1967	Thunderstorm Wind				
BOONE CO.		9/22/1965	Thunderstorm Wind	50			
BOONE CO.		7/27/1959	Thunderstorm Wind				
BOONE CO.		6/13/1958	Thunderstorm Wind				
BOONE CO.		4/5/1958	Thunderstorm Wind				
BOONE CO.		11/15/1955	Hail	1			
BOONE CO.		5/25/1955	Hail	1			
CAMPBELL CO.		2/9/2023	High Wind	50			
CAMPBELL CO.	SOUTHGATE	7/6/2022	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	HIGHLAND HGTS	6/8/2022	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	SOUTHGATE	6/8/2022	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	SOUTHGATE	6/8/2022	Thunderstorm Wind	50			\$20,000
CAMPBELL CO.	ALEXANDRIA	5/20/2022	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	CAMP SPGS	5/19/2022	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	HAWTHORNE	5/19/2022	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.		3/30/2022	High Wind	50			
CAMPBELL CO.		11/15/2020	Strong Wind	48		2	\$200,000
CAMPBELL CO.	CALIFORNIA	7/9/2020	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	SOUTHGATE	7/9/2020	Hail	0.75			
CAMPBELL CO.	CLARYVILLE	5/24/2020	Hail	0.75			
CAMPBELL CO.	CLARYVILLE	5/10/2020	Hail	0.75			
CAMPBELL CO.	ALEXANDRIA	4/8/2020	Hail	0.75			
CAMPBELL CO.	ALEXANDRIA	4/8/2020	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	ALEXANDRIA	4/8/2020	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	BELLEVUE	4/8/2020	Hail	1			\$250
CAMPBELL CO.	HIGHLAND HGTS	4/8/2020	Thunderstorm Wind	56			\$40,000
CAMPBELL CO.	CARTHAGE	8/22/2019	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEW RICHMOND	8/22/2019	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEWPORT	7/30/2019	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	ALEXANDRIA	7/2/2019	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	CALIFORNIA	7/2/2019	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	CARTHAGE	5/29/2019	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	HIGHLAND HGTS	5/23/2019	Hail	1			
CAMPBELL CO.	SOUTHGATE	5/23/2019	Hail	0.88			
CAMPBELL CO.	HIGHLAND HGTS	4/12/2019	Thunderstorm Wind	52			\$4,000
CAMPBELL CO.	NEWPORT	9/5/2018	Hail	0.75			
CAMPBELL CO.	NEWPORT	8/4/2018	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	BELLEVUE	7/20/2018	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	COLD SPG	7/20/2018	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEWPORT	5/22/2018	Hail	0.75			
CAMPBELL CO.	ALEXANDRIA	4/3/2018	Hail	0.75			
CAMPBELL CO.	NEWPORT	4/16/2017	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	CLARYVILLE	4/5/2017	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	ALEXANDRIA	3/1/2017	Thunderstorm Wind	60			\$5,000
CAMPBELL CO.	CALIFORNIA	10/19/2016	Hail	1.75			
CAMPBELL CO.	GRANTS LICK	10/19/2016	Hail	2.5			
CAMPBELL CO.	GRANTS LICK	10/19/2016	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	GRANTS LICK	10/19/2016	Thunderstorm Wind	50			\$25,000
CAMPBELL CO.	NEWPORT	9/10/2016	Thunderstorm Wind	50			\$4,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CAMPBELL CO.	SOUTHGATE	6/23/2016	Hail	0.75			
CAMPBELL CO.	BELLEVUE	6/15/2016	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	BELLEVUE	4/26/2016	Hail	1			
CAMPBELL CO.	HIGHLAND HGTS	4/26/2016	Hail	1			
CAMPBELL CO.	HIGHLAND HGTS	4/26/2016	Hail	1.75			
CAMPBELL CO.	HIGHLAND HGTS	12/27/2015	Heavy Rain				
CAMPBELL CO.	MANTOR	12/23/2015	Thunderstorm Wind	50			\$17,500
CAMPBELL CO.	DAYTON	9/4/2015	Hail	0.88			
CAMPBELL CO.	NEWPORT	9/4/2015	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	1			
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	1.5			
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	2.5			
CAMPBELL CO.	MANTOR	8/3/2015	Hail	1			
CAMPBELL CO.	NEWPORT	7/14/2015	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	BELLEVUE	7/13/2015	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	HIGHLAND HGTS	7/13/2015	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEWPORT	7/13/2015	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	GRANTS LICK	6/30/2015	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	BELLEVUE	5/21/2014	Hail	0.88			
CAMPBELL CO.	FLAGG SPG	5/10/2014	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEWPORT	4/3/2014	Heavy Rain				
CAMPBELL CO.	ALEXANDRIA	12/21/2013	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	HIGHLAND HGTS	11/17/2013	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	NEWPORT	11/17/2013	Thunderstorm Wind	55			\$20,000
CAMPBELL CO.	ALEXANDRIA	8/31/2013	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	GRANTS LICK	8/31/2013	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	SOUTHGATE	6/26/2013	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	CAMP SPGS	1/30/2013	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	GRANTS LICK	8/9/2012	Hail	0.75			
CAMPBELL CO.	GRANTS LICK	8/9/2012	Hail	1.75			
CAMPBELL CO.	ALEXANDRIA	7/26/2012	Hail	0.88			
CAMPBELL CO.	ALEXANDRIA	7/25/2012	Hail	0.75			
CAMPBELL CO.	CLARYVILLE	7/18/2012	Thunderstorm Wind	55			\$10,000
CAMPBELL CO.	FT THOMAS	7/5/2012	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	ALEXANDRIA	6/29/2012	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	NEWPORT	6/29/2012	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	ALEXANDRIA	4/30/2012	Thunderstorm Wind	54			
CAMPBELL CO.	ALEXANDRIA	4/25/2012	Hail	0.88			
CAMPBELL CO.	FT THOMAS	4/25/2012	Hail	1.25			
CAMPBELL CO.	FT THOMAS	4/25/2012	Thunderstorm Wind	50			\$500
CAMPBELL CO.	MENTOR	3/15/2012	Hail	0.75			
CAMPBELL CO.	ALEXANDRIA	7/20/2011	Hail	1			
CAMPBELL CO.	CALIFORNIA	7/20/2011	Hail	0.75			
CAMPBELL CO.	GUBSER MILL	6/26/2011	Heavy Rain				
CAMPBELL CO.	ALEXANDRIA	6/10/2011	Hail	2			
CAMPBELL CO.	ALEXANDRIA	5/25/2011	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	ALEXANDRIA	5/25/2011	Thunderstorm Wind	78			\$20,000
CAMPBELL CO.	BRENT	4/27/2011	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	ALEXANDRIA	9/7/2010	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	DAYTON	7/17/2010	Hail	1			
CAMPBELL CO.	GRANTS LICK	6/15/2010	Thunderstorm Wind	50			\$1,000
CAMPBELL CO.	SOUTHGATE	6/12/2010	Thunderstorm Wind	52			
CAMPBELL CO.		12/9/2009	High Wind	50			

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CAMPBELL CO.	CLARYVILLE	9/8/2009	Hail	0.75			
CAMPBELL CO.	ALEXANDRIA	6/26/2009	Thunderstorm Wind	50			
CAMPBELL CO.	ALEXANDRIA	6/2/2009	Hail	0.88			
CAMPBELL CO.	NEWPORT	5/30/2009	Hail	0.75			\$1,000
CAMPBELL CO.		9/14/2008	High Wind	60			\$10,200,000
CAMPBELL CO.	BELLEVUE	7/20/2008	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	GRANTS LICK	6/4/2008	Thunderstorm Wind	60			\$25,000
CAMPBELL CO.	ALEXANDRIA	6/3/2008	Thunderstorm Wind	55			\$8,000
CAMPBELL CO.	ALEXANDRIA	11/5/2007	Hail	0.88			\$1,000
CAMPBELL CO.	MENTOR	8/29/2007	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	MENTOR	8/16/2007	Thunderstorm Wind	50			\$4,000
CAMPBELL CO.	NEWPORT	7/15/2007	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	COLD SPG	7/4/2007	Thunderstorm Wind	53			\$1,000
CAMPBELL CO.	ALEXANDRIA	4/26/2007	Hail	0.75			\$2,000
CAMPBELL CO.	HIGHLAND HGTS	4/11/2007	Hail	0.88			\$2,000
CAMPBELL CO.	SILVER GROVE	4/11/2007	Hail	0.75			\$2,000
CAMPBELL CO.	COLD SPG	12/1/2006	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	FT THOMAS	7/21/2006	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	ALEXANDRIA	5/25/2006	Thunderstorm Wind	57			
CAMPBELL CO.	FT THOMAS	5/25/2006	Hail	1			
CAMPBELL CO.	COUNTYWIDE	4/2/2006	Thunderstorm Wind	55			\$10,000
CAMPBELL CO.	NEWPORT	6/30/2005	Hail	0.88			
CAMPBELL CO.	ALEXANDRIA	6/14/2005	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	FT THOMAS	5/30/2004	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	COUNTYWIDE	7/21/2003	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	COLD SPG	7/4/2003	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	CALIFORNIA	5/1/2003	Hail	0.75			\$2,000
CAMPBELL CO.	GRANTS LICK	11/10/2002	Thunderstorm Wind	57			
CAMPBELL CO.	DAYTON	7/29/2002	Thunderstorm Wind	50			\$8,000
CAMPBELL CO.	COUNTYWIDE	5/28/2002	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	COUNTYWIDE	4/19/2002	Thunderstorm Wind	50			\$25,000
CAMPBELL CO.		3/9/2002	High Wind	55			\$10,000
CAMPBELL CO.	HIGHLAND HGTS	2/20/2002	Hail	0.75			
CAMPBELL CO.	COLD SPG	10/24/2001	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	GRANTS LICK	7/8/2001	Thunderstorm Wind	53			
CAMPBELL CO.	MELBOURNE	4/6/2001	Hail	0.75			
CAMPBELL CO.		12/11/2000	High Wind	50			
CAMPBELL CO.	FT THOMAS	11/9/2000	Thunderstorm Wind	50			\$15,000
CAMPBELL CO.	COUNTYWIDE	8/17/2000	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	COUNTYWIDE	8/9/2000	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	GRANTS LICK	8/9/2000	Hail	1			
CAMPBELL CO.	ALEXANDRIA	6/2/2000	Hail	0.88			
CAMPBELL CO.	BELLEVUE	7/26/1999	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	ALEXANDRIA	11/10/1998	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	ALEXANDRIA	7/20/1998	Hail	1.75			
CAMPBELL CO.	NEWPORT	7/20/1998	Thunderstorm Wind	50			\$20,000
CAMPBELL CO.	SOUTHGATE	6/29/1998	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	ALEXANDRIA	6/19/1998	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	ALEXANDRIA	6/16/1998	Thunderstorm Wind	50			\$3,000
CAMPBELL CO.	COUNTYWIDE	6/12/1998	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	ALEXANDRIA	6/9/1998	Hail	1			
CAMPBELL CO.	FT THOMAS	5/24/1998	Hail	0.75			

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CAMPBELL CO.	HIGHLAND HGTS	5/24/1998	Hail	0.75			
CAMPBELL CO.	SOUTHGATE	4/8/1998	Hail	1.75			
CAMPBELL CO.	COUNTYWIDE	7/27/1997	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	HIGHLAND HGTS	7/27/1997	Thunderstorm Wind	52			
CAMPBELL CO.	ALEXANDRIA	7/23/1997	Thunderstorm Wind	50			\$10,000
CAMPBELL CO.	ALEXANDRIA	7/2/1997	Hail	1.75			
CAMPBELL CO.	ALEXANDRIA	3/28/1997	Thunderstorm Wind	52			
CAMPBELL CO.	COUNTYWIDE	5/24/1996	Thunderstorm Wind	50			\$5,000
CAMPBELL CO.	COLD SPG	4/29/1996	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	FT THOMAS	1/18/1996	Thunderstorm Wind	50			\$2,000
CAMPBELL CO.	Silver Grove	6/17/1995	Thunderstorm Wind				\$3,000
CAMPBELL CO.	Newport	6/8/1995	Hail	0.88			
CAMPBELL CO.		7/25/1994	Thunderstorm Wind				\$50,000
CAMPBELL CO.		6/18/1992	Thunderstorm Wind				
CAMPBELL CO.		8/3/1991	Thunderstorm Wind				
CAMPBELL CO.		6/2/1991	Thunderstorm Wind				
CAMPBELL CO.		8/28/1990	Thunderstorm Wind				
CAMPBELL CO.		7/20/1990	Thunderstorm Wind				
CAMPBELL CO.		6/22/1990	Thunderstorm Wind				
CAMPBELL CO.		3/10/1986	Thunderstorm Wind			40	
CAMPBELL CO.		6/17/1983	Thunderstorm Wind				
CAMPBELL CO.		7/20/1981	Thunderstorm Wind				
CAMPBELL CO.		1/13/1976	Thunderstorm Wind				
CAMPBELL CO.		8/30/1973	Thunderstorm Wind				
CAMPBELL CO.		8/9/1969	Thunderstorm Wind				
CAMPBELL CO.		6/12/1969	Thunderstorm Wind				
CAMPBELL CO.		6/12/1969	Thunderstorm Wind	72			
CAMPBELL CO.		4/18/1969	Hail	1.75			
CAMPBELL CO.		8/27/1965	Hail	1.75			
CAMPBELL CO.		4/12/1962	Hail	0.75			
CAMPBELL CO.		7/27/1959	Thunderstorm Wind				
CARROLL CO.	CARROLLTON	6/22/2022	Thunderstorm Wind	50			\$25,000
CARROLL CO.	PRESTONVILLE	6/6/2022	Thunderstorm Wind	50			\$20,000
CARROLL CO.	LOCUST	5/19/2022	Thunderstorm Wind	50			\$3,000
CARROLL CO.		3/30/2022	High Wind	50			
CARROLL CO.	PRESTONVILLE	8/30/2021	Thunderstorm Wind	45			\$1,000
CARROLL CO.	LOCUST	7/8/2021	Thunderstorm Wind	50			\$1,000
CARROLL CO.	SANDERS	3/25/2021	Hail	1.25			
CARROLL CO.	GHENT	5/10/2020	Thunderstorm Wind	50			\$2,000
CARROLL CO.	GHENT	4/8/2020	Hail	1.75			
CARROLL CO.	CARROLLTON	6/17/2019	Thunderstorm Wind	50			\$3,000
CARROLL CO.	CHENT	6/5/2019	Thunderstorm Wind	50			\$3,000
CARROLL CO.	CHENT	6/5/2019	Thunderstorm Wind	50			\$9,000
CARROLL CO.	SANDERS	5/23/2019	Hail	1.75			
CARROLL CO.	CARROLLTON	4/25/2019	Thunderstorm Wind	43			\$1,000
CARROLL CO.	LOCUST	3/14/2019	Thunderstorm Wind	50			\$3,000
CARROLL CO.	LOCUST	3/14/2019	Thunderstorm Wind	50			\$10,000
CARROLL CO.	EAGLE STATION	6/26/2018	Thunderstorm Wind	50			\$1,000
CARROLL CO.	CARROLLTON	3/1/2017	Thunderstorm Wind	69			
CARROLL CO.	CARROLLTON	3/1/2017	Thunderstorm Wind	70			\$200,000
CARROLL CO.	CARROLLTON	9/10/2016	Thunderstorm Wind	45			\$500
CARROLL CO.	EAGLE STATION	9/10/2016	Thunderstorm Wind	45			\$500
CARROLL CO.	EAGLE STATION	7/15/2016	Thunderstorm Wind	50			\$3,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CARROLL CO.	CARROLLTON	7/8/2016	Thunderstorm Wind	50			\$3,000
CARROLL CO.	PRESTONVILLE	7/8/2016	Thunderstorm Wind	50			
CARROLL CO.	CHENT	5/10/2016	Thunderstorm Wind	50			\$1,000
CARROLL CO.	PRESTONVILLE	5/10/2016	Thunderstorm Wind	50			\$2,000
CARROLL CO.	CARROLLTON	4/26/2016	Hail	0.88			
CARROLL CO.	LOCUST	3/31/2016	Thunderstorm Wind	45			\$1,000
CARROLL CO.	PRESTONVILLE	7/13/2015	Thunderstorm Wind	50			\$3,000
CARROLL CO.	LOCUST	6/26/2015	Thunderstorm Wind	50			\$1,000
CARROLL CO.	GHENT	6/25/2015	Hail	0.88			
CARROLL CO.	CARROLLTON	5/21/2014	Hail	1.25			
CARROLL CO.	CARROLLTON	5/21/2014	Thunderstorm Wind	61			\$20,000
CARROLL CO.	ENGLISH	5/21/2014	Thunderstorm Wind	61			\$70,000
CARROLL CO.	PRESTONVILLE	5/21/2014	Hail	1			
CARROLL CO.	CARROLLTON	12/21/2013	Thunderstorm Wind	50			\$1,000
CARROLL CO.	CARROLLTON	11/17/2013	Heavy Rain				
CARROLL CO.	ENGLISH	11/17/2013	Heavy Rain				
CARROLL CO.	WORTHVILLE	11/17/2013	Heavy Rain				
CARROLL CO.	CARROLLTON	7/27/2012	Thunderstorm Wind	54			
CARROLL CO.	WORTHVILLE	7/26/2012	Thunderstorm Wind	50			\$3,000
CARROLL CO.	ENGLISH	7/19/2012	Hail	1			
CARROLL CO.	CARROLLTON	7/1/2012	Thunderstorm Wind	50			\$10,000
CARROLL CO.	LOCUST	7/1/2012	Thunderstorm Wind	50		1	\$10,000
CARROLL CO.	CARROLLTON	5/1/2012	Hail	1			
CARROLL CO.	SANDERS	5/1/2012	Hail	2.5			
CARROLL CO.	CARROLLTON	3/23/2012	Thunderstorm Wind	50			\$1,000
CARROLL CO.	CARROLLTON	3/2/2012	Hail	1.25			
CARROLL CO.	CARROLLTON	3/2/2012	Hail	1.75			
CARROLL CO.	WORTHVILLE	3/2/2012	Hail	4.25			
CARROLL CO.	CARROLLTON	11/14/2011	Thunderstorm Wind	52			
CARROLL CO.	CARROLLTON	4/28/2011	Thunderstorm Wind	50			\$5,000
CARROLL CO.	CARROLLTON	4/20/2011	Thunderstorm Wind	52			\$1,000
CARROLL CO.	CARROLLTON	10/26/2010	Thunderstorm Wind	60			\$5,000
CARROLL CO.	CARROLLTON	7/17/2010	Thunderstorm Wind	50			\$1,000
CARROLL CO.	CARROLLTON	6/27/2010	Thunderstorm Wind	50			\$1,000
CARROLL CO.	CARROLLTON	3/12/2010	Hail	0.88			
CARROLL CO.		12/9/2009	High Wind	50			
CARROLL CO.	CHENT	8/10/2009	Thunderstorm Wind	50			\$1,000
CARROLL CO.	SANDERS	8/10/2009	Thunderstorm Wind	50			\$10,000
CARROLL CO.	CARROLLTON	8/4/2009	Hail	0.75			
CARROLL CO.	PRESTONVILLE	6/20/2009	Thunderstorm Wind	50			\$2,000
CARROLL CO.	GHENT	6/2/2009	Hail	1			
CARROLL CO.		2/11/2009	High Wind	50			
CARROLL CO.		9/14/2008	High Wind	55			\$1,200,000
CARROLL CO.	CARROLLTON	7/20/2008	Thunderstorm Wind	50			\$3,000
CARROLL CO.	LOCUST	6/4/2008	Thunderstorm Wind	50			\$3,000
CARROLL CO.	WORTHVILLE	6/3/2008	Hail	0.75			\$1,000
CARROLL CO.	CARROLLTON	8/16/2007	Thunderstorm Wind	50			\$6,000
CARROLL CO.	CARROLLTON	8/10/2006	Hail	0.88			\$3,000
CARROLL CO.	CARROLLTON	6/28/2006	Thunderstorm Wind	50			\$3,000
CARROLL CO.	GHENT	4/7/2006	Hail	0.88			
CARROLL CO.	CARROLLTON	4/2/2006	Thunderstorm Wind	52			\$4,000
CARROLL CO.	CARROLLTON	1/2/2006	Thunderstorm Wind	50			\$2,000
CARROLL CO.	COUNTYWIDE	5/19/2005	Thunderstorm Wind	50			\$8,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CARROLL CO.	CARROLLTON	4/22/2005	Hail	0.88			
CARROLL CO.	CARROLLTON	8/4/2004	Thunderstorm Wind	50			\$3,000
CARROLL CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$8,000
CARROLL CO.	SANDERS	5/27/2004	Thunderstorm Wind	50			\$3,000
CARROLL CO.	CARROLLTON	7/9/2003	Thunderstorm Wind	50			\$2,000
CARROLL CO.	PRESTONVILLE	11/10/2002	Thunderstorm Wind	50			\$2,000
CARROLL CO.		3/9/2002	High Wind	55			\$5,000
CARROLL CO.	CARROLLTON	2/20/2002	Hail	0.75			
CARROLL CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
CARROLL CO.		12/11/2000	High Wind	50			
CARROLL CO.	CARROLLTON	11/9/2000	Thunderstorm Wind	50			\$10,000
CARROLL CO.	COUNTYWIDE	8/17/2000	Thunderstorm Wind	50			\$5,000
CARROLL CO.	COUNTYWIDE	8/9/2000	Thunderstorm Wind	50			\$10,000
CARROLL CO.	WORTHVILLE	8/9/2000	Thunderstorm Wind	50			\$5,000
CARROLL CO.	EAGLE STATION	7/10/2000	Thunderstorm Wind	50			\$5,000
CARROLL CO.	CARROLLTON	1/3/2000	Thunderstorm Wind	50			\$3,000
CARROLL CO.	CENTRAL PORTION	6/12/1999	Thunderstorm Wind	53			\$10,000
CARROLL CO.	GHENT	11/10/1998	Thunderstorm Wind	50			\$3,000
CARROLL CO.	PRESTONVILLE	6/29/1998	Thunderstorm Wind	50			\$3,000
CARROLL CO.	CARROLLTON	5/23/1998	Hail	0.75			
CARROLL CO.	CARROLLTON	3/28/1997	Hail	0.75			
CARROLL CO.	CARROLLTON	3/28/1997	Hail	1			
CARROLL CO.	CARROLLTON	11/7/1996	Thunderstorm Wind	50			\$20,000
CARROLL CO.	SANDERS	5/28/1996	Hail	1			
CARROLL CO.	COUNTYWIDE	5/8/1996	Thunderstorm Wind	50			\$5,000
CARROLL CO.	CARROLLTON	4/29/1996	Thunderstorm Wind	50			\$2,000
CARROLL CO.		4/15/1993	Thunderstorm Wind				\$5,000
CARROLL CO.		6/14/1990	Thunderstorm Wind				
CARROLL CO.		6/2/1990	Thunderstorm Wind			2	
CARROLL CO.		11/19/1981	Thunderstorm Wind				
CARROLL CO.		6/25/1978	Thunderstorm Wind				
CARROLL CO.		6/5/1977	Thunderstorm Wind				
CARROLL CO.		3/24/1975	Thunderstorm Wind	65			
CARROLL CO.		6/4/1973	Thunderstorm Wind				
CARROLL CO.		6/2/1964	Hail	1			
CARROLL CO.		3/25/1964	Thunderstorm Wind				
GALLATIN CO.	SUGAR BAY	6/22/2022	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	ETHRIDGE	5/19/2022	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	GLENCOE	5/19/2022	Thunderstorm Wind	45			\$1,000
GALLATIN CO.		3/30/2022	High Wind	50			
GALLATIN CO.	SUGAR BAY	3/23/2022	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	SUGAR BAY	3/23/2022	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	SUGAR BAY	3/23/2022	Thunderstorm Wind	50			\$4,000
GALLATIN CO.	SUGAR BAY	6/5/2019	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	GLENCOE	5/23/2019	Hail	2			
GALLATIN CO.	WARSAW	4/12/2019	Thunderstorm Wind	61			\$50,000
GALLATIN CO.	GLENCOE	9/21/2018	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	GLENCOE	5/31/2018	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	5/31/2018	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	4/3/2018	Thunderstorm Wind	50			\$35,000
GALLATIN CO.	WARSAW	7/7/2017	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	SUGAR BAY	3/1/2017	Thunderstorm Wind	74			\$50,000
GALLATIN CO.	GLENCOE	2/24/2017	Thunderstorm Wind	50			\$500

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GALLATIN CO.	GLENCOE	2/24/2017	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	SPARTA	7/8/2016	Thunderstorm Wind	50		2	\$2,000
GALLATIN CO.	WARSAW	7/8/2016	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	GLENCOE	6/4/2016	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	WARSAW	5/10/2016	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	WARSAW	7/13/2015	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	ETHRIDGE	6/26/2015	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	GLENCOE	6/26/2015	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	CARSON	6/18/2015	Thunderstorm Wind	50			\$4,000
GALLATIN CO.	GLENCOE	6/18/2015	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	ETHRIDGE	7/7/2014	Thunderstorm Wind	70			\$20,000
GALLATIN CO.	SUGAR BAY	4/29/2014	Thunderstorm Wind	50			\$10,000
GALLATIN CO.	WARSAW	2/20/2014	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	WARSAW	12/21/2013	Thunderstorm Wind	50			\$10,000
GALLATIN CO.	SPARTA	6/26/2013	Thunderstorm Wind	55			\$15,000
GALLATIN CO.	ETHRIDGE	9/7/2012	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	WARSAW	9/7/2012	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	GLENCOE	7/26/2012	Thunderstorm Wind	50			\$10,000
GALLATIN CO.	GLENCOE	7/8/2012	Thunderstorm Wind	50			\$1,000
GALLATIN CO.	SUGAR BAY	7/8/2012	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	SPARTA	6/29/2012	Thunderstorm Wind	52		1	\$10,000
GALLATIN CO.	SPARTA	6/29/2012	Thunderstorm Wind	61			\$2,000
GALLATIN CO.	SPARTA	5/1/2012	Hail	2.75			\$20,000
GALLATIN CO.	WARSAW	5/1/2012	Hail	2.5			
GALLATIN CO.	WARSAW	3/15/2012	Hail	1			
GALLATIN CO.	WARSAW	3/2/2012	Hail	2.75			
GALLATIN CO.	SPARTA	4/12/2011	Heavy Rain				\$1,000
GALLATIN CO.	NAPOLEON	3/23/2011	Thunderstorm Wind	56			
GALLATIN CO.	WARSAW	3/23/2011	Thunderstorm Wind	55			\$15,000
GALLATIN CO.	WARSAW	10/26/2010	Thunderstorm Wind	60			\$2,000
GALLATIN CO.		12/9/2009	High Wind	50			\$2,000
GALLATIN CO.	GLENCOE	8/27/2009	Thunderstorm Wind	50			\$3,000
GALLATIN CO.		9/14/2008	High Wind	58			\$957,000
GALLATIN CO.	GLENCOE	1/29/2008	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	10/18/2007	Thunderstorm Wind	50			\$2,000
GALLATIN CO.	NAPOLEON	8/16/2007	Thunderstorm Wind	50			\$5,000
GALLATIN CO.	ETHRIDGE	7/19/2007	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	4/11/2007	Thunderstorm Wind	52			\$1,000
GALLATIN CO.		12/1/2006	High Wind	37			\$14,000
GALLATIN CO.	WARSAW	5/17/2006	Hail	0.88			
GALLATIN CO.	WARSAW	4/7/2006	Hail	1			
GALLATIN CO.	NAPOLEON	4/2/2006	Thunderstorm Wind	52			\$4,000
GALLATIN CO.	GLENCOE	8/13/2005	Thunderstorm Wind	50			\$5,000
GALLATIN CO.	WARSAW	7/20/2005	Thunderstorm Wind	50			\$6,000
GALLATIN CO.	COUNTYWIDE	5/19/2005	Thunderstorm Wind	50			\$6,000
GALLATIN CO.	SPARTA	4/22/2005	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	7/10/2004	Thunderstorm Wind	50			\$8,000
GALLATIN CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$8,000
GALLATIN CO.	COUNTYWIDE	5/27/2004	Thunderstorm Wind	50			\$5,000
GALLATIN CO.	GLENCOE	11/10/2002	Thunderstorm Wind	50			\$15,000
GALLATIN CO.	WARSAW	11/10/2002	Thunderstorm Wind	65		10	\$375,000
GALLATIN CO.		3/9/2002	High Wind	55			\$8,000
GALLATIN CO.	GLENCOE	10/24/2001	Thunderstorm Wind	50			\$5,000

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GALLATIN CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
GALLATIN CO.		12/11/2000	High Wind	50			
GALLATIN CO.	GLENCOE	11/9/2000	Hail	0.88			
GALLATIN CO.	WARSAW	8/17/2000	Hail	0.75			
GALLATIN CO.	GLENCOE	8/9/2000	Thunderstorm Wind	50			\$5,000
GALLATIN CO.	RYLE	7/26/1999	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	COUNTYWIDE	11/10/1998	Thunderstorm Wind	55			\$5,000
GALLATIN CO.	SPARTA	6/14/1998	Hail	1.25			
GALLATIN CO.	WARSAW	3/28/1997	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	SPARTA	5/8/1996	Thunderstorm Wind	50			\$3,000
GALLATIN CO.	WARSAW	5/4/1996	Hail	3			\$5,000
GALLATIN CO.	WARSAW	4/29/1996	Thunderstorm Wind	60			\$10,000
GALLATIN CO.	Sugar Bay	7/23/1995	Thunderstorm Wind				\$2,000
GALLATIN CO.	Warsaw	6/28/1995	Hail				
GALLATIN CO.	Warsaw	6/28/1995	Thunderstorm Wind				\$3,000
GALLATIN CO.	Gallatin	8/11/1994	Thunderstorm Wind				\$1,000
GALLATIN CO.		7/21/1994	Thunderstorm Wind				\$50,000
GALLATIN CO.	Powersville	6/7/1994	Thunderstorm Wind				\$5,000
GALLATIN CO.		6/6/1994	Thunderstorm Wind				\$500
GALLATIN CO.	Glencoe	4/15/1993	Hail	0.75			
GALLATIN CO.		8/10/1992	Thunderstorm Wind				
GALLATIN CO.		7/10/1992	Thunderstorm Wind				
GALLATIN CO.		7/2/1992	Thunderstorm Wind				
GALLATIN CO.		6/18/1992	Hail	1.5			
GALLATIN CO.		8/8/1991	Thunderstorm Wind		2		
GALLATIN CO.		8/3/1991	Thunderstorm Wind				
GALLATIN CO.		7/2/1991	Thunderstorm Wind				
GALLATIN CO.		4/9/1991	Thunderstorm Wind				
GALLATIN CO.		8/28/1990	Thunderstorm Wind				
GALLATIN CO.		8/23/1989	Thunderstorm Wind				
GALLATIN CO.		8/5/1989	Thunderstorm Wind				
GALLATIN CO.		4/17/1981	Hail	0.75			
GALLATIN CO.		6/5/1977	Thunderstorm Wind				
GALLATIN CO.		8/28/1976	Thunderstorm Wind				
GALLATIN CO.		6/22/1974	Thunderstorm Wind				
GALLATIN CO.		9/9/1968	Thunderstorm Wind				
GALLATIN CO.		6/2/1964	Thunderstorm Wind				
GALLATIN CO.		6/2/1964	Hail	1			
GALLATIN CO.		4/30/1959	Thunderstorm Wind				
GALLATIN CO.		6/13/1957	Thunderstorm Wind				
GRANT CO.	CRITTENDEN	8/29/2022	Thunderstorm Wind	45			\$1,000
GRANT CO.	JERICO	8/29/2022	Thunderstorm Wind	50			\$1,000
GRANT CO.	BLANCHET	4/13/2022	Thunderstorm Wind	50			\$250
GRANT CO.	CORDOVA	4/13/2022	Thunderstorm Wind	50			\$5,000
GRANT CO.	CORINTH	8/27/2021	Thunderstorm Wind	50			\$1,000
GRANT CO.	DRY RIDGE	8/12/2021	Thunderstorm Wind	50			\$4,000
GRANT CO.	JONESVILLE	8/12/2021	Thunderstorm Wind	50			\$3,000
GRANT CO.	SHERMAN	8/12/2021	Thunderstorm Wind	50			\$5,000
GRANT CO.	DRY RIDGE	7/9/2020	Thunderstorm Wind	50			\$5,000
GRANT CO.	STEWARTSVILLE	7/9/2020	Thunderstorm Wind	50			\$3,000
GRANT CO.	MT ZION	4/8/2020	Thunderstorm Wind	50			\$3,000
GRANT CO.	MT ZION	4/8/2020	Thunderstorm Wind	50			\$5,000
GRANT CO.	MT ZION	4/8/2020	Thunderstorm Wind	50			\$7,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GRANT CO.	MT ZION	4/8/2020	Thunderstorm Wind	50			\$12,000
GRANT CO.	CRITTENDEN	3/14/2019	Thunderstorm Wind	50			\$2,000
GRANT CO.	DOWINGSVILLE	7/20/2018	Thunderstorm Wind	50			\$1,000
GRANT CO.	WILLIAMSTOWN	4/3/2018	Thunderstorm Wind	56			\$15,000
GRANT CO.	WILLIAMSTOWN	4/3/2018	Thunderstorm Wind	56			\$30,000
GRANT CO.	DOUGHTON	6/13/2017	Thunderstorm Wind	35			\$250
GRANT CO.	CRITTENDEN	5/19/2017	Hail	1			
GRANT CO.	DRY RIDGE	4/30/2017	Thunderstorm Wind	45			\$250
GRANT CO.	WILLIAMSTOWN	4/30/2017	Thunderstorm Wind	45			\$250
GRANT CO.	WILLIAMSTOWN	4/29/2017	Hail	1			
GRANT CO.	CRITTENDEN	3/1/2017	Thunderstorm Wind	52			
GRANT CO.	SHERMAN	3/1/2017	Thunderstorm Wind	60			\$10,000
GRANT CO.	DRY RIDGE	7/8/2016	Thunderstorm Wind	50			\$500
GRANT CO.	CRITTENDEN	6/15/2016	Thunderstorm Wind	52			
GRANT CO.	CRITTENDEN	12/27/2015	Heavy Rain				
GRANT CO.	CRITTENDEN	12/23/2015	Thunderstorm Wind	52			
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	0.88			
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	1			
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	1.75			
GRANT CO.	CORINTH	7/13/2015	Thunderstorm Wind	50			\$5,000
GRANT CO.	DELIA	7/13/2015	Thunderstorm Wind	50			\$2,000
GRANT CO.	JERICO	7/13/2015	Thunderstorm Wind	50			\$2,000
GRANT CO.	CORINTH	6/26/2015	Thunderstorm Wind	50			\$3,000
GRANT CO.	LAWRENCEVILLE	6/26/2015	Thunderstorm Wind	50			\$5,000
GRANT CO.	DRY RIDGE	4/8/2015	Hail	1.25			
GRANT CO.	WILLIAMSTOWN	4/8/2015	Hail	0.88			
GRANT CO.	WILLIAMSTOWN	4/8/2015	Hail	1			
GRANT CO.	WILLIAMSTOWN	3/10/2015	Heavy Rain				
GRANT CO.	CORINTH	10/7/2014	Thunderstorm Wind	50			\$500
GRANT CO.	CORDOVA	12/21/2013	Thunderstorm Wind	50			\$3,000
GRANT CO.	DRY RIDGE	11/17/2013	Thunderstorm Wind	50			\$10,000
GRANT CO.	CORINTH	9/7/2012	Thunderstorm Wind	50			\$1,000
GRANT CO.	ELLISTON	9/7/2012	Thunderstorm Wind	50			\$1,000
GRANT CO.	ZION STATION	9/7/2012	Thunderstorm Wind	50			\$1,000
GRANT CO.	DRY RIDGE	7/27/2012	Thunderstorm Wind	55			\$4,000
GRANT CO.	CRITTENDEN	7/18/2012	Thunderstorm Wind	50			\$3,000
GRANT CO.	WILLIAMSTOWN	7/18/2012	Thunderstorm Wind	55			\$3,000
GRANT CO.	CORINTH	7/8/2012	Thunderstorm Wind	50			\$1,000
GRANT CO.	WILLIAMSTOWN	7/8/2012	Thunderstorm Wind	50			\$3,000
GRANT CO.	CORINTH	7/5/2012	Hail	0.88			
GRANT CO.	CRITTENDEN	6/29/2012	Thunderstorm Wind	52			
GRANT CO.	DRY RIDGE	5/1/2012	Hail	1			
GRANT CO.	DRY RIDGE	3/2/2012	Hail	1			
GRANT CO.	JONESVILLE	3/2/2012	Hail	2			
GRANT CO.	DRY RIDGE	5/25/2011	Thunderstorm Wind	50			\$1,000
GRANT CO.	DRY RIDGE	5/23/2011	Hail	0.88			
GRANT CO.	CRITTENDEN	4/27/2011	Thunderstorm Wind	50			\$1,000
GRANT CO.	WILLIAMSTOWN	4/27/2011	Thunderstorm Wind	56			
GRANT CO.	ELLISTON	4/23/2011	Thunderstorm Wind	60			\$12,000
GRANT CO.	WILLIAMSTOWN	4/20/2011	Thunderstorm Wind	52			
GRANT CO.	TWIN BRIDGES	4/12/2011	Heavy Rain				\$1,000
GRANT CO.	CORINTH	10/26/2010	Thunderstorm Wind	60			\$1,000
GRANT CO.	WILLIAMSTOWN	6/15/2010	Thunderstorm Wind	71			

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GRANT CO.	WILLIAMSTOWN	5/13/2010	Thunderstorm Wind	50			\$3,000
GRANT CO.		12/9/2009	High Wind	50			
GRANT CO.	CRITTENDEN	6/2/2009	Hail	0.75			
GRANT CO.	DRY RIDGE	6/2/2009	Hail	1			
GRANT CO.	DRY RIDGE	4/13/2009	Hail	0.88			\$3,000
GRANT CO.		9/14/2008	High Wind	58			\$2,900,000
GRANT CO.	DRY RIDGE	7/20/2008	Thunderstorm Wind	50			\$3,000
GRANT CO.	HEEKIN	6/4/2008	Hail	0.75			\$1,000
GRANT CO.	DRY RIDGE	2/6/2008	Thunderstorm Wind	50			\$20,000
GRANT CO.	CRITTENDEN	8/16/2007	Thunderstorm Wind	55			\$20,000
GRANT CO.	DRY RIDGE	8/9/2007	Thunderstorm Wind	50			\$3,000
GRANT CO.	WILLIAMSTOWN	8/9/2007	Thunderstorm Wind	50			\$2,000
GRANT CO.		12/1/2006	High Wind	36			\$4,000
GRANT CO.	DRY RIDGE	7/14/2006	Thunderstorm Wind	50			\$3,000
GRANT CO.	CORINTH	4/2/2006	Thunderstorm Wind	55			\$10,000
GRANT CO.	WILLIAMSTOWN	4/2/2006	Thunderstorm Wind	55			\$15,000
GRANT CO.	CORINTH	3/9/2006	Thunderstorm Wind	50			\$3,000
GRANT CO.	CORINTH	9/23/2005	Thunderstorm Wind	50			\$3,000
GRANT CO.	WILLIAMSTOWN	7/30/2004	Hail	0.88			
GRANT CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$8,000
GRANT CO.	CRITTENDEN	5/17/2004	Thunderstorm Wind	50			\$2,000
GRANT CO.	KEEFER	8/22/2003	Thunderstorm Wind	50			\$3,000
GRANT CO.	WILLIAMSTOWN	8/22/2003	Thunderstorm Wind	50			\$2,000
GRANT CO.	WILLIAMSTOWN	8/2/2003	Thunderstorm Wind	50			\$3,000
GRANT CO.	DRY RIDGE	7/21/2003	Thunderstorm Wind	50			\$2,000
GRANT CO.	CRITTENDEN	7/15/2003	Thunderstorm Wind	50			\$2,000
GRANT CO.	COUNTYWIDE	7/9/2003	Thunderstorm Wind	50			\$5,000
GRANT CO.	DRY RIDGE	7/6/2003	Thunderstorm Wind	50			
GRANT CO.	WILLIAMSTOWN	5/11/2003	Thunderstorm Wind	50			\$3,000
GRANT CO.	CORINTH	5/5/2003	Hail	1			
GRANT CO.	WILLIAMSTOWN	5/5/2003	Hail	0.75			
GRANT CO.	CRITTENDEN	11/10/2002	Hail	0.75			
GRANT CO.	CRITTENDEN	7/29/2002	Thunderstorm Wind	50			\$5,000
GRANT CO.		3/9/2002	High Wind	55			\$9,000
GRANT CO.	WILLIAMSTOWN	2/20/2002	Hail	0.75			
GRANT CO.	CRITTENDEN	10/24/2001	Thunderstorm Wind	50			\$5,000
GRANT CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
GRANT CO.	JONESVILLE	7/8/2001	Thunderstorm Wind	50			\$10,000
GRANT CO.	DRY RIDGE	4/10/2001	Hail	0.75			
GRANT CO.		12/11/2000	High Wind	50			
GRANT CO.	WILLIAMSTOWN	11/9/2000	Thunderstorm Wind	55			\$25,000
GRANT CO.	DRY RIDGE	8/17/2000	Thunderstorm Wind	50			\$5,000
GRANT CO.	COUNTYWIDE	8/9/2000	Thunderstorm Wind	50			\$10,000
GRANT CO.	DRY RIDGE	8/9/2000	Thunderstorm Wind	50			\$10,000
GRANT CO.	DRY RIDGE	5/16/2000	Hail	0.75			
GRANT CO.	CRITTENDEN	4/20/2000	Hail	0.75			
GRANT CO.	DRY RIDGE	1/3/2000	Thunderstorm Wind	50			\$3,000
GRANT CO.	COUNTYWIDE	7/26/1999	Thunderstorm Wind	50			\$5,000
GRANT CO.	COUNTYWIDE	4/9/1999	Thunderstorm Wind	50			\$10,000
GRANT CO.	DRY RIDGE	11/10/1998	Thunderstorm Wind	50			\$3,000
GRANT CO.	MASON	6/22/1998	Thunderstorm Wind	50			\$3,000
GRANT CO.	CRITTENDEN	6/14/1998	Hail	0.75			
GRANT CO.	CORINTH	5/23/1998	Thunderstorm Wind	50			\$3,000

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GRANT CO.	DRY RIDGE	5/19/1997	Thunderstorm Wind	50			\$10,000
GRANT CO.	COUNTYWIDE	5/8/1996	Thunderstorm Wind	50			\$10,000
GRANT CO.	DRY RIDGE	5/4/1996	Hail	1			\$3,000
GRANT CO.		3/5/1996	High Wind	60			
GRANT CO.	Williamstown	6/8/1995	Thunderstorm Wind				\$4,000
GRANT CO.	Jonesville	4/8/1995	Hail	0.75			
GRANT CO.		5/25/1994	Thunderstorm Wind				\$5,000
GRANT CO.		7/10/1992	Thunderstorm Wind				
GRANT CO.		7/9/1992	Thunderstorm Wind				
GRANT CO.		7/2/1992	Thunderstorm Wind				
GRANT CO.		6/18/1992	Thunderstorm Wind				
GRANT CO.		6/18/1992	Hail	0.75			
GRANT CO.		6/18/1992	Hail	1.75			
GRANT CO.		8/3/1991	Thunderstorm Wind				
GRANT CO.		7/2/1991	Thunderstorm Wind				
GRANT CO.		6/1/1991	Thunderstorm Wind				
GRANT CO.		8/28/1990	Thunderstorm Wind				
GRANT CO.		6/14/1990	Thunderstorm Wind	52			
GRANT CO.		6/6/1990	Thunderstorm Wind				
GRANT CO.		7/11/1987	Thunderstorm Wind				
GRANT CO.		7/6/1987	Thunderstorm Wind				
GRANT CO.		5/30/1987	Thunderstorm Wind				
GRANT CO.		4/28/1983	Hail	0.75			
GRANT CO.		6/9/1982	Thunderstorm Wind				
GRANT CO.		6/9/1982	Hail	1.75			
GRANT CO.		8/1/1980	Thunderstorm Wind	70			
GRANT CO.		9/16/1976	Hail	1			
GRANT CO.		7/13/1975	Hail	0.75			
GRANT CO.		4/3/1974	Thunderstorm Wind				
GRANT CO.		4/1/1974	Hail	1.5			
GRANT CO.		7/3/1973	Thunderstorm Wind				
GRANT CO.		5/19/1973	Hail	0.75			
GRANT CO.		7/15/1971	Hail	1			
GRANT CO.		10/20/1969	Thunderstorm Wind				
GRANT CO.		4/23/1968	Thunderstorm Wind				
GRANT CO.		4/23/1968	Hail	2			
KENTON CO.		2/9/2023	High Wind	50			
KENTON CO.	BROMLEY	7/6/2022	Thunderstorm Wind	50			\$200
KENTON CO.	BROMLEY	7/6/2022	Thunderstorm Wind	50			\$5,000
KENTON CO.	INDEPENDENCE	6/8/2022	Thunderstorm Wind	50			\$3,000
KENTON CO.	INDEPENDENCE	5/19/2022	Thunderstorm Wind	50			\$5,000
KENTON CO.		3/30/2022	High Wind	50			
KENTON CO.	RICEDALE	10/15/2021	Thunderstorm Wind	50			\$15,000
KENTON CO.	RYLAND	10/15/2021	Thunderstorm Wind	50			\$4,000
KENTON CO.		11/15/2020	Strong Wind	48			\$6,000
KENTON CO.	RICEDALE	6/10/2020	Thunderstorm Wind	50			\$250
KENTON CO.	RICEDALE	6/10/2020	Thunderstorm Wind	50			\$1,000
KENTON CO.	INDEPENDENCE	5/24/2020	Thunderstorm Wind	50			\$250
KENTON CO.	MAURICE	5/24/2020	Thunderstorm Wind	50			\$3,000
KENTON CO.	BRACHT	4/8/2020	Thunderstorm Wind	50			\$5,000
KENTON CO.	BRACHT	4/8/2020	Thunderstorm Wind	50			\$9,000
KENTON CO.	CRESTVIEW HILLS	4/8/2020	Thunderstorm Wind	50			\$12,000
KENTON CO.	ERLANGER	4/8/2020	Thunderstorm Wind	50			\$1,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
KENTON CO.	FT WRIGHT	4/8/2020	Thunderstorm Wind	50			\$20,000
KENTON CO.	LAKESIDE PARK	4/8/2020	Thunderstorm Wind	50			\$6,000
KENTON CO.	LUDLOW	4/8/2020	Thunderstorm Wind	50			\$1,000
KENTON CO.	SOUTH FT MITCHELL	4/8/2020	Thunderstorm Wind	50			\$500
KENTON CO.	SOUTH FT MITCHELL	4/8/2020	Thunderstorm Wind	50			\$2,000
KENTON CO.	TAYLOR MILL	4/8/2020	Thunderstorm Wind	50			\$3,000
KENTON CO.	INDEPENDENCE	8/22/2019	Thunderstorm Wind	50			\$1,000
KENTON CO.	INDEPENDENCE	8/20/2019	Thunderstorm Wind	40			\$500
KENTON CO.	COVINGTON	6/17/2019	Thunderstorm Wind	50			\$1,000
KENTON CO.	ERLANGER	6/17/2019	Thunderstorm Wind	50			\$2,000
KENTON CO.	ERLANGER	6/5/2019	Thunderstorm Wind	50			\$500
KENTON CO.	PARK HILLS	5/17/2019	Hail	0.75			
KENTON CO.	TAYLOR MILL	5/2/2019	Thunderstorm Wind	45			\$1,000
KENTON CO.	TAYLOR MILL	4/14/2019	Thunderstorm Wind	45			\$1,000
KENTON CO.	ERLANGER	4/12/2019	Thunderstorm Wind	61			\$10,000
KENTON CO.	SOUTH FT MITCHELL	4/12/2019	Thunderstorm Wind	61			\$5,000
KENTON CO.	SOUTH FT MITCHELL	4/12/2019	Thunderstorm Wind	61			\$75,000
KENTON CO.	ERLANGER	3/14/2019	Hail	1			
KENTON CO.	BROMLEY	7/20/2018	Thunderstorm Wind	50			\$3,000
KENTON CO.	RICEDALE	7/20/2018	Thunderstorm Wind	50			\$1,000
KENTON CO.	BANK LICK	7/1/2018	Thunderstorm Wind	40			\$100
KENTON CO.	MORNING VIEW	7/1/2018	Thunderstorm Wind	50			\$2,000
KENTON CO.	SOUTH HILLS	5/31/2018	Thunderstorm Wind	50			\$2,000
KENTON CO.	COVINGTON	5/22/2018	Hail	0.88			
KENTON CO.	ERLANGER	4/3/2018	Hail	1			
KENTON CO.	RICEDALE	3/2/2017	Thunderstorm Wind	74			\$200,000
KENTON CO.	INDEPENDENCE	3/1/2017	Thunderstorm Wind	50			\$10,000
KENTON CO.	INDEPENDENCE	10/19/2016	Hail	1			\$25,000
KENTON CO.	INDEPENDENCE	10/19/2016	Hail	1.75			
KENTON CO.	INDEPENDENCE	10/19/2016	Thunderstorm Wind	50			\$10,000
KENTON CO.	NICHOLSON	10/19/2016	Thunderstorm Wind	50			\$4,000
KENTON CO.	VILLA HILLS	9/10/2016	Thunderstorm Wind	50			\$500
KENTON CO.	TAYLOR MILL	7/15/2016	Thunderstorm Wind	50			\$2,000
KENTON CO.	TAYLOR MILL	7/15/2016	Thunderstorm Wind	50			\$3,000
KENTON CO.	MAURICE	7/14/2016	Thunderstorm Wind	50			\$1,000
KENTON CO.	RYLAND	7/14/2016	Thunderstorm Wind	50			\$500
KENTON CO.	ERLANGER	7/8/2016	Thunderstorm Wind	50			\$500
KENTON CO.	COVINGTON	6/15/2016	Thunderstorm Wind	50			\$1,000
KENTON CO.	PARK HILLS	6/15/2016	Thunderstorm Wind	40			\$500
KENTON CO.	INDEPENDENCE	5/10/2016	Thunderstorm Wind	50			\$10,000
KENTON CO.	CRESCENT SPGS	4/26/2016	Thunderstorm Wind	50			\$5,000
KENTON CO.	ERLANGER	4/26/2016	Thunderstorm Wind	50			\$10,000
KENTON CO.	VILLA HILLS	4/26/2016	Thunderstorm Wind	50			\$2,000
KENTON CO.		4/2/2016	High Wind	50			\$1,000
KENTON CO.	MAURICE	8/3/2015	Hail	1			
KENTON CO.	MAURICE	8/3/2015	Hail	1.75			
KENTON CO.	ATWOOD	7/17/2015	Thunderstorm Wind	52			
KENTON CO.	SOUTH HILLS	7/13/2015	Thunderstorm Wind	50			\$1,000
KENTON CO.	WHITE VILLA	6/30/2015	Hail	0.88			
KENTON CO.	RYLAND	5/11/2015	Thunderstorm Wind	50			\$1,000
KENTON CO.	ATWOOD	4/9/2015	Thunderstorm Wind	52			
KENTON CO.	ATWOOD	4/8/2015	Hail	1			
KENTON CO.	PARK HILLS	8/20/2014	Thunderstorm Wind	50			\$4,000

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
KENTON CO.	INDEPENDENCE	7/27/2014	Thunderstorm Wind	50			\$1,000
KENTON CO.	MAURICE	7/27/2014	Thunderstorm Wind	50			\$1,000
KENTON CO.	INDEPENDENCE	12/21/2013	Heavy Rain				
KENTON CO.	INDEPENDENCE	7/6/2013	Heavy Rain				
KENTON CO.	ERLANGER	4/16/2013	Hail	0.88			
KENTON CO.	INDEPENDENCE	8/9/2012	Hail	0.88			
KENTON CO.	INDEPENDENCE	8/9/2012	Hail	1			
KENTON CO.	MAURICE	7/27/2012	Thunderstorm Wind	56			\$12,000
KENTON CO.	INDEPENDENCE	7/26/2012	Hail	0.75			
KENTON CO.	COVINGTON	7/18/2012	Thunderstorm Wind	50			\$30,000
KENTON CO.	WHITE TOWER	7/18/2012	Thunderstorm Wind	50			\$1,000
KENTON CO.	MORNING VIEW	6/29/2012	Thunderstorm Wind	50			\$1,000
KENTON CO.	COVINGTON	4/25/2012	Hail	0.88			
KENTON CO.	COVINGTON	4/25/2012	Hail	1			
KENTON CO.	CRESCENT SPGS	4/25/2012	Hail	0.88			
KENTON CO.	FT MITCHELL	4/25/2012	Hail	0.88			
KENTON CO.	COVINGTON	3/23/2012	Hail	0.88			
KENTON CO.	ERLANGER	5/25/2011	Thunderstorm Wind	50			\$1,000
KENTON CO.	KENTON	5/25/2011	Hail	0.88			
KENTON CO.	CRESCENT SPGS	5/23/2011	Thunderstorm Wind	52			
KENTON CO.	LUDLOW	5/23/2011	Thunderstorm Wind	50			\$1,000
KENTON CO.	ALEXANDER	4/19/2011	Thunderstorm Wind	50			\$1,000
KENTON CO.	INDEPENDENCE	4/19/2011	Hail	1			
KENTON CO.	INDEPENDENCE	3/23/2011	Thunderstorm Wind	50			\$1,000
KENTON CO.	RYLAND	2/28/2011	Thunderstorm Wind	50			\$2,000
KENTON CO.	COVINGTON	10/26/2010	Thunderstorm Wind	60			\$5,000
KENTON CO.	TAYLOR MILL	10/26/2010	Hail	1			
KENTON CO.	INDEPENDENCE	5/21/2010	Hail	0.75			
KENTON CO.	INDEPENDENCE	5/21/2010	Hail	1			
KENTON CO.	RYLAND	5/21/2010	Thunderstorm Wind	50			\$1,000
KENTON CO.	INDEPENDENCE	3/12/2010	Hail	0.75			
KENTON CO.		12/9/2009	High Wind	50			
KENTON CO.	LATONIA	9/8/2009	Hail	1			
KENTON CO.	ERLANGER	6/25/2009	Hail	1.25			
KENTON CO.		2/11/2009	High Wind	50			
KENTON CO.		9/14/2008	High Wind	60			\$18,200,000
KENTON CO.	ERLANGER	6/4/2008	Thunderstorm Wind	52			\$1,000
KENTON CO.	INDEPENDENCE	6/4/2008	Thunderstorm Wind	50			\$2,000
KENTON CO.	ATWOOD	6/3/2008	Thunderstorm Wind	55			\$5,000
KENTON CO.	ERLANGER	11/5/2007	Hail	0.75			\$1,000
KENTON CO.	INDEPENDENCE	11/5/2007	Hail	0.75			\$1,000
KENTON CO.	COVINGTON	7/15/2007	Thunderstorm Wind	50			\$10,000
KENTON CO.	INDEPENDENCE	7/15/2007	Hail	0.88			\$1,000
KENTON CO.	INDEPENDENCE	6/8/2007	Thunderstorm Wind	50			\$3,000
KENTON CO.	TAYLOR MILL	4/11/2007	Hail	0.75			\$2,000
KENTON CO.		12/1/2006	High Wind	36			\$8,000
KENTON CO.	COVINGTON	12/1/2006	Thunderstorm Wind	50			\$5,000
KENTON CO.	MORNING VIEW	7/18/2006	Thunderstorm Wind	50			\$2,000
KENTON CO.	ERLANGER	6/22/2006	Thunderstorm Wind	50			\$3,000
KENTON CO.	COVINGTON	6/19/2006	Thunderstorm Wind	50			\$8,000
KENTON CO.	ERLANGER	5/25/2006	Thunderstorm Wind	50			\$3,000
KENTON CO.	FT MITCHELL	5/25/2006	Thunderstorm Wind	50			\$3,000
KENTON CO.	ERLANGER	4/14/2006	Hail	1.75			\$10,000

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
KENTON CO.	FT MITCHELL	4/7/2006	Hail	1			
KENTON CO.	INDEPENDENCE	8/20/2005	Thunderstorm Wind	50			\$4,000
KENTON CO.	ERLANGER	6/14/2005	Hail	1.5			\$8,000
KENTON CO.	INDEPENDENCE	5/30/2004	Thunderstorm Wind	55			\$15,000
KENTON CO.	COUNTYWIDE	5/27/2004	Thunderstorm Wind	50			\$5,000
KENTON CO.	ERLANGER	8/7/2003	Hail	0.75			
KENTON CO.	COVINGTON	7/21/2003	Thunderstorm Wind	52			
KENTON CO.	ERLANGER	5/2/2003	Hail	0.75			
KENTON CO.	INDEPENDENCE	11/10/2002	Thunderstorm Wind	50			\$3,000
KENTON CO.	COUNTYWIDE	7/29/2002	Thunderstorm Wind	50			\$2,000
KENTON CO.		3/9/2002	High Wind	55			\$12,000
KENTON CO.	ERLANGER	2/20/2002	Hail	1.5			
KENTON CO.	LUDLOW	10/24/2001	Thunderstorm Wind	50			\$5,000
KENTON CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$25,000
KENTON CO.		12/11/2000	High Wind	50			
KENTON CO.	COUNTYWIDE	11/9/2000	Thunderstorm Wind	50			\$10,000
KENTON CO.	COUNTYWIDE	8/17/2000	Thunderstorm Wind	50			\$5,000
KENTON CO.	COVINGTON	8/9/2000	Hail	0.75			
KENTON CO.	FT MITCHELL	8/9/2000	Hail	0.88			
KENTON CO.	COUNTYWIDE	7/10/2000	Thunderstorm Wind	50			\$5,000
KENTON CO.	ERLANGER	5/9/2000	Hail	0.75			
KENTON CO.	COUNTYWIDE	4/20/2000	Thunderstorm Wind	50			\$10,000
KENTON CO.	PINER	7/26/1999	Thunderstorm Wind	50			\$3,000
KENTON CO.	COUNTYWIDE	6/11/1999	Thunderstorm Wind	50			\$4,000
KENTON CO.	FT MITCHELL	6/11/1999	Thunderstorm Wind	50			\$3,000
KENTON CO.	COUNTYWIDE	11/10/1998	Thunderstorm Wind	60			\$10,000
KENTON CO.	ERLANGER	6/29/1998	Thunderstorm Wind	50			\$3,000
KENTON CO.	COVINGTON	6/16/1998	Thunderstorm Wind	50			\$3,000
KENTON CO.	PINER	6/14/1998	Hail	0.75			
KENTON CO.	INDEPENDENCE	5/13/1998	Hail	0.75			
KENTON CO.	ERLANGER	4/8/1998	Hail	2.75			
KENTON CO.	COUNTYWIDE	7/23/1997	Thunderstorm Wind	50			\$10,000
KENTON CO.	FT WRIGHT	7/2/1997	Thunderstorm Wind	50			\$5,000
KENTON CO.	FT MITCHELL	3/28/1997	Thunderstorm Wind	50			\$3,000
KENTON CO.	LUDLOW	1/5/1997	Thunderstorm Wind	50			\$5,000
KENTON CO.		10/29/1996	High Wind	50			\$5,000
KENTON CO.	MORNING VIEW	6/22/1996	Hail	0.75			
KENTON CO.	VILLA HILLS	6/22/1996	Thunderstorm Wind	50			\$3,000
KENTON CO.	COUNTYWIDE	5/24/1996	Thunderstorm Wind	50			\$5,000
KENTON CO.	BRACHT	5/8/1996	Thunderstorm Wind	50			\$10,000
KENTON CO.	COUNTYWIDE	4/29/1996	Thunderstorm Wind	50			\$2,000
KENTON CO.	ERLANGER	1/18/1996	Thunderstorm Wind	50			\$2,000
KENTON CO.	Covington	6/21/1994	Thunderstorm Wind				\$5,000
KENTON CO.		6/18/1992	Thunderstorm Wind				
KENTON CO.		4/10/1992	Thunderstorm Wind				
KENTON CO.		8/8/1991	Thunderstorm Wind				
KENTON CO.		8/3/1991	Thunderstorm Wind				
KENTON CO.		6/2/1991	Hail	1.75			
KENTON CO.		9/29/1990	Thunderstorm Wind				
KENTON CO.		8/28/1990	Thunderstorm Wind				
KENTON CO.		7/20/1990	Thunderstorm Wind				
KENTON CO.		8/5/1989	Thunderstorm Wind				
KENTON CO.		7/26/1987	Thunderstorm Wind				

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
KENTON CO.		5/7/1986	Thunderstorm Wind				
KENTON CO.		5/7/1986	Hail	0.75			
KENTON CO.		5/7/1986	Hail	1			
KENTON CO.		3/10/1986	Thunderstorm Wind				
KENTON CO.		3/4/1985	Thunderstorm Wind				
KENTON CO.		1/1/1985	Thunderstorm Wind				
KENTON CO.		8/27/1983	Thunderstorm Wind	54			
KENTON CO.		4/1/1974	Thunderstorm Wind				
KENTON CO.		4/29/1970	Thunderstorm Wind				
KENTON CO.		3/19/1963	Hail	1.25			
KENTON CO.		8/30/1960	Thunderstorm Wind				
KENTON CO.		5/26/1960	Hail	1.75			
OWEN CO.		2/9/2023	High Wind	50			
OWEN CO.	CULL	6/6/2022	Thunderstorm Wind	50			\$3,000
OWEN CO.	SWEET OWEN	6/6/2022	Thunderstorm Wind	50			\$3,000
OWEN CO.	LUSBYS MILL	4/13/2022	Thunderstorm Wind	50			\$10,000
OWEN CO.	NEW COLUMBUS	4/13/2022	Thunderstorm Wind	50			\$3,000
OWEN CO.	EAGLE HILL	8/12/2021	Thunderstorm Wind	50			\$1,000
OWEN CO.	TRUESVILLE	7/6/2020	Thunderstorm Wind	50			\$2,000
OWEN CO.	LONG RIDGE	4/8/2020	Hail	1.25			
OWEN CO.	MOXLEY	3/28/2020	Thunderstorm Wind	50			\$1,000
OWEN CO.	OWENTON	1/11/2020	Thunderstorm Wind	50			\$8,000
OWEN CO.	BEECHWOOD	6/16/2019	Thunderstorm Wind	50			\$5,000
OWEN CO.	LUSBYS MILL	6/16/2019	Thunderstorm Wind	50			\$4,000
OWEN CO.	MONTEREY	6/16/2019	Thunderstorm Wind	50			\$4,000
OWEN CO.	OWENTON	6/16/2019	Thunderstorm Wind	50			\$4,000
OWEN CO.	POPLAR GROVE	6/16/2019	Thunderstorm Wind	50			\$2,000
OWEN CO.	LONG RIDGE	3/14/2019	Thunderstorm Wind	50			\$200
OWEN CO.	NEW LIBERTY	3/14/2019	Thunderstorm Wind	50			\$3,000
OWEN CO.	POPLAR GROVE	3/14/2019	Thunderstorm Wind	50			\$3,000
OWEN CO.	SWEET OWEN	3/14/2019	Thunderstorm Wind	53			
OWEN CO.	WHEATLEY	3/14/2019	Thunderstorm Wind	50			\$3,000
OWEN CO.	NEW	7/20/2018	Thunderstorm Wind	50			\$2,000
OWEN CO.	GRATZ	6/26/2018	Thunderstorm Wind	50			\$3,000
OWEN CO.	MONTEREY	6/26/2018	Thunderstorm Wind	50			\$3,000
OWEN CO.	LONG RIDGE	5/31/2018	Thunderstorm Wind	50			\$3,000
OWEN CO.	SWEET OWEN	5/31/2018	Thunderstorm Wind	51			
OWEN CO.	OWENTON	4/3/2018	Thunderstorm Wind	55			\$20,000
OWEN CO.	LUSBYS MILL	5/19/2017	Thunderstorm Wind	50			\$10,000
OWEN CO.	SQUIRESVILLE	4/28/2017	Thunderstorm Wind	50			\$1,000
OWEN CO.	NEW	4/5/2017	Thunderstorm Wind	50			\$2,000
OWEN CO.	OWENTON	3/1/2017	Thunderstorm Wind	60			\$20,000
OWEN CO.	NEW LIBERTY	2/24/2017	Thunderstorm Wind	50			\$2,000
OWEN CO.	WHEATLEY	2/24/2017	Thunderstorm Wind	50			\$2,000
OWEN CO.	HARMONY	6/23/2016	Thunderstorm Wind	50			\$5,000
OWEN CO.	NEW	6/23/2016	Thunderstorm Wind	50			\$2,000
OWEN CO.	NEW COLUMBUS	6/21/2016	Thunderstorm Wind	50			\$500
OWEN CO.	NEW COLUMBUS	6/21/2016	Thunderstorm Wind	50			\$10,000
OWEN CO.	LONG RIDGE	3/31/2016	Thunderstorm Wind	50			\$1,000
OWEN CO.	NEW LIBERTY	3/31/2016	Thunderstorm Wind	50			\$5,000
OWEN CO.	HALLAM	12/23/2015	Thunderstorm Wind	55			\$1,000
OWEN CO.	SWEET OWEN	12/23/2015	Thunderstorm Wind	65			
OWEN CO.	BROMLEY	7/14/2015	Thunderstorm Wind	50			\$3,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
OWEN CO.	BEECHWOOD	7/13/2015	Thunderstorm Wind	50			\$5,000
OWEN CO.	LONG RIDGE	7/13/2015	Thunderstorm Wind	50			\$2,000
OWEN CO.	WHEATLEY	7/13/2015	Thunderstorm Wind	50			\$2,000
OWEN CO.	OWENTON	6/30/2015	Hail	1			
OWEN CO.	OWENTON	6/26/2015	Thunderstorm Wind	50			\$5,000
OWEN CO.	OWENTON	6/18/2015	Hail	0.88			
OWEN CO.	GRATZ	5/11/2015	Thunderstorm Wind	50			\$2,000
OWEN CO.	MOXLEY	5/11/2015	Thunderstorm Wind	50			\$3,000
OWEN CO.	OWENTON	5/11/2015	Thunderstorm Wind	50			\$2,000
OWEN CO.	OWENTON	4/8/2015	Hail	0.75			
OWEN CO.	PERRY PARK	6/23/2014	Thunderstorm Wind	50			\$5,000
OWEN CO.	MONTEREY	4/29/2014	Thunderstorm Wind	50			\$2,000
OWEN CO.	PLEASANT HOME	4/7/2014	Thunderstorm Wind	50			\$20,000
OWEN CO.	WHEATLEY	12/21/2013	Thunderstorm Wind	50			\$3,000
OWEN CO.	OWENTON	4/16/2013	Hail	1			
OWEN CO.	BROMLEY	3/2/2012	Hail	2.5			
OWEN CO.	NEW LIBERTY	3/2/2012	Hail	2.75			
OWEN CO.	OWENTON	3/2/2012	Thunderstorm Wind	55			
OWEN CO.	LONG RIDGE	8/3/2011	Thunderstorm Wind	50			\$1,000
OWEN CO.	GRATZ	7/12/2011	Hail	0.88			
OWEN CO.	NEW COLUMBUS	6/10/2011	Thunderstorm Wind	50			\$2,000
OWEN CO.	OWENTON	5/23/2011	Thunderstorm Wind	50			\$5,000
OWEN CO.	OWENTON	5/23/2011	Thunderstorm Wind	51			
OWEN CO.	OWENTON	5/23/2011	Thunderstorm Wind	56			
OWEN CO.	NEW LIBERTY	4/23/2011	Thunderstorm Wind	60			\$15,000
OWEN CO.	OWENTON	4/12/2011	Heavy Rain				\$1,000
OWEN CO.	GRATZ	4/9/2011	Thunderstorm Wind	50			\$2,000
OWEN CO.	NEW LIBERTY	10/26/2010	Thunderstorm Wind	52			
OWEN CO.	OWENTON	4/5/2010	Hail	0.75			
OWEN CO.	OWENTON	3/12/2010	Hail	0.75			
OWEN CO.		12/9/2009	High Wind	50			
OWEN CO.	OWENTON	7/25/2009	Thunderstorm Wind	50			
OWEN CO.	BEECHWOOD	6/25/2009	Hail	0.75			
OWEN CO.		2/11/2009	High Wind	50			
OWEN CO.		9/14/2008	High Wind	55			\$1,300,000
OWEN CO.	NEW LIBERTY	8/29/2008	Thunderstorm Wind	50			\$2,000
OWEN CO.	BEECHWOOD	7/22/2008	Thunderstorm Wind	50			\$3,000
OWEN CO.	GRATZ	7/8/2008	Thunderstorm Wind	50			\$4,000
OWEN CO.	MONTEREY	8/16/2007	Thunderstorm Wind	50			\$3,000
OWEN CO.	NEW LIBERTY	8/16/2007	Thunderstorm Wind	50			\$3,000
OWEN CO.	MONTEREY	7/17/2007	Hail	0.75			\$1,000
OWEN CO.	NEW LIBERTY	4/11/2007	Hail	0.88			\$3,000
OWEN CO.	COUNTYWIDE	8/10/2006	Thunderstorm Wind	50			\$10,000
OWEN CO.	OWENTON	5/25/2006	Thunderstorm Wind	50			\$3,000
OWEN CO.	COUNTYWIDE	4/2/2006	Thunderstorm Wind	55			\$12,000
OWEN CO.	OWENTON	3/9/2006	Thunderstorm Wind	50			\$3,000
OWEN CO.	OWENTON	11/6/2005	Hail	0.88			
OWEN CO.	OWENTON	5/19/2005	Thunderstorm Wind	50			\$3,000
OWEN CO.	OWENTON	7/6/2004	Thunderstorm Wind	50			\$3,000
OWEN CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$8,000
OWEN CO.	MONTEREY	5/30/2004	Thunderstorm Wind	50			\$3,000
OWEN CO.	MONTEREY	5/27/2004	Thunderstorm Wind	55			\$5,000
OWEN CO.	OWENTON	5/27/2004	Thunderstorm Wind	55			\$5,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
OWEN CO.	OWENTON	5/25/2004	Thunderstorm Wind	50			\$2,000
OWEN CO.	LONG RIDGE	5/17/2004	Hail	0.88			
OWEN CO.	PERRY PARK	7/21/2003	Thunderstorm Wind	50			\$3,000
OWEN CO.	WHEATLEY	7/9/2003	Thunderstorm Wind	50			\$3,000
OWEN CO.	MONTEREY	5/9/2003	Hail	0.75			
OWEN CO.	HESLER	5/5/2003	Hail	1.75			\$10,000
OWEN CO.	OWENTON	5/5/2003	Thunderstorm Wind	50			\$1,000
OWEN CO.	NEW LIBERTY	11/10/2002	Hail	0.75			
OWEN CO.	OWENTON	10/4/2002	Thunderstorm Wind	50			\$2,000
OWEN CO.	MONTEREY	7/29/2002	Thunderstorm Wind	50			\$4,000
OWEN CO.	PERRY PARK	7/29/2002	Thunderstorm Wind	50			\$4,000
OWEN CO.	OWENTON	6/25/2002	Thunderstorm Wind	50			\$15,000
OWEN CO.		3/9/2002	High Wind	55			\$8,000
OWEN CO.	NEW LIBERTY	2/20/2002	Thunderstorm Wind	50			\$10,000
OWEN CO.	OWENTON	2/20/2002	Hail	0.75			
OWEN CO.	COUNTYWIDE	10/24/2001	Thunderstorm Wind	50			\$5,000
OWEN CO.	NEW LIBERTY	7/8/2001	Thunderstorm Wind	50			\$5,000
OWEN CO.	OWENTON	7/3/2001	Thunderstorm Wind	50			\$5,000
OWEN CO.	NEW COLUMBUS	6/5/2001	Hail	0.75			
OWEN CO.	PERRY PARK	4/10/2001	Thunderstorm Wind	52			\$5,000
OWEN CO.		12/11/2000	High Wind	50			
OWEN CO.	HESLER	11/9/2000	Thunderstorm Wind	60			\$50,000
OWEN CO.	NEW LIBERTY	8/17/2000	Hail	0.75			
OWEN CO.	COUNTYWIDE	8/9/2000	Thunderstorm Wind	50			\$10,000
OWEN CO.	OWENTON	8/9/2000	Hail	0.75			
OWEN CO.	MONTEREY	7/10/2000	Thunderstorm Wind	50			\$5,000
OWEN CO.	WHEATLEY	7/10/2000	Thunderstorm Wind	50			\$5,000
OWEN CO.	OWENTON	7/6/2000	Thunderstorm Wind	50			\$10,000
OWEN CO.	BROMLEY	6/26/2000	Thunderstorm Wind	52			\$4,000
OWEN CO.	NEW LIBERTY	4/20/2000	Thunderstorm Wind	50			\$5,000
OWEN CO.	NEW LIBERTY	1/3/2000	Thunderstorm Wind	50			\$3,000
OWEN CO.	NEW LIBERTY	6/9/1999	Hail	0.75			\$1,000
OWEN CO.	OWENTON	6/9/1999	Thunderstorm Wind	50			\$3,000
OWEN CO.	COUNTYWIDE	4/9/1999	Thunderstorm Wind	50			\$20,000
OWEN CO.	OWENTON	11/10/1998	Thunderstorm Wind	50			\$3,000
OWEN CO.	COUNTYWIDE	7/20/1998	Thunderstorm Wind	50			\$5,000
OWEN CO.	OWENTON	6/29/1998	Thunderstorm Wind	50			\$3,000
OWEN CO.	OWENTON	6/22/1998	Thunderstorm Wind	50			\$3,000
OWEN CO.	PERRY PARK	6/14/1998	Hail	1			
OWEN CO.	NEW LIBERTY	6/12/1998	Thunderstorm Wind	50			\$3,000
OWEN CO.	POPLAR GROVE	5/23/1998	Thunderstorm Wind	50			\$10,000
OWEN CO.	OWENTON	7/27/1997	Thunderstorm Wind	50			\$5,000
OWEN CO.	GRATZ	8/27/1996	Hail	0.75			
OWEN CO.	OWENTON	8/8/1996	Thunderstorm Wind	50			\$5,000
OWEN CO.	GRATZ	7/2/1996	Hail	1			
OWEN CO.	WHEATLEY	5/28/1996	Thunderstorm Wind	50		2	\$5,000
OWEN CO.	HESLER	5/27/1996	Thunderstorm Wind	50			\$15,000
OWEN CO.	COUNTYWIDE	5/8/1996	Thunderstorm Wind	50			\$5,000
OWEN CO.	COUNTYWIDE	5/5/1996	Thunderstorm Wind	50			\$5,000
OWEN CO.	Owenton	6/8/1995	Thunderstorm Wind				\$3,000
OWEN CO.	Owenton	5/24/1995	Thunderstorm Wind				\$5,000
OWEN CO.	Owenton	4/8/1995	Hail	0.75			
OWEN CO.		4/15/1993	Thunderstorm Wind				\$5,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
OWEN CO.		7/9/1992	Thunderstorm Wind				
OWEN CO.		7/2/1992	Thunderstorm Wind				
OWEN CO.		3/6/1992	Hail	0.75			
OWEN CO.		7/2/1991	Thunderstorm Wind				
OWEN CO.		8/28/1990	Thunderstorm Wind				
OWEN CO.		6/14/1990	Thunderstorm Wind				
OWEN CO.		6/2/1990	Thunderstorm Wind				
OWEN CO.		8/29/1989	Thunderstorm Wind				
OWEN CO.		4/23/1988	Thunderstorm Wind				
OWEN CO.		7/27/1977	Thunderstorm Wind				
OWEN CO.		6/5/1977	Thunderstorm Wind				
OWEN CO.		6/23/1976	Thunderstorm Wind				
OWEN CO.		4/1/1974	Thunderstorm Wind				
OWEN CO.		6/4/1973	Thunderstorm Wind				
OWEN CO.		11/20/1970	Thunderstorm Wind				
OWEN CO.		7/8/1970	Thunderstorm Wind				
OWEN CO.		4/23/1968	Hail	2.5			
OWEN CO.		4/11/1965	Thunderstorm Wind				
PENDLETON CO.	FALMOUTH	6/22/2022	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	FALMOUTH	4/13/2022	Thunderstorm Wind	50			\$250
PENDLETON CO.		3/30/2022	High Wind	50			
PENDLETON CO.	BUTLER	8/27/2021	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	GREENWOOD	8/25/2021	Thunderstorm Wind	50			\$250
PENDLETON CO.	CALDWELL	8/12/2021	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	6/18/2021	Thunderstorm Wind	50			\$20,000
PENDLETON CO.	PORTLAND	4/28/2021	Thunderstorm Wind	45			\$1,000
PENDLETON CO.	FALMOUTH	6/10/2020	Thunderstorm Wind	50			\$4,000
PENDLETON CO.	BUTLER	4/8/2020	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	CADDO	4/8/2020	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	CADDO	4/8/2020	Thunderstorm Wind	50			\$4,000
PENDLETON CO.	DE MOSSVILLE	4/8/2020	Thunderstorm Wind	50			\$8,000
PENDLETON CO.	PENHURST	4/8/2020	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	PLEASANT HILL	4/8/2020	Thunderstorm Wind	50			\$1,000
PENDLETON CO.		12/30/2019	High Wind	50			
PENDLETON CO.	PORTLAND	7/18/2019	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	6/17/2019	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	MARCUS	6/16/2019	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	MORGAN	6/16/2019	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	FALMOUTH	6/5/2019	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	GOFORTH	6/5/2019	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	LOCUST GROVE	3/14/2019	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	MARCUS	3/14/2019	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	GREENWOOD	7/20/2018	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	MC KINNEYSBURG	7/20/2018	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	5/31/2018	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	FALMOUTH	4/3/2018	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	FALMOUTH	4/3/2018	Thunderstorm Wind	50			\$4,000
PENDLETON CO.	GOFORTH	4/3/2018	Thunderstorm Wind	50			\$30,000
PENDLETON CO.	DE MOSSVILLE	8/17/2017	Thunderstorm Wind	45			\$1,000
PENDLETON CO.	FALMOUTH	4/29/2017	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	LYNN	4/5/2017	Thunderstorm Wind	50			\$4,000
PENDLETON CO.	BOSTON	3/1/2017	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	BOSTON	9/10/2016	Thunderstorm Wind	50			\$2,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
PENDLETON CO.	CALDWELL	7/14/2016	Thunderstorm Wind	50			\$500
PENDLETON CO.	CONCORD	12/23/2015	Thunderstorm Wind	60			\$25,000
PENDLETON CO.	GREENWOOD	12/23/2015	Thunderstorm Wind	70			\$50,000
PENDLETON CO.	PEACH GROVE	12/23/2015	Thunderstorm Wind	60			\$10,000
PENDLETON CO.	FALMOUTH	7/13/2015	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	FALMOUTH	7/13/2015	Thunderstorm Wind	50			\$7,000
PENDLETON CO.	MENZIE	4/8/2015	Hail	1			
PENDLETON CO.	HAYES	12/21/2013	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	PENHURST	12/21/2013	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	BUTLER	11/17/2013	Thunderstorm Wind	55			\$5,000
PENDLETON CO.	DE MOSSVILLE	11/17/2013	Heavy Rain				
PENDLETON CO.	CONCORD	9/8/2012	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	BOSTON	9/7/2012	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	FALMOUTH	7/27/2012	Hail	0.75			
PENDLETON CO.	FALMOUTH	7/27/2012	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	7/18/2012	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	CONCORD	7/8/2012	Hail	0.88			
PENDLETON CO.	FALMOUTH	7/8/2012	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	6/29/2012	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	MC KINNEYSBURG	6/29/2012	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	3/15/2012	Hail	1			
PENDLETON CO.	PEACH GROVE	3/15/2012	Hail	1			
PENDLETON CO.	BUTLER	11/14/2011	Hail	0.75			
PENDLETON CO.	GARDNERSVILLE	5/26/2011	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	5/10/2011	Hail	0.75			
PENDLETON CO.	FALMOUTH	4/27/2011	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	BUTLER	4/23/2011	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	BUTLER	4/23/2011	Thunderstorm Wind	60			\$15,000
PENDLETON CO.	FALMOUTH	4/23/2011	Thunderstorm Wind	55			\$2,000
PENDLETON CO.	BUTLER	4/4/2011	Thunderstorm Wind	50			\$1,000
PENDLETON CO.	FALMOUTH	10/26/2010	Thunderstorm Wind	60			\$2,000
PENDLETON CO.	CATAWBA	6/21/2010	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	6/15/2010	Hail	0.75			
PENDLETON CO.	FALMOUTH	6/15/2010	Thunderstorm Wind	50			\$2,000
PENDLETON CO.	CONCORD	5/28/2010	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	MORGAN	5/13/2010	Thunderstorm Wind	50			\$3,000
PENDLETON CO.		12/9/2009	High Wind	50			
PENDLETON CO.	BUTLER	6/26/2009	Thunderstorm Wind	50			
PENDLETON CO.	DE MOSSVILLE	6/25/2009	Hail	0.88			\$4,000
PENDLETON CO.	PEACH GROVE	4/13/2009	Thunderstorm Wind	52			\$2,000
PENDLETON CO.	PLEASANT HILL	4/13/2009	Hail	0.75			\$1,000
PENDLETON CO.	FALMOUTH	2/11/2009	Thunderstorm Wind	50			\$8,000
PENDLETON CO.		9/14/2008	High Wind	55			\$1,800,000
PENDLETON CO.	BUTLER	6/3/2008	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	2/6/2008	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	FALMOUTH	8/29/2007	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	GARDNERSVILLE	8/16/2007	Thunderstorm Wind	55			\$25,000
PENDLETON CO.	KNOXVILLE	8/9/2007	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	4/11/2007	Hail	0.75			\$2,000
PENDLETON CO.		12/1/2006	High Wind	36			\$2,000
PENDLETON CO.	BUTLER	7/14/2006	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	4/2/2006	Thunderstorm Wind	55			\$8,000
PENDLETON CO.	FALMOUTH	9/23/2005	Thunderstorm Wind	50			\$3,000

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
PENDLETON CO.	BUTLER	8/20/2005	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	PEACH GROVE	4/22/2005	Thunderstorm Wind	50			\$15,000
PENDLETON CO.	BUTLER	8/4/2004	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	COUNTYWIDE	5/30/2004	Thunderstorm Wind	50			\$8,000
PENDLETON CO.	COUNTYWIDE	7/21/2003	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	FALMOUTH	7/15/2003	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	BUTLER	7/4/2003	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	FALMOUTH	5/5/2003	Hail	0.75			
PENDLETON CO.	FALMOUTH	5/5/2003	Hail	1			
PENDLETON CO.	BUTLER	5/2/2003	Hail	0.75			
PENDLETON CO.	PEACH GROVE	10/4/2002	Thunderstorm Wind	50			\$2,000
PENDLETON CO.		3/9/2002	High Wind	55			\$8,000
PENDLETON CO.	FALMOUTH	10/24/2001	Hail	0.75			
PENDLETON CO.	BUTLER	7/8/2001	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	COUNTYWIDE	7/8/2001	Thunderstorm Wind	50			\$5,000
PENDLETON CO.		12/11/2000	High Wind	50			
PENDLETON CO.	COUNTYWIDE	11/9/2000	Thunderstorm Wind	60		1	\$50,000
PENDLETON CO.	MORGAN	8/17/2000	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	FALMOUTH	8/9/2000	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	PEACH GROVE	7/14/2000	Hail	1.75			
PENDLETON CO.	CARNTOWN	7/10/2000	Hail	1			
PENDLETON CO.	LOCUST GROVE	5/16/2000	Hail	0.75			
PENDLETON CO.	DE MOSSVILLE	1/3/2000	Thunderstorm Wind	78			\$200,000
PENDLETON CO.	FALMOUTH	7/26/1999	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	COUNTYWIDE	4/9/1999	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	11/10/1998	Thunderstorm Wind	50			\$5,000
PENDLETON CO.	FALMOUTH	6/22/1998	Thunderstorm Wind	50			\$3,000
PENDLETON CO.	COUNTYWIDE	6/12/1998	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	COUNTYWIDE	8/17/1997	Thunderstorm Wind	50			\$10,000
PENDLETON CO.	CONCORD	5/19/1997	Thunderstorm Wind	50			\$7,000
PENDLETON CO.	FALMOUTH	11/7/1996	Thunderstorm Wind	50			\$3,000
PENDLETON CO.		10/29/1996	High Wind	50			\$10,000
PENDLETON CO.	FALMOUTH	6/6/1996	Hail	0.75			
PENDLETON CO.	BUTLER	5/8/1996	Thunderstorm Wind	60			\$5,000
PENDLETON CO.	COUNTYWIDE	5/4/1996	Thunderstorm Wind	50			\$4,000
PENDLETON CO.	FALMOUTH	5/4/1996	Hail	1			\$3,000
PENDLETON CO.	Falmouth	6/10/1995	Hail	0.75			
PENDLETON CO.	Falmouth	3/23/1995	Hail	0.88			
PENDLETON CO.		7/25/1994	Thunderstorm Wind				\$500
PENDLETON CO.		11/22/1992	Hail	0.75			
PENDLETON CO.		8/3/1991	Thunderstorm Wind				
PENDLETON CO.		7/20/1990	Thunderstorm Wind				
PENDLETON CO.		6/22/1990	Thunderstorm Wind				
PENDLETON CO.		6/14/1990	Thunderstorm Wind				
PENDLETON CO.		6/7/1990	Thunderstorm Wind				
PENDLETON CO.		6/6/1990	Thunderstorm Wind				
PENDLETON CO.		6/3/1989	Thunderstorm Wind				
PENDLETON CO.		8/3/1988	Thunderstorm Wind	52			
PENDLETON CO.		4/28/1983	Thunderstorm Wind				
PENDLETON CO.		6/9/1982	Thunderstorm Wind				
PENDLETON CO.		6/9/1982	Hail	1.75			
PENDLETON CO.		5/30/1982	Thunderstorm Wind	52			
PENDLETON CO.		6/22/1974	Thunderstorm Wind				

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County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
PENDLETON CO.		4/13/1970	Thunderstorm Wind				
PENDLETON CO.		4/23/1968	Hail	2.5			
PENDLETON CO.		4/23/1968	Hail	2.75			
PENDLETON CO.		2/10/1959	Thunderstorm Wind				
Data Collected 5/16/2023							
https://www.ncdc.noaa.gov/stormevents/							
Thunder Strom - first record 1957							
High Winds - first record 2000							
Heavy Rain - first record 2013							
Data Collected 11/10/2022							
Hail - first record 1954							

12. HISTORICAL HAIL EVENTS

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.		5/25/1955	Hail	1	0	0	\$0
BOONE CO.		11/15/1955	Hail	1	0	0	\$0
BOONE CO.		4/23/1968	Hail	0.75	0	0	\$0
BOONE CO.		4/3/1974	Hail	1.75	0	0	\$0
BOONE CO.		4/18/1978	Hail	1.75	0	0	\$0
BOONE CO.		4/8/1980	Hail	1	0	0	\$0
BOONE CO.		5/2/1983	Hail	1	0	0	\$0
BOONE CO.		5/2/1983	Hail	1.75	0	0	\$0
BOONE CO.		5/2/1983	Hail	3	0	0	\$0
BOONE CO.		5/7/1986	Hail	0.75	0	0	\$0
BOONE CO.		5/7/1986	Hail	1	0	0	\$0
BOONE CO.		5/7/1986	Hail	0.75	0	0	\$0
BOONE CO.		8/8/1991	Hail	0.75	0	0	\$0
BOONE CO.	Ludlow	6/21/1994	Hail	0	0	0	\$0
BOONE CO.	Burlington	4/8/1995	Hail	0.75	0	0	\$0
BOONE CO.	Burlington	4/8/1995	Hail	0.75	0	0	\$0
BOONE CO.	Maysville	5/10/1995	Hail	0.75	0	0	\$0
BOONE CO.	Florence	6/9/1995	Hail	0.75	0	0	\$0
BOONE CO.	Big Bone	6/22/1995	Hail	0.75	0	0	\$0
BOONE CO.	FLORENCE	5/24/1996	Hail	0.75	0	0	\$0
BOONE CO.	BURLINGTON	4/8/1998	Hail	1	0	0	\$0
BOONE CO.	FLORENCE	8/9/2000	Hail	1.75	0	0	\$0
BOONE CO.	FLORENCE	2/20/2002	Hail	1.5	0	0	\$0
BOONE CO.	FLORENCE	5/2/2003	Hail	0.88	0	0	\$0
BOONE CO.	WALTON	8/7/2003	Hail	1	0	0	\$0
BOONE CO.	FLORENCE	6/14/2005	Hail	1	0	0	\$0
BOONE CO.	PETERSBURG	4/7/2006	Hail	0.75	0	0	\$0
BOONE CO.	BURLINGTON	4/7/2006	Hail	1.75	0	0	\$8,000
BOONE CO.	BURLINGTON	4/7/2006	Hail	1.75	0	0	\$8,000
BOONE CO.	FLORENCE	4/7/2006	Hail	1	0	0	\$0
BOONE CO.	FLORENCE	4/14/2006	Hail	1.75	0	0	\$10,000
BOONE CO.	RICHWOOD	6/3/2008	Hail	0.75	0	0	\$3,000
BOONE CO.	BURLINGTON	6/3/2008	Hail	0.88	0	0	\$3,000
BOONE CO.	UNION	7/22/2008	Hail	0.88	0	0	\$3,000
BOONE CO.	BULLITTSVILLE	8/29/2008	Hail	0.75	0	0	\$1,000
BOONE CO.	BURLINGTON	2/11/2009	Hail	0.75	0	0	\$1,000
BOONE CO.	HEBRON	2/11/2009	Hail	0.75	0	0	\$1,000
BOONE CO.	FLORENCE	5/30/2009	Hail	0.88	0	0	\$3,000
BOONE CO.	FLORENCE	6/2/2009	Hail	0.75	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
BOONE CO.	FLORENCE	6/2/2009	Hail	0.75	0	0	\$0
BOONE CO.	FLORENCE	6/2/2009	Hail	1	0	0	\$0
BOONE CO.	BURLINGTON	6/25/2009	Hail	1	0	0	\$0
BOONE CO.	BURLINGTON	6/25/2009	Hail	1.75	0	0	\$30,000
BOONE CO.	BURLINGTON	3/12/2010	Hail	0.75	0	0	\$0
BOONE CO.	HEBRON	3/12/2010	Hail	0.75	0	0	\$0
BOONE CO.	WALTON	5/21/2010	Hail	0.75	0	0	\$0
BOONE CO.	VERONA	4/19/2011	Hail	0.75	0	0	\$0
BOONE CO.	WALTON	4/19/2011	Hail	1	0	0	\$0
BOONE CO.	HEBRON	5/22/2011	Hail	0.88	0	0	\$0
BOONE CO.	FRANCISVILLE	6/10/2011	Hail	0.88	0	0	\$0
BOONE CO.	FLORENCE	3/15/2012	Hail	0.75	0	0	\$0
BOONE CO.	UNION	3/15/2012	Hail	0.75	0	0	\$0
BOONE CO.	FLORENCE	3/23/2012	Hail	0.75	0	0	\$0
BOONE CO.	HEBRON	4/25/2012	Hail	1	0	0	\$0
BOONE CO.	BURLINGTON	4/25/2012	Hail	0.75	0	0	\$0
BOONE CO.	HEBRON	4/25/2012	Hail	1	0	0	\$0
BOONE CO.	BULLITTSVILLE	5/21/2014	Hail	0.75	0	0	\$0
BOONE CO.	HEBRON	4/9/2015	Hail	1.25	0	0	\$0
BOONE CO.	BURLINGTON	4/9/2015	Hail	0.75	0	0	\$0
BOONE CO.	HEBRON	4/9/2015	Hail	1	0	0	\$0
BOONE CO.	BEAVERLICK	7/17/2015	Hail	1	0	0	\$0
BOONE CO.	WALTON	2/21/2016	Hail	0.75	0	0	\$0
BOONE CO.	(CVG)GTR CIN ARPT	5/1/2016	Hail	1	0	0	\$0
BOONE CO.	BIG BONE	10/19/2016	Hail	0.75	0	0	\$0
BOONE CO.	UNION	10/19/2016	Hail	1	0	0	\$0
BOONE CO.	HEBRON	1/22/2018	Hail	1	0	0	\$0
BOONE CO.	FLORENCE	4/3/2018	Hail	1	0	0	\$0
BOONE CO.	BURLINGTON	3/14/2019	Hail	0.75	0	0	\$0
BOONE CO.	BURLINGTON	3/14/2019	Hail	0.75	0	0	\$0
BOONE CO.	FLORENCE	4/8/2020	Hail	0.75	0	0	\$0
BOONE CO.	BURLINGTON	6/18/2021	Hail	1.75	0	0	\$0
BOONE CO.	PETERSBURG	5/19/2022	Hail	1.75	0	0	\$0
BOONE CO.	HEBRON	5/19/2022	Hail	0.75	0	0	\$0
CAMPBELL CO.		4/12/1962	Hail	0.75	0	0	\$0
CAMPBELL CO.		8/27/1965	Hail	1.75	0	0	\$0
CAMPBELL CO.		4/18/1969	Hail	1.75	0	0	\$0
CAMPBELL CO.	Newport	6/8/1995	Hail	0.88	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	7/2/1997	Hail	1.75	0	0	\$0
CAMPBELL CO.	SOUTHGATE	4/8/1998	Hail	1.75	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	5/24/1998	Hail	0.75	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CAMPBELL CO.	FT THOMAS	5/24/1998	Hail	0.75	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	6/9/1998	Hail	1	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	7/20/1998	Hail	1.75	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	6/2/2000	Hail	0.88	0	0	\$0
CAMPBELL CO.	GRANTS LICK	8/9/2000	Hail	1	0	0	\$0
CAMPBELL CO.	MELBOURNE	4/6/2001	Hail	0.75	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	2/20/2002	Hail	0.75	0	0	\$0
CAMPBELL CO.	CALIFORNIA	5/1/2003	Hail	0.75	0	0	\$2,000
CAMPBELL CO.	NEWPORT	6/30/2005	Hail	0.88	0	0	\$0
CAMPBELL CO.	FT THOMAS	5/25/2006	Hail	1	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	4/11/2007	Hail	0.88	0	0	\$2,000
CAMPBELL CO.	SILVER GROVE	4/11/2007	Hail	0.75	0	0	\$2,000
CAMPBELL CO.	ALEXANDRIA	4/26/2007	Hail	0.75	0	0	\$2,000
CAMPBELL CO.	ALEXANDRIA	11/5/2007	Hail	0.88	0	0	\$1,000
CAMPBELL CO.	NEWPORT	5/30/2009	Hail	0.75	0	0	\$1,000
CAMPBELL CO.	ALEXANDRIA	6/2/2009	Hail	0.88	0	0	\$0
CAMPBELL CO.	CLARYVILLE	9/8/2009	Hail	0.75	0	0	\$0
CAMPBELL CO.	DAYTON	7/17/2010	Hail	1	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	6/10/2011	Hail	2	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	7/20/2011	Hail	1	0	0	\$0
CAMPBELL CO.	CALIFORNIA	7/20/2011	Hail	0.75	0	0	\$0
CAMPBELL CO.	MENTOR	3/15/2012	Hail	0.75	0	0	\$0
CAMPBELL CO.	FT THOMAS	4/25/2012	Hail	1.25	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	4/25/2012	Hail	0.88	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	7/25/2012	Hail	0.75	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	7/26/2012	Hail	0.88	0	0	\$0
CAMPBELL CO.	GRANTS LICK	8/9/2012	Hail	1.75	0	0	\$0
CAMPBELL CO.	GRANTS LICK	8/9/2012	Hail	0.75	0	0	\$0
CAMPBELL CO.	BELLEVUE	5/21/2014	Hail	0.88	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	1	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	1.5	0	0	\$0
CAMPBELL CO.	ALEXANDRIA	8/3/2015	Hail	2.5	0	0	\$0
CAMPBELL CO.	MANTOR	8/3/2015	Hail	1	0	0	\$0
CAMPBELL CO.	DAYTON	9/4/2015	Hail	0.88	0	0	\$0
CAMPBELL CO.	BELLEVUE	4/26/2016	Hail	1	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	4/26/2016	Hail	1.75	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	4/26/2016	Hail	1	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	4/26/2016	Hail	1	0	0	\$0
CAMPBELL CO.	SOUTHGATE	6/23/2016	Hail	0.75	0	0	\$0
CAMPBELL CO.	GRANTS LICK	10/19/2016	Hail	2.5	0	0	\$0
CAMPBELL CO.	CALIFORNIA	10/19/2016	Hail	1.75	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
CAMPBELL CO.	ALEXANDRIA	4/3/2018	Hail	0.75	0	0	\$0
CAMPBELL CO.	NEWPORT	5/22/2018	Hail	0.75	0	0	\$0
CAMPBELL CO.	NEWPORT	9/5/2018	Hail	0.75	0	0	\$0
CAMPBELL CO.	SOUTHGATE	5/23/2019	Hail	0.88	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	5/23/2019	Hail	1	0	0	\$0
CAMPBELL CO.	HIGHLAND HGTS	5/23/2019	Hail	1	0	0	\$0
CAMPBELL CO.	BELLEVUE	4/8/2020	Hail	1	0	0	\$250
CAMPBELL CO.	ALEXANDRIA	4/8/2020	Hail	0.75	0	0	\$0
CAMPBELL CO.	CLARYVILLE	5/10/2020	Hail	0.75	0	0	\$0
CAMPBELL CO.	CLARYVILLE	5/24/2020	Hail	0.75	0	0	\$0
CAMPBELL CO.	SOUTHGATE	7/9/2020	Hail	0.75	0	0	\$0
CARROLL CO.		6/2/1964	Hail	1	0	0	\$0
CARROLL CO.	SANDERS	5/28/1996	Hail	1	0	0	\$0
CARROLL CO.	CARROLLTON	3/28/1997	Hail	1	0	0	\$0
CARROLL CO.	CARROLLTON	3/28/1997	Hail	0.75	0	0	\$0
CARROLL CO.	CARROLLTON	5/23/1998	Hail	0.75	0	0	\$0
CARROLL CO.	CARROLLTON	2/20/2002	Hail	0.75	0	0	\$0
CARROLL CO.	CARROLLTON	4/22/2005	Hail	0.88	0	0	\$0
CARROLL CO.	GHENT	4/7/2006	Hail	0.88	0	0	\$0
CARROLL CO.	CARROLLTON	8/10/2006	Hail	0.88	0	0	\$3,000
CARROLL CO.	WORTHVILLE	6/3/2008	Hail	0.75	0	0	\$1,000
CARROLL CO.	GHENT	6/2/2009	Hail	1	0	0	\$0
CARROLL CO.	CARROLLTON	8/4/2009	Hail	0.75	0	0	\$0
CARROLL CO.	CARROLLTON	3/12/2010	Hail	0.88	0	0	\$0
CARROLL CO.	CARROLLTON	3/2/2012	Hail	1.25	0	0	\$0
CARROLL CO.	WORTHVILLE	3/2/2012	Hail	4.25	0	0	\$0
CARROLL CO.	CARROLLTON	3/2/2012	Hail	1.25	0	0	\$0
CARROLL CO.	CARROLLTON	3/2/2012	Hail	1.75	0	0	\$0
CARROLL CO.	CARROLLTON	5/1/2012	Hail	1	0	0	\$0
CARROLL CO.	SANDERS	5/1/2012	Hail	2.5	0	0	\$0
CARROLL CO.	ENGLISH	7/19/2012	Hail	1	0	0	\$0
CARROLL CO.	PRESTONVILLE	5/21/2014	Hail	1	0	0	\$0
CARROLL CO.	CARROLLTON	5/21/2014	Hail	1.25	0	0	\$0
CARROLL CO.	GHENT	6/25/2015	Hail	0.88	0	0	\$0
CARROLL CO.	CARROLLTON	4/26/2016	Hail	0.88	0	0	\$0
CARROLL CO.	SANDERS	5/23/2019	Hail	1.75	0	0	\$0
CARROLL CO.	GHENT	4/8/2020	Hail	1.75	0	0	\$0
CARROLL CO.	SANDERS	3/25/2021	Hail	1.25	0	0	\$0
GALLATIN CO.		6/2/1964	Hail	1	0	0	\$0
GALLATIN CO.		4/17/1981	Hail	0.75	0	0	\$0
GALLATIN CO.		6/18/1992	Hail	1.5	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GALLATIN CO.	Glencoe	4/15/1993	Hail	0.75	0	0	\$0
GALLATIN CO.	Warsaw	6/28/1995	Hail	0	0	0	\$0
GALLATIN CO.	WARSAW	5/4/1996	Hail	3	0	0	\$5,000
GALLATIN CO.	SPARTA	6/14/1998	Hail	1.25	0	0	\$0
GALLATIN CO.	WARSAW	8/17/2000	Hail	0.75	0	0	\$0
GALLATIN CO.	GLENCOE	11/9/2000	Hail	0.88	0	0	\$0
GALLATIN CO.	WARSAW	4/7/2006	Hail	1	0	0	\$0
GALLATIN CO.	WARSAW	5/17/2006	Hail	0.88	0	0	\$0
GALLATIN CO.	WARSAW	3/2/2012	Hail	2.75	0	0	\$0
GALLATIN CO.	WARSAW	3/15/2012	Hail	1	0	0	\$0
GALLATIN CO.	SPARTA	5/1/2012	Hail	2.75	0	0	\$20,000
GALLATIN CO.	WARSAW	5/1/2012	Hail	2.5	0	0	\$0
GALLATIN CO.	GLENCOE	5/23/2019	Hail	2	0	0	\$0
GRANT CO.		4/23/1968	Hail	2	0	0	\$0
GRANT CO.		7/15/1971	Hail	1	0	0	\$0
GRANT CO.		5/19/1973	Hail	0.75	0	0	\$0
GRANT CO.		4/1/1974	Hail	1.5	0	0	\$0
GRANT CO.		7/13/1975	Hail	0.75	0	0	\$0
GRANT CO.		9/16/1976	Hail	1	0	0	\$0
GRANT CO.		6/9/1982	Hail	1.75	0	0	\$0
GRANT CO.		4/28/1983	Hail	0.75	0	0	\$0
GRANT CO.		6/18/1992	Hail	0.75	0	0	\$0
GRANT CO.		6/18/1992	Hail	1.75	0	0	\$0
GRANT CO.	Jonesville	4/8/1995	Hail	0.75	0	0	\$0
GRANT CO.	DRY RIDGE	5/4/1996	Hail	1	0	0	\$3,000
GRANT CO.	CRITTENDEN	6/14/1998	Hail	0.75	0	0	\$0
GRANT CO.	CRITTENDEN	4/20/2000	Hail	0.75	0	0	\$0
GRANT CO.	DRY RIDGE	5/16/2000	Hail	0.75	0	0	\$0
GRANT CO.	DRY RIDGE	4/10/2001	Hail	0.75	0	0	\$0
GRANT CO.	WILLIAMSTOWN	2/20/2002	Hail	0.75	0	0	\$0
GRANT CO.	CRITTENDEN	11/10/2002	Hail	0.75	0	0	\$0
GRANT CO.	CORINTH	5/5/2003	Hail	1	0	0	\$0
GRANT CO.	WILLIAMSTOWN	5/5/2003	Hail	0.75	0	0	\$0
GRANT CO.	WILLIAMSTOWN	7/30/2004	Hail	0.88	0	0	\$0
GRANT CO.	HEEKIN	6/4/2008	Hail	0.75	0	0	\$1,000
GRANT CO.	DRY RIDGE	4/13/2009	Hail	0.88	0	0	\$3,000
GRANT CO.	DRY RIDGE	6/2/2009	Hail	1	0	0	\$0
GRANT CO.	CRITTENDEN	6/2/2009	Hail	0.75	0	0	\$0
GRANT CO.	DRY RIDGE	5/23/2011	Hail	0.88	0	0	\$0
GRANT CO.	JONESVILLE	3/2/2012	Hail	2	0	0	\$0
GRANT CO.	DRY RIDGE	3/2/2012	Hail	1	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
GRANT CO.	DRY RIDGE	5/1/2012	Hail	1	0	0	\$0
GRANT CO.	CORINTH	7/5/2012	Hail	0.88	0	0	\$0
GRANT CO.	WILLIAMSTOWN	4/8/2015	Hail	1	0	0	\$0
GRANT CO.	WILLIAMSTOWN	4/8/2015	Hail	0.88	0	0	\$0
GRANT CO.	DRY RIDGE	4/8/2015	Hail	1.25	0	0	\$0
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	0.88	0	0	\$0
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	1	0	0	\$0
GRANT CO.	WILLIAMSTOWN	8/3/2015	Hail	1.75	0	0	\$0
GRANT CO.	WILLIAMSTOWN	4/29/2017	Hail	1	0	0	\$0
GRANT CO.	CRITTENDEN	5/19/2017	Hail	1	0	0	\$0
KENTON CO.		5/26/1960	Hail	1.75	0	0	\$0
KENTON CO.		3/19/1963	Hail	1.25	0	0	\$0
KENTON CO.		5/7/1986	Hail	1	0	0	\$0
KENTON CO.		5/7/1986	Hail	0.75	0	0	\$0
KENTON CO.		6/2/1991	Hail	1.75	0	0	\$0
KENTON CO.	MORNING VIEW	6/22/1996	Hail	0.75	0	0	\$0
KENTON CO.	ERLANGER	4/8/1998	Hail	2.75	0	0	\$0
KENTON CO.	INDEPENDENCE	5/13/1998	Hail	0.75	0	0	\$0
KENTON CO.	PINER	6/14/1998	Hail	0.75	0	0	\$0
KENTON CO.	ERLANGER	5/9/2000	Hail	0.75	0	0	\$0
KENTON CO.	COVINGTON	8/9/2000	Hail	0.75	0	0	\$0
KENTON CO.	FT MITCHELL	8/9/2000	Hail	0.88	0	0	\$0
KENTON CO.	ERLANGER	2/20/2002	Hail	1.5	0	0	\$0
KENTON CO.	ERLANGER	5/2/2003	Hail	0.75	0	0	\$0
KENTON CO.	ERLANGER	8/7/2003	Hail	0.75	0	0	\$0
KENTON CO.	ERLANGER	6/14/2005	Hail	1.5	0	0	\$8,000
KENTON CO.	FT MITCHELL	4/7/2006	Hail	1	0	0	\$0
KENTON CO.	ERLANGER	4/14/2006	Hail	1.75	0	0	\$10,000
KENTON CO.	TAYLOR MILL	4/11/2007	Hail	0.75	0	0	\$2,000
KENTON CO.	INDEPENDENCE	7/15/2007	Hail	0.88	0	0	\$1,000
KENTON CO.	ERLANGER	11/5/2007	Hail	0.75	0	0	\$1,000
KENTON CO.	INDEPENDENCE	11/5/2007	Hail	0.75	0	0	\$1,000
KENTON CO.	ERLANGER	6/25/2009	Hail	1.25	0	0	\$0
KENTON CO.	LATONIA	9/8/2009	Hail	1	0	0	\$0
KENTON CO.	INDEPENDENCE	3/12/2010	Hail	0.75	0	0	\$0
KENTON CO.	INDEPENDENCE	5/21/2010	Hail	1	0	0	\$0
KENTON CO.	INDEPENDENCE	5/21/2010	Hail	0.75	0	0	\$0
KENTON CO.	TAYLOR MILL	10/26/2010	Hail	1	0	0	\$0
KENTON CO.	INDEPENDENCE	4/19/2011	Hail	1	0	0	\$0
KENTON CO.	KENTON	5/25/2011	Hail	0.88	0	0	\$0
KENTON CO.	COVINGTON	3/23/2012	Hail	0.88	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
KENTON CO.	FT MITCHELL	4/25/2012	Hail	0.88	0	0	\$0
KENTON CO.	CRESCENT SPGS	4/25/2012	Hail	0.88	0	0	\$0
KENTON CO.	COVINGTON	4/25/2012	Hail	1	0	0	\$0
KENTON CO.	COVINGTON	4/25/2012	Hail	0.88	0	0	\$0
KENTON CO.	INDEPENDENCE	7/26/2012	Hail	0.75	0	0	\$0
KENTON CO.	INDEPENDENCE	8/9/2012	Hail	1	0	0	\$0
KENTON CO.	INDEPENDENCE	8/9/2012	Hail	0.88	0	0	\$0
KENTON CO.	ERLANGER	4/16/2013	Hail	0.88	0	0	\$0
KENTON CO.	ATWOOD	4/8/2015	Hail	1	0	0	\$0
KENTON CO.	WHITE VILLA	6/30/2015	Hail	0.88	0	0	\$0
KENTON CO.	MAURICE	8/3/2015	Hail	1	0	0	\$0
KENTON CO.	MAURICE	8/3/2015	Hail	1.75	0	0	\$0
KENTON CO.	INDEPENDENCE	10/19/2016	Hail	1	0	0	\$25,000
KENTON CO.	INDEPENDENCE	10/19/2016	Hail	1.75	0	0	\$0
KENTON CO.	ERLANGER	4/3/2018	Hail	1	0	0	\$0
KENTON CO.	COVINGTON	5/22/2018	Hail	0.88	0	0	\$0
KENTON CO.	ERLANGER	3/14/2019	Hail	1	0	0	\$0
KENTON CO.	PARK HILLS	5/17/2019	Hail	0.75	0	0	\$0
OWEN CO.		4/23/1968	Hail	2.5	0	0	\$0
OWEN CO.		3/6/1992	Hail	0.75	0	0	\$0
OWEN CO.	Owenton	4/8/1995	Hail	0.75	0	0	\$0
OWEN CO.	GRATZ	7/2/1996	Hail	1	0	0	\$0
OWEN CO.	GRATZ	8/27/1996	Hail	0.75	0	0	\$0
OWEN CO.	PERRY PARK	6/14/1998	Hail	1	0	0	\$0
OWEN CO.	NEW LIBERTY	6/9/1999	Hail	0.75	0	0	\$1,000
OWEN CO.	OWENTON	8/9/2000	Hail	0.75	0	0	\$0
OWEN CO.	NEW LIBERTY	8/17/2000	Hail	0.75	0	0	\$0
OWEN CO.	NEW COLUMBUS	6/5/2001	Hail	0.75	0	0	\$0
OWEN CO.	OWENTON	2/20/2002	Hail	0.75	0	0	\$0
OWEN CO.	NEW LIBERTY	11/10/2002	Hail	0.75	0	0	\$0
OWEN CO.	HESLER	5/5/2003	Hail	1.75	0	0	\$10,000
OWEN CO.	MONTEREY	5/9/2003	Hail	0.75	0	0	\$0
OWEN CO.	LONG RIDGE	5/17/2004	Hail	0.88	0	0	\$0
OWEN CO.	OWENTON	11/6/2005	Hail	0.88	0	0	\$0
OWEN CO.	NEW LIBERTY	4/11/2007	Hail	0.88	0	0	\$3,000
OWEN CO.	MONTEREY	7/17/2007	Hail	0.75	0	0	\$1,000
OWEN CO.	BEECHWOOD	6/25/2009	Hail	0.75	0	0	\$0
OWEN CO.	OWENTON	3/12/2010	Hail	0.75	0	0	\$0
OWEN CO.	OWENTON	4/5/2010	Hail	0.75	0	0	\$0
OWEN CO.	GRATZ	7/12/2011	Hail	0.88	0	0	\$0
OWEN CO.	NEW LIBERTY	3/2/2012	Hail	2.75	0	0	\$0

County	Community	Date	Event Type	Magnitude	Deaths	Injuries	Property Damage
OWEN CO.	BROMLEY	3/2/2012	Hail	2.5	0	0	\$0
OWEN CO.	OWENTON	4/16/2013	Hail	1	0	0	\$0
OWEN CO.	OWENTON	4/8/2015	Hail	0.75	0	0	\$0
OWEN CO.	OWENTON	6/18/2015	Hail	0.88	0	0	\$0
OWEN CO.	OWENTON	6/30/2015	Hail	1	0	0	\$0
OWEN CO.	LONG RIDGE	4/8/2020	Hail	1.25	0	0	\$0
PENDLETON CO.		4/23/1968	Hail	2.75	0	0	\$0
PENDLETON CO.		4/23/1968	Hail	2.5	0	0	\$0
PENDLETON CO.		6/9/1982	Hail	1.75	0	0	\$0
PENDLETON CO.		11/22/1992	Hail	0.75	0	0	\$0
PENDLETON CO.	Falmouth	3/23/1995	Hail	0.88	0	0	\$0
PENDLETON CO.	Falmouth	6/10/1995	Hail	0.75	0	0	\$0
PENDLETON CO.	FALMOUTH	5/4/1996	Hail	1	0	0	\$3,000
PENDLETON CO.	FALMOUTH	6/6/1996	Hail	0.75	0	0	\$0
PENDLETON CO.	LOCUST GROVE	5/16/2000	Hail	0.75	0	0	\$0
PENDLETON CO.	CARNTOWN	7/10/2000	Hail	1	0	0	\$0
PENDLETON CO.	PEACH GROVE	7/14/2000	Hail	1.75	0	0	\$0
PENDLETON CO.	FALMOUTH	10/24/2001	Hail	0.75	0	0	\$0
PENDLETON CO.	BUTLER	5/2/2003	Hail	0.75	0	0	\$0
PENDLETON CO.	FALMOUTH	5/5/2003	Hail	0.75	0	0	\$0
PENDLETON CO.	FALMOUTH	5/5/2003	Hail	1	0	0	\$0
PENDLETON CO.	FALMOUTH	4/11/2007	Hail	0.75	0	0	\$2,000
PENDLETON CO.	PLEASANT HILL	4/13/2009	Hail	0.75	0	0	\$1,000
PENDLETON CO.	DE MOSSVILLE	6/25/2009	Hail	0.88	0	0	\$4,000
PENDLETON CO.	FALMOUTH	6/15/2010	Hail	0.75	0	0	\$0
PENDLETON CO.	FALMOUTH	5/10/2011	Hail	0.75	0	0	\$0
PENDLETON CO.	BUTLER	11/14/2011	Hail	0.75	0	0	\$0
PENDLETON CO.	FALMOUTH	3/15/2012	Hail	1	0	0	\$0
PENDLETON CO.	PEACH GROVE	3/15/2012	Hail	1	0	0	\$0
PENDLETON CO.	CONCORD	7/8/2012	Hail	0.88	0	0	\$0
PENDLETON CO.	FALMOUTH	7/27/2012	Hail	0.75	0	0	\$0
PENDLETON CO.	MENZIE	4/8/2015	Hail	1	0	0	\$0

Data Collected 11/10/2022

<https://www.ncdc.noaa.gov/stormevents/>

Hail - first record 1955

13. HISTORICAL TORNADO EVENTS

County	Community	Date	Event Type	F Scale	Deaths	Injuries	Property Damage
BOONE CO.	IDLEWILD	6/18/2021	Tornado	EF1			\$50,000
BOONE CO.	IDLEWILD	6/18/2021	Tornado	EF1			\$50,000
BOONE CO.		11/22/1992	Tornado	F4			\$2,500
BOONE CO.		6/18/1992	Tornado	F0			\$250
BOONE CO.		4/9/1991	Tornado	F1			\$250,000
BOONE CO.		6/2/1990	Tornado	F1			\$250,000
BOONE CO.		7/26/1984	Tornado	F0			\$25,000
BOONE CO.		4/8/1980	Tornado	F2		4	\$25,000
BOONE CO.		4/2/1977	Tornado	F1			\$250,000
BOONE CO.		6/24/1976	Tornado	F1		1	\$2,500
BOONE CO.		4/3/1974	Tornado	F5		20	\$2,500,000
BOONE CO.		9/29/1973	Tornado	F2			\$250,000
BOONE CO.		2/15/1967	Tornado	F1			\$25,000
BOONE CO.		2/15/1967	Tornado	F1			\$25,000
BOONE CO.		3/19/1963	Tornado	F1		4	\$25,000
BOONE CO.		7/13/1956	Tornado	F2		12	\$2,500,000
CAMPBELL CO.	GRANTS LICK	3/2/2012	Tornado	EF3			\$1,000,000
CAMPBELL CO.		11/25/1973	Tornado	F1		2	\$25,000
CAMPBELL CO.		7/11/1958	Tornado	F2		8	\$250,000
CARROLL CO.	LOCUST	3/2/2012	Tornado	EF1			\$1,277,000
CARROLL CO.		11/22/1992	Tornado	F4	1	9	\$2,500,000
CARROLL CO.		8/8/1991	Tornado	F0			\$2,500
CARROLL CO.		7/20/1988	Tornado	F0			\$25,000
CARROLL CO.		9/26/1976	Tornado	F1			\$25,000
CARROLL CO.		3/4/1967	Tornado				
CARROLL CO.		2/10/1959	Tornado	F3		6	\$2,500,000
CARROLL CO.		5/22/1957	Tornado	F2			\$25,000
GALLATIN CO.	WARSAW	4/8/2020	Tornado	EF0			\$30,000
GALLATIN CO.	WARSAW	4/8/2020	Tornado	EF0			\$30,000
GALLATIN CO.	ETHRIDGE	7/7/2014	Tornado	EF0			\$150,000
GALLATIN CO.	WARSAW	5/8/1996	Tornado	F1		7	\$10,000
GRANT CO.	DRY RIDGE	1/12/2023	Tornado	EF0			\$150,000
GRANT CO.	DRY RIDGE	4/8/2020	Tornado	EF0			\$10,000
GRANT CO.	DRY RIDGE	4/8/2020	Tornado	EF0			\$10,000
GRANT CO.	JERICHO	4/8/2020	Tornado	EF1			\$35,000
GRANT CO.	JERICHO	4/8/2020	Tornado	EF1			\$35,000
GRANT CO.	CRITTENDEN	3/2/2012	Tornado	EF3			\$500,000
GRANT CO.	FOLSOM	4/23/2011	Tornado	EF0			\$25,000

2/14/2024

County	Community	Date	Event Type	F Scale	Deaths	Injuries	Property Damage
GRANT CO.	NORTHCUTT	4/23/2011	Tornado	EF1			\$30,000
GRANT CO.		9/26/1976	Tornado	F1	1		\$250,000
KENTON CO.	BRACHT	4/8/2020	Tornado	EF0			\$20,000
KENTON CO.	BRACHT	4/8/2020	Tornado	EF0			\$20,000
KENTON CO.	BRACHT	3/2/2012	Tornado	EF4	4	8	\$20,000,000
KENTON CO.	RYLAND	4/23/2011	Tornado	EF1			\$15,000
KENTON CO.		4/9/1991	Tornado	F1			\$250,000
KENTON CO.		7/26/1984	Tornado	F0			\$25,000
KENTON CO.		5/2/1983	Tornado	F1			\$25,000
KENTON CO.		11/19/1981	Tornado	F1		2	\$2,500,000
KENTON CO.		4/2/1977	Tornado	F1			\$250,000
KENTON CO.		7/9/1965	Tornado	F1			\$250
OWEN CO.	NATLEE	10/7/2014	Tornado	EF1			\$45,000
OWEN CO.	NEW LIBERTY	3/2/2012	Tornado	EF2		3	\$320,000
OWEN CO.		11/22/1992	Tornado	F1			\$25,000
OWEN CO.		4/3/1974	Tornado	F1			\$2,500
PENDLETON CO.	LOCUST GROVE	4/8/2020	Tornado	EF1			\$35,000
PENDLETON CO.	LOCUST GROVE	4/8/2020	Tornado	EF1			\$35,000
PENDLETON CO.	GREENWOOD	12/23/2015	Tornado	EF1		3	\$120,000
PENDLETON CO.	PEACH GROVE	3/2/2012	Tornado	EF3			\$2,000,000
PENDLETON CO.	KNOXVILLE	4/23/2011	Tornado	EF1			\$5,000
PENDLETON CO.	PEACH GROVE	6/4/2008	Tornado	EF0			\$60,000
PENDLETON CO.	BUTLER	5/8/1996	Tornado	F2		2	\$75,000
PENDLETON CO.		11/15/1989	Tornado	F1		2	\$25,000
PENDLETON CO.		4/23/1968	Tornado	F4	4	350	\$25,000,000
PENDLETON CO.		7/19/1956	Tornado	F2			\$250,000

Data Collected 5/16/2023

<https://www.ncdc.noaa.gov/stormevents/>

Tornado - first record 1956

14. HISTORICAL SEVERE WINTER STORMS/WINTER WEATHER/COLD WAVE/ICE STORM EVENTS

County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	1/22/2023	Winter Storm				
BOONE CO.	12/22/2022	Winter Storm				
BOONE CO.	12/22/2022	Extreme Cold/Wind Chill				
BOONE CO.	3/11/2022	Winter Weather				
BOONE CO.	3/11/2022	Winter Weather				
BOONE CO.	2/3/2022	Winter Storm				
BOONE CO.	1/28/2022	Winter Weather				
BOONE CO.	1/28/2022	Winter Weather				
BOONE CO.	1/16/2022	Winter Weather				
BOONE CO.	1/6/2022	Winter Weather				
BOONE CO.	4/20/2021	Winter Weather				
BOONE CO.	2/17/2021	Winter Weather				
BOONE CO.	2/15/2021	Winter Storm				
BOONE CO.	2/10/2021	Winter Weather				
BOONE CO.	2/10/2021	Winter Weather				
BOONE CO.	2/8/2021	Winter Storm				
BOONE CO.	1/30/2021	Winter Weather				
BOONE CO.	1/27/2021	Winter Weather				
BOONE CO.	1/1/2021	Winter Weather				
BOONE CO.	12/24/2020	Winter Weather				
BOONE CO.	12/16/2020	Winter Weather				
BOONE CO.	12/1/2020	Winter Weather				
BOONE CO.	11/30/2020	Winter Weather				
BOONE CO.	2/8/2020	Winter Weather				
BOONE CO.	2/8/2020	Winter Weather				
BOONE CO.	2/6/2020	Winter Weather				
BOONE CO.	11/11/2019	Winter Weather				
BOONE CO.	3/7/2019	Winter Weather				
BOONE CO.	3/3/2019	Winter Weather				
BOONE CO.	2/20/2019	Winter Weather				
BOONE CO.	2/10/2019	Winter Weather				
BOONE CO.	2/1/2019	Winter Weather				
BOONE CO.	1/30/2019	Extreme Cold/Wind Chill	2			
BOONE CO.	1/19/2019	Winter Storm				
BOONE CO.	1/12/2019	Winter Storm				
BOONE CO.	11/14/2018	Ice Storm				
BOONE CO.	4/6/2018	Winter Weather				
BOONE CO.	4/1/2018	Winter Weather				
BOONE CO.	3/24/2018	Winter Storm				
BOONE CO.	3/20/2018	Winter Storm				
BOONE CO.	2/17/2018	Winter Weather				
BOONE CO.	2/6/2018	Winter Storm				
BOONE CO.	1/15/2018	Winter Weather				
BOONE CO.	1/12/2018	Winter Weather				
BOONE CO.	12/29/2017	Winter Weather				
BOONE CO.	12/24/2017	Winter Weather				
BOONE CO.	12/9/2017	Winter Weather				
BOONE CO.	3/13/2017	Winter Weather				
BOONE CO.	3/4/2017	Winter Weather				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	2/8/2017	Winter Weather				
BOONE CO.	1/5/2017	Winter Weather				
BOONE CO.	12/16/2016	Winter Weather				
BOONE CO.	3/3/2016	Winter Weather				
BOONE CO.	2/14/2016	Winter Weather				
BOONE CO.	2/8/2016	Winter Weather				
BOONE CO.	1/22/2016	Winter Weather				
BOONE CO.	1/20/2016	Winter Weather				
BOONE CO.	1/12/2016	Winter Weather				
BOONE CO.	1/10/2016	Winter Weather				
BOONE CO.	3/4/2015	Winter Storm				
BOONE CO.	3/1/2015	Winter Weather				
BOONE CO.	2/21/2015	Winter Storm				
BOONE CO.	2/20/2015	Winter Weather				
BOONE CO.	2/15/2015	Winter Storm				
BOONE CO.	2/14/2015	Winter Weather				
BOONE CO.	2/4/2015	Winter Weather				
BOONE CO.	1/25/2015	Winter Weather				
BOONE CO.	11/22/2014	Winter Weather				
BOONE CO.	11/16/2014	Winter Storm				
BOONE CO.	3/2/2014	Winter Storm				
BOONE CO.	2/14/2014	Winter Storm				
BOONE CO.	2/4/2014	Winter Storm				
BOONE CO.	2/2/2014	Winter Weather				
BOONE CO.	1/20/2014	Winter Storm				
BOONE CO.	1/18/2014	Winter Weather				
BOONE CO.	1/17/2014	Winter Weather				
BOONE CO.	1/2/2014	Winter Storm				
BOONE CO.	12/16/2013	Winter Weather				
BOONE CO.	12/10/2013	Winter Weather				
BOONE CO.	12/6/2013	Winter Storm				
BOONE CO.	11/26/2013	Winter Weather				
BOONE CO.	3/5/2013	Winter Storm				
BOONE CO.	2/21/2013	Winter Weather				
BOONE CO.	1/31/2013	Winter Weather				
BOONE CO.	12/28/2012	Winter Storm				
BOONE CO.	3/4/2012	Winter Weather				
BOONE CO.	2/14/2012	Winter Weather				
BOONE CO.	2/10/2012	Winter Weather				
BOONE CO.	2/10/2012	Winter Weather				
BOONE CO.	2/8/2012	Winter Weather				
BOONE CO.	1/20/2012	Winter Storm				
BOONE CO.	1/2/2012	Winter Weather				
BOONE CO.	2/1/2011	Winter Weather				
BOONE CO.	1/20/2011	Heavy Snow				
BOONE CO.	1/11/2011	Winter Weather				
BOONE CO.	12/16/2010	Winter Storm				
BOONE CO.	12/12/2010	Winter Weather				
BOONE CO.	2/15/2010	Heavy Snow				
BOONE CO.	2/9/2010	Heavy Snow				
BOONE CO.	2/5/2010	Heavy Snow				
BOONE CO.	1/7/2010	Winter Weather				
BOONE CO.	1/27/2009	Ice Storm				
BOONE CO.	3/7/2008	Winter Storm				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
BOONE CO.	2/21/2008	Winter Storm				
BOONE CO.	1/1/2008	Winter Weather				\$465,000
BOONE CO.	4/6/2007	Frost/Freeze				\$465,000
BOONE CO.	2/13/2007	Ice Storm				
BOONE CO.	2/6/2007	Heavy Snow				
BOONE CO.	1/21/2007	Winter Storm				
BOONE CO.	3/21/2006	Winter Storm				
BOONE CO.	12/8/2005	Winter Storm				
BOONE CO.	1/20/2005	Winter Storm				
BOONE CO.	12/22/2004	Winter Storm				
BOONE CO.	1/25/2004	Winter Storm				
BOONE CO.	12/11/2002	Winter Storm				
BOONE CO.	12/5/2002	Winter Storm				
BOONE CO.	12/13/2000	Ice Storm				
BOONE CO.	3/13/1999	Heavy Snow				
BOONE CO.	3/8/1999	Winter Storm				
BOONE CO.	1/2/1999	Winter Storm				
BOONE CO.	2/3/1998	Winter Storm				
BOONE CO.	1/27/1997	Ice Storm				
BOONE CO.	1/24/1997	Ice Storm				
BOONE CO.	3/19/1996	Winter Storm				
BOONE CO.	3/7/1996	Ice Storm				
BOONE CO.	2/1/1996	Cold/Wind Chill			\$20,000	
BOONE CO..	1/6/1996	Winter Storm			\$200,000	
CAMPBELL CO.	1/22/2023	Winter Weather				
CAMPBELL CO.	12/22/2022	Winter Storm				
CAMPBELL CO.	12/22/2022	Extreme Cold/Wind Chill				
CAMPBELL CO.	3/11/2022	Winter Weather				
CAMPBELL CO.	3/11/2022	Winter Weather				
CAMPBELL CO.	2/3/2022	Winter Storm				
CAMPBELL CO.	1/28/2022	Winter Weather				
CAMPBELL CO.	1/28/2022	Winter Weather				
CAMPBELL CO.	1/16/2022	Winter Weather				
CAMPBELL CO.	1/6/2022	Winter Weather				
CAMPBELL CO.	4/20/2021	Winter Weather				
CAMPBELL CO.	2/17/2021	Winter Weather				
CAMPBELL CO.	2/15/2021	Winter Storm				
CAMPBELL CO.	2/10/2021	Winter Weather				
CAMPBELL CO.	2/10/2021	Winter Weather				
CAMPBELL CO.	2/8/2021	Winter Storm				
CAMPBELL CO.	1/30/2021	Winter Weather				
CAMPBELL CO.	1/27/2021	Winter Weather				
CAMPBELL CO.	12/1/2020	Winter Weather				
CAMPBELL CO.	11/30/2020	Winter Weather				
CAMPBELL CO.	2/6/2020	Winter Weather				
CAMPBELL CO.	11/11/2019	Winter Weather				
CAMPBELL CO.	2/1/2019	Winter Weather				
CAMPBELL CO.	1/19/2019	Winter Storm				
CAMPBELL CO.	1/12/2019	Winter Weather				
CAMPBELL CO.	11/14/2018	Ice Storm				
CAMPBELL CO.	4/6/2018	Winter Weather				
CAMPBELL CO.	3/24/2018	Winter Storm				
CAMPBELL CO.	3/20/2018	Winter Storm				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
CAMPBELL CO.	2/17/2018	Winter Weather				
CAMPBELL CO.	2/6/2018	Winter Storm				
CAMPBELL CO.	12/29/2017	Winter Weather				
CAMPBELL CO.	2/8/2017	Winter Weather				
CAMPBELL CO.	1/5/2017	Winter Weather				
CAMPBELL CO.	3/3/2016	Winter Weather				
CAMPBELL CO.	2/14/2016	Winter Storm				
CAMPBELL CO.	2/8/2016	Winter Weather				
CAMPBELL CO.	3/4/2015	Winter Storm				
CAMPBELL CO.	2/21/2015	Winter Storm				
CAMPBELL CO.	2/15/2015	Winter Storm				
CAMPBELL CO.	2/14/2015	Winter Weather				
CAMPBELL CO.	1/25/2015	Winter Weather				
CAMPBELL CO.	11/22/2014	Winter Weather				
CAMPBELL CO.	11/16/2014	Winter Storm				
CAMPBELL CO.	3/2/2014	Winter Storm				
CAMPBELL CO.	2/14/2014	Winter Storm				
CAMPBELL CO.	2/4/2014	Winter Storm				
CAMPBELL CO.	1/20/2014	Winter Storm				
CAMPBELL CO.	12/6/2013	Winter Storm				
CAMPBELL CO.	3/5/2013	Winter Storm				
CAMPBELL CO.	12/28/2012	Winter Storm				
CAMPBELL CO.	1/20/2012	Winter Storm				
CAMPBELL CO.	1/2/2012	Winter Weather				
CAMPBELL CO.	2/1/2011	Winter Weather				
CAMPBELL CO.	1/20/2011	Heavy Snow				
CAMPBELL CO.	12/16/2010	Winter Storm				
CAMPBELL CO.	2/15/2010	Heavy Snow				
CAMPBELL CO.	2/9/2010	Heavy Snow				
CAMPBELL CO.	1/7/2010	Winter Weather				
CAMPBELL CO.	2/3/2009	Heavy Snow				
CAMPBELL CO.	1/27/2009	Ice Storm				
CAMPBELL CO.	3/7/2008	Winter Storm				
CAMPBELL CO.	2/21/2008	Winter Storm				
CAMPBELL CO.	4/6/2007	Frost/Freeze				\$465,000
CAMPBELL CO.	2/13/2007	Ice Storm				
CAMPBELL CO.	2/6/2007	Heavy Snow				
CAMPBELL CO.	3/21/2006	Winter Storm				
CAMPBELL CO.	12/8/2005	Winter Storm				
CAMPBELL CO.	1/20/2005	Winter Storm				
CAMPBELL CO.	12/22/2004	Winter Storm				
CAMPBELL CO.	1/29/2004	Winter Storm				
CAMPBELL CO.	1/25/2004	Winter Storm				
CAMPBELL CO.	12/11/2002	Winter Storm				
CAMPBELL CO.	12/5/2002	Winter Storm				
CAMPBELL CO.	12/13/2000	Ice Storm				
CAMPBELL CO.	3/13/1999	Heavy Snow				
CAMPBELL CO.	3/8/1999	Winter Storm				
CAMPBELL CO.	1/2/1999	Winter Storm				
CAMPBELL CO.	2/3/1998	Winter Storm				
CAMPBELL CO.	1/27/1997	Ice Storm				
CAMPBELL CO.	1/24/1997	Ice Storm				
CAMPBELL CO.	3/19/1996	Winter Storm				
CAMPBELL CO.	3/7/1996	Ice Storm				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
CAMPBELL CO.	2/1/1996	Cold/Wind Chill			\$20,000	
CAMPBELL CO.	1/6/1996	Winter Storm			\$200,000	
CARROLL CO.	12/22/2022	Winter Storm				
CARROLL CO.	12/22/2022	Extreme Cold/Wind Chill				
CARROLL CO.	2/10/2021	Winter Weather				
CARROLL CO.	2/10/2021	Winter Weather				
CARROLL CO.	2/8/2021	Winter Weather				
CARROLL CO.	11/14/2018	Ice Storm				
CARROLL CO.	3/24/2018	Winter Weather				
CARROLL CO.	3/20/2018	Winter Storm				
CARROLL CO.	2/6/2018	Winter Storm				
CARROLL CO.	3/4/2015	Winter Storm				
CARROLL CO.	2/21/2015	Winter Storm				
CARROLL CO.	2/15/2015	Winter Storm				
CARROLL CO.	2/14/2015	Winter Weather				
CARROLL CO.	11/22/2014	Winter Weather				
CARROLL CO.	11/16/2014	Winter Storm				
CARROLL CO.	3/2/2014	Winter Storm				
CARROLL CO.	2/14/2014	Winter Storm				
CARROLL CO.	2/4/2014	Winter Storm				
CARROLL CO.	1/20/2014	Winter Storm				
CARROLL CO.	12/6/2013	Winter Storm				
CARROLL CO.	3/5/2013	Winter Weather				
CARROLL CO.	1/20/2012	Winter Weather				
CARROLL CO.	1/2/2012	Winter Weather				
CARROLL CO.	1/20/2011	Heavy Snow				
CARROLL CO.	1/11/2011	Winter Weather				
CARROLL CO.	12/16/2010	Winter Storm				
CARROLL CO.	2/15/2010	Heavy Snow				
CARROLL CO.	2/9/2010	Heavy Snow				
CARROLL CO.	1/27/2009	Ice Storm				
CARROLL CO.	3/7/2008	Winter Storm				
CARROLL CO.	2/21/2008	Winter Storm				
CARROLL CO.	4/6/2007	Frost/Freeze				\$465,000
CARROLL CO.	2/6/2007	Heavy Snow				
CARROLL CO.	3/21/2006	Winter Storm				
CARROLL CO.	12/8/2005	Winter Storm				
CARROLL CO.	12/22/2004	Winter Storm				
CARROLL CO.	1/25/2004	Winter Storm				
CARROLL CO.	12/5/2002	Winter Storm				
CARROLL CO.	12/13/2000	Ice Storm				
CARROLL CO.	3/13/1999	Heavy Snow				
CARROLL CO.	2/3/1998	Winter Storm				
CARROLL CO.	3/19/1996	Winter Storm				
CARROLL CO.	3/7/1996	Ice Storm				
CARROLL CO.	2/1/1996	Cold/Wind Chill			\$20,000	
CARROLL CO.	1/6/1996	Winter Storm			\$200,000	
GALLATIN CO.	12/22/2022	Winter Storm				
GALLATIN CO.	12/22/2022	Extreme Cold/Wind Chill				
GALLATIN CO.	3/11/2022	Winter Weather				
GALLATIN CO.	3/11/2022	Winter Weather				
GALLATIN CO.	2/3/2022	Winter Weather				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
GALLATIN CO.	1/16/2022	Winter Weather				
GALLATIN CO.	4/20/2021	Winter Weather				
GALLATIN CO.	2/10/2021	Winter Weather				
GALLATIN CO.	2/10/2021	Winter Weather				
GALLATIN CO.	2/8/2021	Winter Weather				
GALLATIN CO.	2/6/2020	Winter Weather				
GALLATIN CO.	3/7/2019	Winter Weather				
GALLATIN CO.	2/1/2019	Winter Weather				
GALLATIN CO.	1/19/2019	Winter Weather				
GALLATIN CO.	11/14/2018	Ice Storm				
GALLATIN CO.	4/6/2018	Winter Weather				
GALLATIN CO.	3/24/2018	Winter Storm				
GALLATIN CO.	3/20/2018	Winter Storm				
GALLATIN CO.	2/17/2018	Winter Weather				
GALLATIN CO.	2/11/2018	Winter Weather				
GALLATIN CO.	2/6/2018	Winter Storm				
GALLATIN CO.	1/15/2018	Winter Weather				
GALLATIN CO.	1/12/2018	Winter Weather				
GALLATIN CO.	12/24/2017	Winter Weather				
GALLATIN CO.	12/9/2017	Winter Weather				
GALLATIN CO.	2/8/2017	Winter Weather				
GALLATIN CO.	1/5/2017	Winter Weather				
GALLATIN CO.	2/14/2016	Winter Weather				
GALLATIN CO.	2/8/2016	Winter Weather				
GALLATIN CO.	3/4/2015	Winter Storm				
GALLATIN CO.	3/1/2015	Winter Weather				
GALLATIN CO.	2/21/2015	Winter Storm				
GALLATIN CO.	2/20/2015	Winter Weather				
GALLATIN CO.	2/15/2015	Winter Storm				
GALLATIN CO.	2/14/2015	Winter Weather				
GALLATIN CO.	2/4/2015	Winter Weather				
GALLATIN CO.	11/22/2014	Winter Weather				
GALLATIN CO.	11/16/2014	Winter Storm				
GALLATIN CO.	3/2/2014	Winter Storm				
GALLATIN CO.	2/14/2014	Winter Storm				
GALLATIN CO.	2/4/2014	Winter Storm				
GALLATIN CO.	2/2/2014	Winter Weather				
GALLATIN CO.	1/20/2014	Winter Storm				
GALLATIN CO.	12/16/2013	Winter Weather				
GALLATIN CO.	12/10/2013	Winter Weather				
GALLATIN CO.	12/6/2013	Winter Storm				
GALLATIN CO.	3/17/2013	Winter Weather				
GALLATIN CO.	3/5/2013	Winter Weather				
GALLATIN CO.	2/21/2013	Winter Weather				
GALLATIN CO.	1/31/2013	Winter Weather				
GALLATIN CO.	12/28/2012	Winter Weather				
GALLATIN CO.	3/4/2012	Winter Weather				
GALLATIN CO.	2/14/2012	Winter Weather				
GALLATIN CO.	2/10/2012	Winter Weather				
GALLATIN CO.	1/20/2012	Winter Weather				
GALLATIN CO.	1/2/2012	Winter Weather				
GALLATIN CO.	2/1/2011	Winter Weather				
GALLATIN CO.	1/20/2011	Heavy Snow				
GALLATIN CO.	1/11/2011	Winter Weather				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
GALLATIN CO.	12/16/2010	Winter Storm				
GALLATIN CO.	12/12/2010	Winter Weather				
GALLATIN CO.	2/15/2010	Heavy Snow				
GALLATIN CO.	2/9/2010	Heavy Snow				
GALLATIN CO.	2/5/2010	Heavy Snow				
GALLATIN CO.	1/7/2010	Heavy Snow				
GALLATIN CO.	12/19/2009	Winter Weather				
GALLATIN CO.	1/27/2009	Ice Storm				
GALLATIN CO.	3/7/2008	Winter Storm				
GALLATIN CO.	2/21/2008	Winter Storm				
GALLATIN CO.	4/6/2007	Frost/Freeze				\$465,000
GALLATIN CO.	2/6/2007	Heavy Snow				
GALLATIN CO.	3/21/2006	Winter Storm				
GALLATIN CO.	12/8/2005	Winter Storm				
GALLATIN CO.	12/22/2004	Winter Storm				
GALLATIN CO.	1/25/2004	Winter Storm				
GALLATIN CO.	12/5/2002	Winter Storm				
GALLATIN CO.	12/13/2000	Ice Storm				
GALLATIN CO.	3/13/1999	Heavy Snow				
GALLATIN CO.	2/3/1998	Winter Storm				
GALLATIN CO.	1/24/1997	Ice Storm				
GALLATIN CO.	3/19/1996	Winter Storm				
GALLATIN CO.	3/7/1996	Ice Storm				
GALLATIN CO.	2/1/1996	Cold/Wind Chill			\$20,000	
GALLATIN CO.	1/6/1996	Winter Storm			\$200,000	
GRANT CO.	12/22/2022	Winter Storm				
GRANT CO.	12/22/2022	Extreme Cold/Wind Chill				
GRANT CO.	2/3/2022	Ice Storm				
GRANT CO.	1/28/2022	Winter Weather				
GRANT CO.	1/16/2022	Winter Weather				
GRANT CO.	1/6/2022	Winter Weather				
GRANT CO.	2/15/2021	Winter Storm				
GRANT CO.	2/10/2021	Winter Storm				
GRANT CO.	2/8/2021	Winter Weather				
GRANT CO.	1/30/2021	Winter Weather				
GRANT CO.	1/27/2021	Winter Weather				
GRANT CO.	12/15/2019	Winter Weather				
GRANT CO.	3/7/2019	Winter Weather				
GRANT CO.	1/19/2019	Winter Weather				
GRANT CO.	11/14/2018	Ice Storm				
GRANT CO.	3/24/2018	Winter Storm				
GRANT CO.	3/20/2018	Winter Weather				
GRANT CO.	2/17/2018	Winter Weather				
GRANT CO.	2/6/2018	Winter Storm				
GRANT CO.	1/15/2018	Winter Weather				
GRANT CO.	3/3/2016	Winter Weather				
GRANT CO.	1/22/2016	Winter Storm				
GRANT CO.	1/20/2016	Winter Weather				
GRANT CO.	3/4/2015	Winter Storm				
GRANT CO.	2/21/2015	Winter Storm				
GRANT CO.	2/20/2015	Winter Weather				
GRANT CO.	2/15/2015	Winter Storm				
GRANT CO.	2/14/2015	Winter Weather				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
GRANT CO.	1/23/2015	Winter Weather				
GRANT CO.	11/22/2014	Winter Weather				
GRANT CO.	11/16/2014	Winter Storm				
GRANT CO.	3/16/2014	Winter Weather				
GRANT CO.	3/2/2014	Winter Storm				
GRANT CO.	2/14/2014	Winter Storm				
GRANT CO.	2/4/2014	Winter Storm				
GRANT CO.	2/2/2014	Winter Storm				
GRANT CO.	1/20/2014	Winter Storm				
GRANT CO.	12/6/2013	Winter Storm				
GRANT CO.	3/17/2013	Winter Storm				
GRANT CO.	3/5/2013	Winter Weather				
GRANT CO.	2/21/2013	Winter Weather				
GRANT CO.	1/31/2013	Winter Weather				
GRANT CO.	12/28/2012	Winter Storm				
GRANT CO.	3/4/2012	Winter Weather				
GRANT CO.	1/20/2012	Winter Weather				
GRANT CO.	1/2/2012	Winter Weather				
GRANT CO.	1/20/2011	Heavy Snow				
GRANT CO.	12/16/2010	Winter Storm				
GRANT CO.	2/15/2010	Heavy Snow				
GRANT CO.	2/9/2010	Heavy Snow				
GRANT CO.	1/7/2010	Heavy Snow				
GRANT CO.	1/27/2009	Ice Storm				
GRANT CO.	3/7/2008	Winter Storm				
GRANT CO.	2/21/2008	Winter Storm				
GRANT CO.	4/6/2007	Frost/Freeze				\$465,000
GRANT CO.	2/6/2007	Heavy Snow				
GRANT CO.	1/21/2007	Winter Storm				
GRANT CO.	3/21/2006	Winter Storm				
GRANT CO.	12/8/2005	Winter Storm				
GRANT CO.	12/22/2004	Winter Storm				
GRANT CO.	1/25/2004	Winter Storm				
GRANT CO.	12/5/2002	Winter Storm				
GRANT CO.	1/19/2001	Heavy Snow				
GRANT CO.	12/13/2000	Ice Storm				
GRANT CO.	3/13/1999	Heavy Snow				
GRANT CO.	2/3/1998	Winter Storm				
GRANT CO.	1/24/1997	Ice Storm				
GRANT CO.	3/19/1996	Winter Storm				
GRANT CO.	3/7/1996	Ice Storm				
GRANT CO.	2/1/1996	Cold/Wind Chill			\$20,000	
GRANT CO.	1/6/1996	Winter Storm			\$200,000	
GRANT CO..	1/12/2023	Tornado				
GRANT CO..	1/3/2023	Flash Flood				
GRANT CO..	1/3/2023	Flash Flood				
GRANT CO..	1/3/2023	Flash Flood				
KENTON CO.	1/22/2023	Winter Storm				
KENTON CO.	12/22/2022	Winter Storm				
KENTON CO.	12/22/2022	Extreme Cold/Wind Chill				
KENTON CO.	3/11/2022	Winter Weather				
KENTON CO.	3/11/2022	Winter Weather				
KENTON CO.	2/3/2022	Winter Storm				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
KENTON CO.	1/28/2022	Winter Weather				
KENTON CO.	1/16/2022	Winter Weather				
KENTON CO.	4/20/2021	Winter Weather				
KENTON CO.	2/17/2021	Winter Weather				
KENTON CO.	2/15/2021	Winter Storm				
KENTON CO.	2/10/2021	Winter Weather				
KENTON CO.	2/10/2021	Winter Weather				
KENTON CO.	2/8/2021	Winter Storm				
KENTON CO.	1/27/2021	Winter Weather				
KENTON CO.	2/6/2020	Winter Weather				
KENTON CO.	1/30/2019	Extreme Cold/Wind Chill				
KENTON CO.	1/19/2019	Winter Storm				
KENTON CO.	1/12/2019	Winter Storm				
KENTON CO.	11/14/2018	Ice Storm				
KENTON CO.	3/24/2018	Winter Storm				
KENTON CO.	3/20/2018	Winter Storm				
KENTON CO.	2/17/2018	Winter Weather				
KENTON CO.	2/6/2018	Winter Storm				
KENTON CO.	1/15/2018	Winter Weather				
KENTON CO.	1/5/2017	Winter Weather				
KENTON CO.	2/14/2016	Winter Weather				
KENTON CO.	3/4/2015	Winter Storm				
KENTON CO.	2/21/2015	Winter Storm				
KENTON CO.	2/20/2015	Winter Weather				
KENTON CO.	2/15/2015	Winter Storm				
KENTON CO.	2/14/2015	Winter Weather				
KENTON CO.	2/4/2015	Winter Weather				
KENTON CO.	1/25/2015	Winter Weather				
KENTON CO.	11/22/2014	Winter Weather				
KENTON CO.	11/16/2014	Winter Storm				
KENTON CO.	3/2/2014	Winter Storm				
KENTON CO.	2/14/2014	Winter Storm				
KENTON CO.	2/4/2014	Winter Storm				
KENTON CO.	1/20/2014	Winter Storm				
KENTON CO.	12/16/2013	Winter Weather				
KENTON CO.	12/10/2013	Winter Weather				
KENTON CO.	11/26/2013	Winter Weather				
KENTON CO.	3/5/2013	Winter Storm				
KENTON CO.	12/28/2012	Winter Storm				
KENTON CO.	1/20/2012	Winter Storm				
KENTON CO.	1/2/2012	Winter Weather				
KENTON CO.	2/1/2011	Winter Weather				
KENTON CO.	1/20/2011	Heavy Snow				
KENTON CO.	1/11/2011	Winter Weather				
KENTON CO.	12/16/2010	Winter Storm				
KENTON CO.	12/12/2010	Winter Weather				
KENTON CO.	2/15/2010	Heavy Snow				
KENTON CO.	2/9/2010	Heavy Snow				
KENTON CO.	2/5/2010	Heavy Snow				
KENTON CO.	1/7/2010	Heavy Snow				
KENTON CO.	1/27/2009	Ice Storm				
KENTON CO.	3/7/2008	Winter Storm				
KENTON CO.	2/21/2008	Winter Storm				

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County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
KENTON CO.	4/6/2007	Frost/Freeze				\$465,000
KENTON CO.	2/13/2007	Ice Storm				
KENTON CO.	2/6/2007	Heavy Snow				
KENTON CO.	1/21/2007	Winter Storm				
KENTON CO.	3/21/2006	Winter Storm				
KENTON CO.	12/8/2005	Winter Storm				
KENTON CO.	1/20/2005	Winter Storm				
KENTON CO.	12/22/2004	Winter Storm				
KENTON CO.	1/25/2004	Winter Storm				
KENTON CO.	12/11/2002	Winter Storm				
KENTON CO.	12/5/2002	Winter Storm				
KENTON CO.	12/13/2000	Ice Storm				
KENTON CO.	3/13/1999	Heavy Snow				
KENTON CO.	3/8/1999	Winter Storm				
KENTON CO.	1/2/1999	Winter Storm				
KENTON CO.	2/3/1998	Winter Storm				
KENTON CO.	1/27/1997	Ice Storm				
KENTON CO.	1/24/1997	Ice Storm				
KENTON CO.	3/19/1996	Winter Storm				
KENTON CO.	3/7/1996	Ice Storm			\$20,000	
KENTON CO.	2/1/1996	Cold/Wind Chill			\$25,000	
KENTON CO.	1/6/1996	Winter Storm			\$300,000	
OWEN CO.	12/22/2022	Winter Storm				
OWEN CO.	12/22/2022	Extreme Cold/Wind Chill				
OWEN CO.	2/10/2021	Winter Storm				
OWEN CO.	11/14/2018	Ice Storm				
OWEN CO.	3/20/2018	Winter Storm				
OWEN CO.	2/6/2018	Winter Storm				
OWEN CO.	2/14/2016	Winter Storm				
OWEN CO.	1/22/2016	Winter Storm				
OWEN CO.	3/4/2015	Winter Storm				
OWEN CO.	2/21/2015	Winter Storm				
OWEN CO.	2/15/2015	Winter Storm				
OWEN CO.	2/14/2015	Winter Weather				
OWEN CO.	1/23/2015	Winter Weather				
OWEN CO.	11/22/2014	Winter Weather				
OWEN CO.	11/16/2014	Winter Storm				
OWEN CO.	3/16/2014	Winter Weather				
OWEN CO.	3/2/2014	Winter Storm				
OWEN CO.	2/14/2014	Winter Storm				
OWEN CO.	2/4/2014	Winter Storm				
OWEN CO.	2/2/2014	Winter Storm				
OWEN CO.	1/20/2014	Winter Storm				
OWEN CO.	12/6/2013	Winter Storm				
OWEN CO.	3/17/2013	Winter Storm				
OWEN CO.	3/5/2013	Winter Weather				
OWEN CO.	12/28/2012	Winter Storm				
OWEN CO.	1/2/2012	Winter Weather				
OWEN CO.	1/20/2011	Heavy Snow				
OWEN CO.	1/11/2011	Winter Weather				
OWEN CO.	12/16/2010	Winter Storm				
OWEN CO.	2/15/2010	Heavy Snow				
OWEN CO.	2/9/2010	Heavy Snow				

2/14/2024

County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
OWEN CO.	2/5/2010	Heavy Snow				
OWEN CO.	1/27/2009	Ice Storm				
OWEN CO.	3/7/2008	Winter Storm				
OWEN CO.	2/21/2008	Winter Storm				
OWEN CO.	2/12/2008	Winter Storm				\$465,000
OWEN CO.	4/6/2007	Frost/Freeze				
OWEN CO.	2/6/2007	Heavy Snow				
OWEN CO.	3/21/2006	Winter Storm				
OWEN CO.	12/8/2005	Winter Storm				
OWEN CO.	12/22/2004	Winter Storm				
OWEN CO.	1/25/2004	Winter Storm				
OWEN CO.	12/4/2002	Winter Storm				
OWEN CO.	12/13/2000	Ice Storm				
OWEN CO.	3/13/1999	Heavy Snow				
OWEN CO.	2/3/1998	Winter Storm				
OWEN CO.	1/24/1997	Ice Storm				
OWEN CO.	3/19/1996	Winter Storm				
OWEN CO.	3/7/1996	Ice Storm			\$20,000	
OWEN CO.	2/1/1996	Cold/Wind Chill			\$40,000	
OWEN CO.	1/6/1996	Winter Storm			\$400,000	
OWEN CO..	1/3/2023	Flash Flood				
OWEN CO..	1/3/2023	Flash Flood				
PENDLETON CO.	12/22/2022	Winter Storm				
PENDLETON CO.	12/22/2022	Extreme Cold/Wind Chill				
PENDLETON CO.	2/3/2022	Ice Storm				
PENDLETON CO.	2/15/2021	Winter Storm				
PENDLETON CO.	2/10/2021	Winter Storm				
PENDLETON CO.	11/14/2018	Ice Storm				
PENDLETON CO.	3/24/2018	Winter Storm				
PENDLETON CO.	3/20/2018	Winter Weather				
PENDLETON CO.	2/6/2018	Winter Storm				
PENDLETON CO.	3/3/2016	Winter Weather				
PENDLETON CO.	1/22/2016	Winter Storm				
PENDLETON CO.	3/4/2015	Winter Storm				
PENDLETON CO.	2/21/2015	Winter Storm				
PENDLETON CO.	2/15/2015	Winter Storm				
PENDLETON CO.	2/14/2015	Winter Weather				
PENDLETON CO.	11/22/2014	Winter Weather				
PENDLETON CO.	3/16/2014	Winter Weather				
PENDLETON CO.	3/2/2014	Winter Storm				
PENDLETON CO.	2/14/2014	Winter Storm				
PENDLETON CO.	2/4/2014	Winter Storm				
PENDLETON CO.	2/2/2014	Winter Storm				
PENDLETON CO.	1/20/2014	Winter Storm				
PENDLETON CO.	1/17/2014	Winter Weather				
PENDLETON CO.	12/6/2013	Winter Storm				
PENDLETON CO.	3/17/2013	Winter Storm				
PENDLETON CO.	3/5/2013	Winter Weather				
PENDLETON CO.	12/28/2012	Winter Storm				
PENDLETON CO.	1/20/2012	Winter Weather				
PENDLETON CO.	1/2/2012	Winter Weather				
PENDLETON CO.	1/20/2011	Heavy Snow				
PENDLETON CO.	1/11/2011	Winter Weather				

2/14/2024

County	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
PENDLETON CO.	12/16/2010	Winter Storm				
PENDLETON CO.	2/15/2010	Heavy Snow				
PENDLETON CO.	2/9/2010	Heavy Snow				
PENDLETON CO.	1/7/2010	Winter Weather				
PENDLETON CO.	1/27/2009	Ice Storm				
PENDLETON CO.	12/16/2008	Winter Weather				
PENDLETON CO.	3/7/2008	Winter Storm				
PENDLETON CO.	2/21/2008	Winter Storm				
PENDLETON CO.	4/6/2007	Frost/Freeze				
PENDLETON CO.	2/6/2007	Heavy Snow				
PENDLETON CO.	3/21/2006	Winter Storm				
PENDLETON CO.	12/22/2004	Winter Storm				
PENDLETON CO.	1/25/2004	Winter Storm				
PENDLETON CO.	12/5/2002	Winter Storm				
PENDLETON CO.	1/19/2001	Heavy Snow				
PENDLETON CO.	12/13/2000	Ice Storm				
PENDLETON CO.	3/13/1999	Heavy Snow				
PENDLETON CO.	2/3/1998	Winter Storm				
PENDLETON CO.	1/24/1997	Ice Storm				
PENDLETON CO.	3/19/1996	Winter Storm				
PENDLETON CO.	3/7/1996	Ice Storm			\$20,000	
PENDLETON CO.	2/1/1996	Cold/Wind Chill			\$150,000	
PENDLETON CO.	1/6/1996	Winter Storm			\$400,000	

Data Collected 5/16/2023

<https://www.ncdc.noaa.gov/stormevents/>

Winter Storm - first record 1996

Ice Storm - first record 1996

Cold/Wind Chill - first record 1996

Heavy Snow - first record 1999

Frost/Freeze - first record 2007

Winter Weather - first record 2008

15. HISTORICAL DROUGHT/EXTREME HEAT/HEAT WAVE EVENTS

County	Date	Event Type	Deaths	Event Narrative
BOONE CO	7/20/1999	Heat	1	The latter part of July was excessively hot across northern Kentucky, with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
BOONE CO	7/20/1999	Heat	1	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
BOONE CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
BOONE CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
BOONE CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
BOONE CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
BOONE CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
BOONE CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
BOONE CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
BOONE CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
BOONE CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
BOONE CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
BOONE CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
BOONE CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
CAMPBELL CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
CAMPBELL CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
CAMPBELL CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
CAMPBELL CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
CAMPBELL CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
CAMPBELL CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
CAMPBELL CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.

County	Date	Event Type	Deaths	Event Narrative
CAMPBELL CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
CAMPBELL CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
CAMPBELL CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
CAMPBELL CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
CAMPBELL CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
CAMPBELL CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
CAMPBELL CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
CARROLL CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
CARROLL CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
CARROLL CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
CARROLL CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
CARROLL CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
CARROLL CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
CARROLL CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
CARROLL CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
CARROLL CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
CARROLL CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
CARROLL CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
CARROLL CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
GALLATIN CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
GALLATIN CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
GALLATIN CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
GALLATIN CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
GALLATIN CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.

County	Date	Event Type	Deaths	Event Narrative
GALLATIN CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
GALLATIN CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
GALLATIN CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
GALLATIN CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
GALLATIN CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
GALLATIN CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
GALLATIN CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
GRANT CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
GRANT CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
GRANT CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
GRANT CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
GRANT CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
GRANT CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
GRANT CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
GRANT CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
GRANT CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
GRANT CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
GRANT CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
GRANT CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
KENTON CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
KENTON CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
KENTON CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
KENTON CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.

County	Date	Event Type	Deaths	Event Narrative
KENTON CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
KENTON CO	8/23/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted the northern Kentucky counties within the Cincinnati metro area on August 23 and 24.
KENTON CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
KENTON CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
KENTON CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
KENTON CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
KENTON CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
KENTON CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
KENTON CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
KENTON CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
OWEN CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
OWEN CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
OWEN CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
OWEN CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
OWEN CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
OWEN CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
OWEN CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
OWEN CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
OWEN CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
OWEN CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
OWEN CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
OWEN CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
PENDLETON CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.
PENDLETON CO	7/20/1999	Heat	0	The latter part of July was excessively hot across northern Kentucky with nearly every day above 90 and a few days above 100. Dewpoints and overnight lows throughout the period were in the 70s. One heat related death occurred in northern Kentucky.

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County	Date	Event Type	Deaths	Event Narrative
PENDLETON CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
PENDLETON CO	8/7/2007	Excessive Heat	0	Oppressively hot and humid conditions with heat indices near 105 degrees impacted northern Kentucky from August 7 through August 10.
PENDLETON CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
PENDLETON CO	6/28/2012	Heat	0	Heat indices in northern Kentucky exceeded 101 Fahrenheit on June 28, 109 on June 29, and 99 on June 30.
PENDLETON CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
PENDLETON CO	7/1/2012	Heat	0	Ongoing daily heat continued into early July across northern Kentucky. Heat indices in the area generally ranged from 95 to 105 degrees Fahrenheit each day through July 7.
PENDLETON CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
PENDLETON CO	7/19/2019	Excessive Heat	0	Temperatures in the 90s and dewpoints in the upper 70s to near 80 degrees created heat index values in excess of 105 degrees.
PENDLETON CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.
PENDLETON CO	7/20/2019	Excessive Heat	0	Temperatures in the middle to upper 90s combined with dewpoints in the upper 70s to create heat index values that exceeded 105 degrees for a second day in a row.

Data Collected 5/16/2023

<https://www.ncdc.noaa.gov/stormevents/>

Heat - first record 1999

Excessive Heat - first record 2007

16. BOONE COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

17. CAMPBELL COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

18. CARROLL COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

19. GALLATIN COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

20. GRANT COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

21. KENTON COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

22. OWEN COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

23. PENDLETON COUNTY HAZARD RISK SUMMARY AND RISK ASSESSMENT

The completed document will be added to the appendix after the public comment period has ended. To read the draft Risk Summary and Risk Assessment, visit the NKADD website - [Hazard Mitigation Planning – NKADD](#)

24. NORTHERN KENTUCKY HAZARD MITIGATION PLAN ANNUAL PROJECT STATUS REPORT

Northern Kentucky Hazard Mitigation Plan Project Annual Progress Report	
Contact Information:	Date:
Name:	Title:
Organization:	
County:	Jurisdiction:
Email Address:	Phone Number:
Project Title:	
Project Timeframe:	Project Status:
Please list the projects corresponding Northern Kentucky Hazard Mitigation Action Plan Goal, Objective and Action:	
(Visit Hazard Mitigation Planning – NKADD for the complete Hazard Mitigation Action Plan)	
Funding Sources:	
Project Description:	
Problems/Obstacles & Proposed Corrective Actions:	

25. NORTHERN KENTUCKY HAZARD MITIGATION PLAN PROJECT ANNUAL STATUS REPORT

Northern Kentucky Hazard Mitigation Plan Annual Project Status Report						
County:					Date:	
This status report is prepared to inform locally elected officials in the Northern Kentucky Region of the progress being made to make our community more disaster-resistant. The following briefly summarizes the status of existing projects presently being developed and identifies new projects expected to be undertaken in the upcoming year. For additional information on the Northern Kentucky Hazard Mitigation Plan, visit Hazard Mitigation Planning – NKADD						
Existing Projects:						
Jurisdiction:	Project Title:	NKY Hazard Mitigation Action Plan Goal, Objective, and Action:	Project Timeframe:	Funding Sources:	Project Description:	Problems/Obstacles & Proposed Corrective Actions:
New Projects:						
Jurisdiction:	Project Title:	NKY Hazard Mitigation Action Plan Goal, Objective, and Action:	Project Timeframe:	Funding Sources:	Project Description:	Problems/Obstacles & Proposed Corrective Actions:

26. 2024 NORTHERN KENTUCKY REGIONAL HAZARD MITIGATION PLAN – PLAN OVERVIEW AND SAMPLE ADOPTION RESOLUTION



2024 NORTHERN KENTUCKY REGIONAL HAZARD MITIGATION PLAN

PLAN OVERVIEW AND SAMPLE ADOPTION RESOLUTION

INTRODUCTION

FEMA requires each jurisdiction included in the regional hazard mitigation plan to adopt the plan. Since the early 2000s, Northern Kentucky jurisdictions have submitted their hazard mitigation plan as a multi-jurisdictional region hazard mitigation plan, with the NKADD leading the efforts to gather community input, write the report, and work towards getting the plan adopted. NKADD staff created this plan adoption packet to inform cities and counties about the updated 2023 Northern Kentucky Regional Hazard Mitigation plan and assist them in the adoption process. The updated plan can be viewed at <https://www.nkadd.org/hazard-mitigation-planning/>.

FEMA approved a new Hazard Mitigation Plan policy in 2022, and it was enacted in 2023. The Northern Kentucky Regional Hazard Mitigation Plan follows the requirements outlined in the new policy. The new policy differs from the previous policy in two ways. It requires participation from each jurisdiction in the region. The regional plan includes 60 jurisdictions in Northern Kentucky, and each jurisdiction must approve the plan. The policy also allows two methods for jurisdictional resolution approval: all adoption resolutions submitted with the plan and approvable pending adoption (explained later in the document). The approval adoption process option for the 2023 Northern Kentucky Regional Hazard Mitigation Plan.

Hazard Mitigation planning is the foundation for guiding risk reduction investments. These investments build community resilience to future natural hazard events. The local mitigation planning process brings partners together to inform a risk reduction strategy that can be implemented using a wide range of public and private resources. Local mitigation plans demonstrate the commitment to mitigation across multiple sectors, such as Infrastructure and economic development, to reduce natural hazard risk.

Community resilience is the ability of a community to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Activities such as disaster preparedness (which includes prevention, protection, mitigation, response, and recovery) and reducing community stressors (the underlying social, economic, and environmental conditions that can weaken a community) are critical steps to resilience.

BACKGROUND

The local mitigation plan guides risk-informed decision-making at the local level. Local governments, including special districts, can use the mitigation plan to guide climate adaptation, resilience, land use, and economic development planning. Local hazard mitigation plans form the foundation of a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repetitive damage. The Federal Emergency Management Agency (FEMA) supports local mitigation planning to achieve the following:

- Foster partnerships among all levels of government.
- Develop and strengthen non-governmental and private partnerships.
- Promote more disaster-resilient and sustainable communities.
- Reduce the costs associated with disaster response and recovery by promoting mitigation activities.

Local jurisdictions are responsible for ensuring that the plan's mitigation strategy complies with all applicable legal requirements related to civil rights to ensure nondiscrimination. Such compliance can help achieve equitable outcomes through the mitigation planning process for all communities, including underserved communities¹ and socially vulnerable populations.

FEMA defines equity as the consistent and systematic fair, just and impartial treatment of all individuals. Equity must be central in its development to ensure that the planning process and outcomes of the local mitigation plan benefit the whole community. Inclusive planning processes take time, and thoughtful planning needs to be set up to provide everyone with the resources necessary to participate meaningfully, make progress, and benefit from hazard mitigation. Equity is not just an important principle; it is essential to reducing risk to the whole community,² particularly for those who face barriers to accessing assistance and for populations that are disproportionately affected by disasters. The entire community includes individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (regional/metropolitan, state, local, tribal, territorial, insular area and federal). The mitigation plan is an opportunity to counter some of those barriers and intentionally plan for reducing the risk to all communities.

Climate change increases the frequency, duration, and intensity of natural hazards, such as wildfires, extreme heat, drought, storms, heavy precipitation, and sea level rise. Communities are feeling the impacts of a changing climate now.³ Many of these trends will likely continue for decades.⁴ These variations create new risks to state and local governments and challenge pre-existing mitigation plans. They also pose a unique threat to the nation's most at-risk populations by exacerbating the impacts of

¹ [Executive Order 13985 On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government](#) defines "underserved communities" as "populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life..."

² National Preparedness Goal, [Second Edition](#), 2015

³ U.S. Global Change Research Program, [Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States](#), 2018.

⁴ Intergovernmental Panel on Climate Change, [The Physical Science Basis. Contribution of Working Group 1 to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change](#), 2021.

disasters on underserved and socially vulnerable populations who already experience the most significant losses from natural hazards.

Many states and communities have been planning for climate change through climate adaptation efforts. According to the National Climate Assessment, climate adaptation refers to “actions taken at the individual, local, regional, and national levels to reduce risks from even today’s changed climate conditions and to prepare for impacts from additional changes projected for the future.”⁵ While climate adaptation efforts may be undertaken separately or in addition to the all-hazards mitigation planning process, hazard mitigation and climate adaptation are complementary efforts with the same goal: long-term risk reduction for people and increased safety for communities. The key difference between hazard mitigation and climate adaptation is that hazard mitigation encompasses all natural hazards, including short-term, episodic events that may or may not be connected to climate change. Climate adaptation efforts and plans are focused on reducing the risk to and mitigating impacts from actual or expected causes of climate change. As natural disasters cross geographic boundaries and increase in frequency and intensity, the need to support intersecting plans is more significant than ever. Adapting to the expected impacts of climate change is a form of hazard mitigation. A hazard mitigation plan that addresses climate change in its risk assessment and includes adaptation actions in its mitigation strategy may reduce risk to current and future events.

SUMMARY OF PLAN

Element A – Planning Process

The planning process section of the mitigation plan documents how the plan was developed, who was involved and what data and information were used to build or update the plan. A successful planning effort includes active participation and buy-in from community leaders, stakeholders, and the public. The [National Mitigation Framework](#) emphasizes the valuable role of collaboration among various sectors to ensure that mitigation capabilities continue to grow and that comprehensive mitigation includes strategies for all community sectors. Examples of sectors with mitigation capabilities are those agencies and stakeholders responsible for:

- Emergency management.
- Economic development.
- Land use and development.
- Housing.
- Health and social services.
- Infrastructure (including transportation and other community lifelines).
- Natural and cultural resources.

In addition, FEMA’s [National Response Framework, 4th Edition](#), identifies critical [community lifelines](#), which are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Community lifelines include the following:

⁵ U.S. Global Change Research Program, [Fourth National Climate Assessment, Chapter 28: Reducing Risks through Adaptation Actions](#), 2018.

- Safety and Security.
- Food, Water, Shelter.
- Health and Medical.
- Energy.
- Communications.
- Transportation.
- Hazardous Material.

Efforts to mitigate potential impacts to community lifelines are key to building resilience. These community lifelines connect to the sectors in the National Mitigation Framework and the Recovery Support Functions under the [National Disaster Recovery Framework](#); the same agencies and departments that support these sectors also often support community lifelines and the recovery mission.

Involving members from these key sectors in the planning process will result in a shared understanding of risks. It will also help build widespread support for directing financial, technical, and human resources toward natural hazard risk reduction.

Element B – Risk Assessment

The Risk Assessment identifies the hazards that can affect jurisdictions participating in the mitigation plan. It analyzes each of these hazards with respect to where each hazard might affect the planning area (location), its potential magnitude (extent), how often events have happened in the past (previous occurrences), how likely they are to occur in the future (future probability); what parts of the community are most likely to be affected (vulnerability); and the potential consequences (impacts).

There is no prescribed method for how to present this information, and the location, extent, previous occurrences, and future probability can be described or illustrated in a way that satisfies all requirements together. For example, one map with explanatory text could provide information on some hazards' location, extent, and future probability.

Risk Assessments provide the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Therefore, it is essential to use current and accurate information, even if the most sophisticated technology is not available to analyze it. This analysis provides the basis for the actions in the Mitigation Strategy, so local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. Risk Assessments need to clarify the connection between the vulnerabilities identified for participating jurisdictions and the actions they will take to minimize losses to people and property.

Element C – Mitigation Strategy

The mitigation strategy is the long-term blueprint for reducing the potential losses identified in the risk assessment. The Stafford Act directs local mitigation plans to describe hazard mitigation actions and establish a strategy to implement those actions. Therefore, all other requirements for a local mitigation plan lead to and support the mitigation strategy as a means to reduce risk and vulnerabilities over the long term.

The mitigation strategy includes the development of goals and prioritized hazard mitigation actions. Goals are long-term policy statements and global visions that support the mitigation strategy. A critical step in the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, resources, and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards.

For the 2023 Northern Kentucky Regional Hazard Mitigation Plan, the existing goals and actions are either reaffirmed or updated based on current conditions. These include completing hazard mitigation initiatives, an updated or new risk assessment, or changes in state or local priorities while adding new goals and actions as needed.

Element D – Plan Maintenance

The mitigation plan is a living document that guides actions over time. Continually documenting the process makes the next plan update easier. The plan is a blueprint for reducing risk and protecting community investments. Having a process for maintaining the plan reflects the recognition that things change. Not only is there a need to track progress on implementing the mitigation strategy, but new information may become available, and disasters may happen. The plan needs to be revisited at regular intervals to keep it relevant, and the planning team needs to decide how that will be done. At a minimum, this must be done every five years, but it should also be done after major disaster events or if new conditions significantly change risk.

Plan maintenance means keeping the plan accurate, current, and relevant over the five-year approval period. It includes monitoring, evaluating, and updating the plan – and generally keeping the planning process active. Plan maintenance is critical to ensure participants use the plan to continually reduce hazard risk.

Element E – Plan Update

To continue to effectively represent the jurisdiction's overall strategy for reducing its risks from natural hazards, the mitigation plan must reflect how current conditions have changed since the last plan. This will require an assessment of the current development patterns and development pressures, as well as an evaluation of any new hazard or risk information. The plan update is an opportunity for the jurisdiction to assess its previous goals and action plan, evaluate progress in implementing hazard mitigation actions, and adjust its actions to address the current realities.

If growth conditions and community priorities have changed very little (such as through new leadership, new funding sources or recent hazard conditions), much of the text in the updated plan may be unchanged. This is acceptable as long as the plan still fits the priorities of the community and reflects the current conditions. Plan readers can recognize a good plan update by its documentation of the community's progress or changes in their hazard mitigation program, along with the community's continued engagement in the mitigation planning process.

Where jurisdictions have experienced changes in development (planned, increase or decline), the plan update must discuss how development changes have altered vulnerability. If no development changes have occurred since the last version of the plan, this must be stated.

Where hazard risk has not changed significantly, a jurisdiction may use the update process to review and verify existing risk information. The updated risk assessment must document which information has been reviewed and remains accurate.

Element F – Plan Adoption

Adoption by the local governing body or bodies demonstrates the jurisdiction's commitment to the hazard mitigation goals and actions outlined in the plan. Adoption legitimizes the plan and authorizes responsible agencies to perform their responsibilities. Updated plans are adopted anew to demonstrate the community's recognition of the current planning process, acknowledge changes from the previous five years, and validate the priorities for hazard mitigation actions. Without adoption, the jurisdiction has not completed the mitigation planning process and will not be eligible for certain FEMA assistance, such as HMA or HHPD grant program funding for mitigation actions.

ALL ADOPTION RESOLUTIONS SUBMITTED WITH PLAN

Under this option, a community with a single-jurisdictional plan, or all participating communities that are part of a multi-jurisdictional plan, include documentation of plan adoption when they initially submit the plan to the state for review. This documentation is usually a resolution by the governing body, but it may include any other method of adoption allowed by local laws.

The state is responsible for performing an initial review of the plan before sending it to FEMA. This includes checking that each jurisdiction seeking approval participated in the planning process and met the requirements. After receiving the draft plan from the state, FEMA conducts its review and will approve the plan if it meets all requirements stated in Section 4 of this guide. The plan approval date begins the five-year approval period and sets the expiration date for the plan. All participating jurisdictions will have the same approval date. The official approval date and the plan's expiration date are both indicated on the signed FEMA approval correspondence.

Under this option, the jurisdiction(s) adopt(s) the plan before submitting it to FEMA. It is important to recognize that the state and/or FEMA may require revisions to the plan that will change the plan's final content. Jurisdictions are encouraged to use flexible adoption resolution language that leaves room for any required revisions that occur after adoption, if local laws invalidate the adopted resolution language used in the plan. If it is not allowable per local laws, jurisdictions may need to re-adopt the plan after revisions are made. All jurisdictions must adopt the plan in accordance with local laws and regulations.

APPROVABLE PENDING ADOPTION

Approvable Pending Adoption (APA) status is used when jurisdictions submit the final draft of a local hazard mitigation plan for review prior to formal jurisdictional adoption. The APA status allows FEMA to communicate to the plan participant(s) that the plan is ready for adoption. ***It is important to note that APA is not the same as having an approved plan.*** To reach approval, all participating jurisdictions must adopt the plan in accordance with local regulations.

Under this option, the state and FEMA review the draft local mitigation plan. The state is responsible for checking that each jurisdiction seeking approval participated in the planning process and has met all requirements except adoption. Once this is completed, the state sends the plan to FEMA. FEMA then

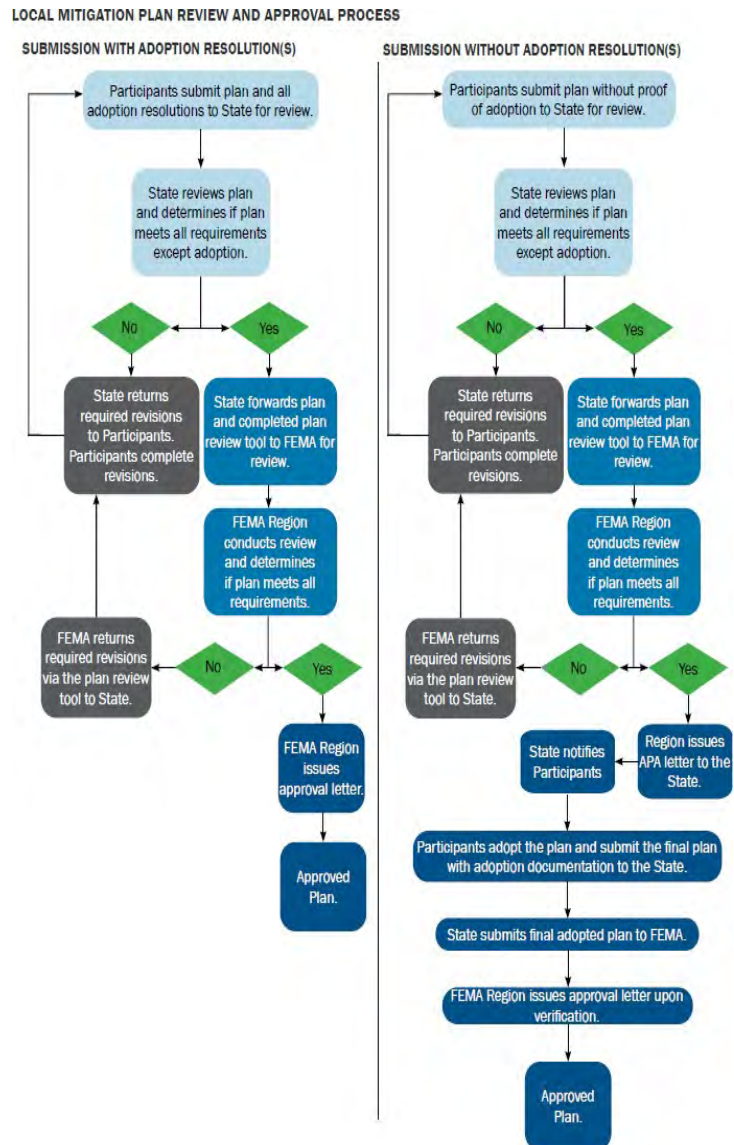


Figure 1 shows the two paths that multi-jurisdictional plans can follow to achieve approved status: Submission With Adoption Resolution(s) and Submission Without Adoption Resolution(s).

completes its review. When FEMA determines that the plan as a whole and each participating jurisdiction has met all the requirements except adoption, FEMA will inform the state (e.g., by sending an electronic communication or letter) that the plan is in APA status. The state informs the local governments that the plan is in APA status and that local adoption must be completed for FEMA to approve the plan.

According to 44 CFR § 201.6(a)(4), “Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.” For multi-jurisdictional plans, FEMA will grant APA status for the plan as a whole when the plan and each participating jurisdiction have met all of the requirements except adoption (Element F). APA status will not be granted to individual jurisdictions on a piecemeal basis. If some jurisdictions are unable to meet all the requirements, the plan submittal may include notification that those jurisdictions are not participating at that time.

Once FEMA receives documentation of at least one adoption resolution, the status is changed from APA to Approved for the entire plan and for that jurisdiction. This status change establishes the start and expiration dates for the plan approval period. Beyond that, it only means that the jurisdiction that provided proof of adoption is approved; **each participating jurisdiction must adopt the plan to be approved.**

Participating jurisdictions that adopt the plan more than one year after APA status has been issued must either:

- Validate that their information in the plan remains current with respect to both the risk assessment (no recent hazard events, no changes in development) and their mitigation strategy (no changes necessary); or
- Make the necessary updates before submitting the adoption resolution to FEMA.

The plan approval date begins the five-year approval period and sets the expiration date for the plan. For single and multi-jurisdictional plans, the official plan approval date and [plan expiration date](#) are indicated on the official FEMA approval letter. All participating jurisdictions in the multi-jurisdictional plan will have the same expiration date regardless of their own jurisdiction’s adoption date. The date indicated on FEMA’s approval letter is the official approval date. A jurisdiction with a plan in APA status does not meet the requirement for an approved mitigation plan to apply for and receive assistance.

Figure 1 shows the two paths that multi-jurisdictional plans can follow to achieve approved status: Submission With Adoption Resolution(s) and Submission Without Adoption Resolution(s).

Element G – High Hazard Potential Dams

Critical infrastructure like dams and levees provide recreation, water supply, floodplain management, energy, and other important functions. Dam owners and operators can be private, nonprofit, or public. They are important participants/stakeholders in local mitigation planning processes.

The National Dam Safety Program Act (Pub. L. 92–367), as amended, 33 U.S.C. § 467f-2, authorizes FEMA to provide High Hazard Potential Dams (HHPD) Rehabilitation Grant Program assistance for the rehabilitation of dams that fail to meet minimum dam safety standards and pose unacceptable risk to life

and property. At a minimum, local mitigation plans must address the subset of state-regulated dams considered HHPDs.⁶ The Federal Guidelines for Dam Safety; Hazard Potential Classification System⁷ for Dams states that dams assigned the high hazard potential classification are those where failure or mis-operation will probably cause loss of human life.

Hazard mitigation goals are broad, long-term policy and vision statements. Goals do not need to mention specific actions, specific dams, or use the term “high hazard potential dam.” Projects submitted for consideration for HHPD funding must be consistent with the goals and actions identified in the current, approved hazard mitigation plan.

NKADD staff is available to present the updated regional hazard mitigation and resolution adoption at a future regular meeting or provide you with additional information so you can place the resolution adoption on your meeting agenda. If you have any questions, please don’t hesitate to contact Katie Jo Kirkpatrick, Strategic Initiative Manager, at katiejo.kirkpatrick@nkadd.org or 859.692.2482.

⁶ Dams eligible for the HHPD classification have additional requirements and, therefore may not include all HHPDs within the local jurisdiction. This subset of dams is defined at 33 U.S. Code (U.S.C.) § 467(4)(A) and 33 U.S.C. § 467f-2(4).

⁷ FEMA/ICODS, 2004

NORTHERN KENTUCKY REGIONAL HAZARD MITIGATION PLAN FAQ

Why do we need a hazard mitigation plan?

Developing a hazard mitigation plan helps to:

- Increase education and awareness of natural hazards and community vulnerabilities
- Build partnerships with government, organizations, businesses, and the public to reduce risk
- Identify long-term strategies for risk reduction with input from stakeholders and the public
- Identify cost-effective mitigation actions that focus resources on the greatest risk areas
- Integrate planning efforts and risk reduction with other community planning efforts
- Align risk reduction with other state, tribal or community objectives
- Communicate priorities to potential funders

What are the benefits of submitting a multi-jurisdiction regional hazard mitigation plan (MJHMP)?

Multi-jurisdictional hazard mitigation planning can be an effective process to build partnerships between communities that face common hazard risks, leading to shared solutions. It can also help build a foundation to shift priorities as risks and vulnerabilities change. Hazard mitigation plans are prepared and adopted by communities with the primary purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events. Effective mitigation planning can break the cycle of disaster damage, reconstruction, and repetitive losses. Hazard mitigation plans can address a range of natural and human-caused hazards. Plans can be developed for a single community or as a multi-jurisdictional plan that includes multiple jurisdictions and counties across a region.

We are adopting a resolution to approve the plan before it receives approval from FEMA. What happens if FEMA recommend changes after you approve the plan?

By submitting the plan for review and approval at the same time as we are asking jurisdictions to approve and adopt the plan, the final FEMA approval can be expedited, and communities will be able to receive mitigation funds from FEMA. The recommendations made by the state and FEMA during the review process are similar to the annual updates and thus don't require reapproval and readoption of the current plan.

How often do we need to adopt a Hazard Mitigation Plan?

The Northern Kentucky Regional Hazard Mitigation Plan is a five-year plan. The next complete plan update will be due in 2028. Collaborating with the local and regional hazard mitigation committees, NKADD staff will provide each jurisdiction with a yearly status update as outlined in Element D – Plan Maintenance. Starting in 2026, staff will work with the local and regional hazard mitigation committees to update the plan for 2028.

Where can I find the FEMA-approved Northern Kentucky Hazard Mitigation Plan and the yearly updates?

The approved hazard mitigation plan can be found on the NKADD website at <https://www.nkadd.org/hazard-mitigation-planning/>.

SAMPLE HAZARD MITIGATION PLAN RESOLUTION

LOCAL GOVERNMENT, INCLUDING SPECIAL DISTRICTS), KY RESOLUTION NO. _____

A RESOLUTION OF (LOCAL GOVERNMENT) ADOPTING THE NORTHERN KENTUCKY REGIONAL HAZARD MITIGATION PLAN, 2023

WHEREAS the (local governing body) recognizes the threat that natural hazards pose to people and property within (local government); and

WHEREAS the (local government) has prepared a multi-hazard mitigation plan, hereby known as the Northern Kentucky Regional Hazard Mitigation Plan, 2023, in accordance with federal laws, including the [Robert T. Stafford Disaster Relief and Emergency Assistance Act](#), as amended; the [National Flood Insurance Act of 1968](#), as amended; and the [National Dam Safety Program Act](#), as amended; and

WHEREAS the Northern Kentucky Regional Hazard Mitigation Plan, 2023 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in (local government) from the impacts of future hazards and disasters and

WHEREAS adoption by the (local governing body) demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Northern Kentucky Regional Hazard Mitigation Plan, 2023.

NOW THEREFORE, BE IT RESOLVED BY THE (LOCAL GOVERNMENT), KY, THAT:

Section 1. In accordance with (local rule for adopting resolutions), the (local governing body) adopts the Northern Kentucky Regional Hazard Mitigation Plan, 2023. While content related to (local government) may require revisions to meet the plan approval requirements, changes occurring after adoption will not require (local government) to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopted by a vote of _____ in favor and _____ against, and _____ abstaining, this day of _____ day of _____, _____.

By:

Signature

Printed Name

ATTEST: By:

Signature

Printed Name

APPROVED AS TO FORM: By:

Signature

Printed Name

27. BOONE COUNTY PLAN ADOPTION DOCUMENTATION

FLORENCE

UNION

WALTON

28. CAMPBELL COUNTY PLAN ADOPTION DOCUMENTATION

ALEXANDRIA

BELLEVUE

CALIFORNIA

COLD SPRING

CRESTVIEW

DAYTON

FORT THOMAS

HIGHLAND HEIGHTS

MELBOURNE

MENTOR

NEWPORT

SILVER GROVE

SOUTHGATE

WILDER

WOODLAWN

29. CARROLL COUNTY PLAN ADOPTION DOCUMENTATION

CARROLLTON

GHENT

PRESTONVILLE

SANDERS

WORTHVILLE

30. GALLATIN COUNTY PLAN ADOPTION DOCUMENTATION

GLENCOE

SPARTA

WARSAW

31. GRANT COUNTY PLAN ADOPTION DOCUMENTATION

CORINTH

CRITTENDEN

DRY RIDGE

WILLIAMSTOWN

32. KENTON COUNTY PLAN ADOPTION DOCUMENTATION

BROMLEY

COVINGTON

CRESCENT SPRINGS

CRESTVIEW HILLS

EDGEWOOD

ELSMERE

ERLANGER

FAIRVIEW

FT. MITCHELL

FT. WRIGHT

INDEPENDENCE

KENTON VALE

LAKESIDE PARK

LUDLOW

PARK HILLS

RYLAND HEIGHTS

TAYLOR MILL

VILLA HILLS

33. OWEN COUNTY PLAN ADOPTION DOCUMENTATION

GRATZ

MONTEREY

OWENTON

34. PENDLETON COUNTY PLAN ADOPTION DOCUMENTATION

BUTLER

FALMOUTH