5.Capability Assessment

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Introduction

The purpose of conducting a capability and capacity assessment is to determine the ability of a local jurisdiction to identify and implement policies, programs, or projects that reduce flood risk. As in any planning process, it is important to try to establish which actions are feasible based on an understanding of the organizational capacity of those agencies or departments tasked with their implementation. A capability and capacity assessment helps to determine which flood risk reduction activities are practical, and likely to be implemented over time, given a local government's planning and regulatory framework, level of administrative and technical support, fiscal resources, and current political climate. Information for the capability and capacity assessment was gathered from County officials during Planning Team meetings and targeted stakeholder interviews.

A capability and capacity assessment has two components: 1) an inventory of a local jurisdiction's relevant plans, ordinances, or programs already in place and 2) an analysis of its capacity to carry them out. It includes, reviewing available flood-related data, plans, policies, and staffing capabilities, as well as providing recommendations for revisions or new policies to enhance the County's capability in floodplain management. The assessment also involves reviewing policy, including identified incentives for restoring or preserving riparian and wetland vegetation. Careful examination of local capabilities will identify existing gaps, shortfalls, or limitations with ongoing government activities that could hinder proposed flood risk reduction activities and possibly exacerbate community flood vulnerability. A capability and capacity assessment also highlights the positive measures already in place or being implemented at the local government level, which should continue to be supported and enhanced.

Recommended actions will support a long-term strategy to build capacity and capabilities. Examples include regular staff training, budget allocations to support staff in implementing the plan, and supporting a staff person in obtaining and maintaining Certified Floodplain Manager (CFM) certification. Flood risk reduction actions and projects, including those identified to maintain and enhance county capability and capacity, are presented in *Section 7: Flood Risk Reduction Action Plan*.

Data Availability

Relevant data, such as flood risk studies, maps, and gauge information, help communities understand flood risk by providing information regarding the location, severity, and likelihood of potential flood events. Further, local data, such as building and asset data, can be assessed alongside flood data to understand a community's vulnerability to flooding. Therefore, data availability is directly linked to a community's capability to understand flood risk, as well as to develop and implement strategies to effectively reduce future flood risk. As part of the planning process, flood-related data was collected from local, state, and federal sources to inform capability. This data was also used in *Section 6: Risk Assessment*, to better understand flood risk within Tazewell County. A summary of available flood data sources is provided below.

FEMA Flood Data¹

Regulatory Flood Insurance Rate Maps (FIRMs) show the location of the mapped 100-year and 500-year floodplains in Tazewell County and are used for flood insurance. The latest FIRM for Tazewell County

¹ FEMA Map Service Center. <u>FEMA Flood Map Service Center | Search All Products</u>.

became effective in 2011. Small portions of the county's FIRM have been updated more recently, with the most recent revision being in 2021.

Flood risk products (FRPs) are non-regulatory and are used for community planning and emergency preparedness purposes. In 2014, FEMA and the US Army Corps of Engineers completed a Flood Risk Study for the Tug Fork Watershed, which includes Tazewell County. The Flood Risk Study includes depth grids and percent chance of flooding grids (annual and 30-year). The report states that flash flooding continues to be a reoccurring threat to homes, infrastructure, and public safety.²

The county would benefit from depth and velocity grids for the entire county, especially considering noted issues with houses and mobile homes being swept off their foundations and carried downstream during flood events.

Gauge Data

There is one USGS stream gauge located within Tazewell County. It is located on the Bluestone River at Falls Mills near the West Virginia border. A second stream gauge, located in Cleveland, VA in neighboring Russell County, was used to provide historical stream flow data for the Clinch River. The Clinch River originates within Tazewell County and flows through most of the County's more populated towns and cities. The measurements from these gauges are further detailed in *Section 6: Risk Assessment*. Prior gauge data for the region included IFLOW rain and stream gauges.³ This program has been temporarily suspended due to a lack of VDEM funding. It is anticipated that this system will be restored in the future.

In its current state, the network of stream and rain gauges in the county provides little benefit in terms of emergency management and warning. An expanded network of stream and rain gauges that update in real-time can provide a warning when flood stages are being approached. Further, information gathered by gauges can be used to understand the extent and severity of extreme rainfall events and can be used in floodplain mapping.

High Water Marks

High water marks, or visible lines that show the location and height of floodwaters after they have retreated, can be used to determine the extent and severity of the flooding. Unfortunately, high water mark data was not available for Tazewell County. For future planning, project, and funding purposes, it is recommended that they be collected and documented in a geospatial data format.

Without high water marks from previous flood events, future updates to flood maps may not accurately reflect the severity and extent of flooding in Tazewell County. A process for collecting high water marks after flood events and storing data in geospatial format would enhance the county's ability to plan for flood risk reduction and work with state and federal agencies to develop accurate flood risk data.

² Flood Risk Report Tug fork Water, HUC 05070201. FEMA. Retrieved April 11, 2023. <u>Flood Risk Report Tug Fork</u> <u>Watershed</u>.

³ Virginia Flood Observation and Warning Network. <u>Virginia Flood Observation and Warning Network (mtiv-tools.com)</u>.

Dam Data

The U.S. Army Corp of Engineers (USACE) National Inventory of Dams (NID) lists five dams within Tazewell County, and 11 dams within 10 miles of the county.⁴ USACE classifies a dam's hazard potential based on the potential of a dam to affect the safety and health of citizens and property, should the dam fail. This is separate from the condition of the dam, and only assesses the potential consequences of a dam failure. Analysis of the dam's hazard and condition are detailed in *Section 6: Risk Assessment*.

Future Conditions Data

Future conditions data helps communities understand how their flood risk may change over time. Tazewell County is expected to experience increased annual precipitation in the future, including more severe extreme rainfall events. While the county does not have future rainfall or flood data developed from downscaled climate models, national sources and tools such as the National Climate Assessment, NOAA's Climate Mapping for Resilience and Adaption, Headwaters Economics Neighborhoods at Risk, EPA's EJScreen, FEMA's National Risk Index, and USACE studies are available to understand future conditions associated with flood risk.

Future flood risk data developed specifically for Tazewell County, such as changes in the severity and frequency of extreme rainfall events, may help the county better plan to reduce future flood risk. For example, capital projects and infrastructure can be constructed to withstand projected future events rather than those of the past.

Abandoned Mine Land Data

Tazewell County has abandoned mines distributed throughout the county. Abandoned mines pose a threat due to flooding from "blowouts," when mines fill with water during extreme rainfall events and burst, resulting in large volumes of water cascading down steep slopes into valleys below. These events are difficult to predict and can also result in landslides and mudflows. While many abandoned land mines have been mapped and rehabilitated, many remain unmapped throughout the county. According to County officials, the Virginia Department of Energy (DOE), formerly the Department of Mines Minerals and Energy (DMME), located and mapped many abandoned mines in the 1970s however unlocated abandoned mines may exist throughout Tazewell County. DOE maintains an online mapping tool to show the location of known abandoned mines and associated impacts.⁵ The presence of unknown, unmapped abandoned mines makes it difficult for County officials to predict where mine blowouts may occur and makes it challenging to differentiate between flood events caused by extreme rainfall alone and those exacerbated by mine blowouts.

Tazewell County does not have a complete inventory of abandoned mines within the county. Although the DOE has made significant progress in mapping abandoned mines, a complete survey of the county for unmapped abandoned mines would allow the county to work with local, regional, and state entities to understand where flood risk may be increased due to the presence of abandoned mines and to mitigate potential effects of flooding associated with mine blowouts.

⁴ Dams of Tazewell County, Virginia. U.S. Army Corps of Engineers. Retrieved April 11. 2023. <u>National Inventory of</u> <u>Dams (army.mil)</u>

⁵ Virginia DMME. <u>Virginia Abandoned Coal Mine Feature Inventory (arcgis.com)</u>.

Local Data

Local building and community asset data was collected as part of the planning process to better inform risk. The County maintains geospatial data which includes building footprints, as well as parcel and value data used for tax assessment purposes. More information about how available data was used to assess flood risk is detailed in *Section 6: Risk Assessment*.

The county would benefit from an inventory of digitized building footprints that include attributes such as use, building age and material, first flood elevation, number of stories, and improvement value. This information can be used to understand building-specific vulnerability to flooding.

Local Planning and Policies

Planning and regulatory capability are based on the implementation of plans, ordinances, and programs that demonstrate a local jurisdiction's commitment to guiding and managing growth, development, and redevelopment while maintaining the general welfare of the community. It includes emergency response and hazard mitigation planning, comprehensive land use planning, and transportation planning, as well as enforcement of ordinances and building codes, and protection of environmental, historic, and cultural resources in the community. Although conflicts can arise, these planning initiatives present significant opportunities to integrate flood risk reduction principles into the local decision-making process.

Community Plans

In Tazewell County, plans are developed by both the County and the Cumberland Plateau Planning District Commission (CPPDC). The CPPDC is a regional body that provides planning technical assistance to Buchanan, Dickenson, Russell, and Tazewell Counties. Table 5-1 provides a summary of plans for Tazewell County.

Table 5-1: Tazewell County Summary of Plans

Plan Title	Purpose
Tazewell County Comprehensive Plan	A comprehensive plan serves as a broad policy guide to assist in the decisions necessary for future development and redevelopment.
Tazewell County 2021 Emergency Operations Plan (EOP)	An EOP outlines responsibilities and how resources are deployed during and following an emergency or disaster.
CPPDC 2021 Comprehensive Economic Development Strategy (CEDS)	A CEDS contributes to effective economic development through a locally based, regionally driven economic development planning process. A CEDS is intended to implement economic development planning by engaging community leaders, leveraging the involvement of the private sector, and establishing a strategic blueprint for regional collaboration.
CPPDC Coalfields Regional Water Study	The purpose of the Virginia Coalfields Regional Water Study is to develop and evaluate, without regard to geographical or political boundaries, alternatives for regionalized water systems capable of providing water service to previously unserved areas and improving service to areas currently served.
CPPDC 2018 Hazard Mitigation Plan	A hazard mitigation plan represents a community's blueprint for how it intends to reduce the impact of natural and human- caused hazards on people and the built environment. A community must have a current hazard mitigation plan to qualify for FEMA Hazard Mitigation Assistance (HMA) funding opportunities. Aligning risk reduction actions within this flood resilience plan with the community's hazard mitigation plan may expand funding opportunities for flood mitigation within the County.
CPPDC Southwest Virginia Regional Wastewater Study	The Southwest Virginia Regional Wastewater Study is intended to serve as a road map for the future implementation of sanitary sewer collection, treatment, and disposal projects in Southwest Virginia.
CPPDC Southwest Virginia Regional Water Supply Plan	The Southwest Virginia Regional Water Supply Plan was developed to follow the State Water Control Board's regulation 9 VAC 25-780, Local and Regional Water Supply Planning. The plan addresses water sources, water use, and natural resources in the region as well as water demand management information, and drought response and contingency planning.
CPPDC Southwest Virginia Economic Analysis Report	This report assesses economic development trends in Southwestern Virginia, including the growth of the "creative economy," general economic trends, talent and human capital, recreation, and quality of life.

In addition to plans already in place, several types of plans that have not been developed or implemented by the county or CPPDC were identified that have the potential to reduce flood risk. These present potential opportunities to enhance flood resilience within the county. These plans include:

- Disaster Recovery Plan: A Disaster Recovery Plan serves to guide the physical, social, environmental, and economic recovery and reconstruction process following a disaster. In many instances, hazard mitigation principles and practices are incorporated into local disaster recovery plans with the intent of capitalizing on opportunities to break the cycle of repetitive disaster losses. Disaster recovery plans can also lead to the preparation of disaster redevelopment policies and ordinances to be enacted following a hazard event.
- Emergency Evacuation Plan Evacuation Plans pre-determine safe evacuation routes for residents to relocate out of harm's way during a disaster. Having an evacuation plan before a flood event not only reduces the time needed to take action but also allows local governments to adequately prepare evacuation routes. For example, roads designated as evacuation routes may be prioritized for improvements or receive signalization preference during emergency events. Further, evacuation route plans can be socialized with a community so that residents are aware of where they should go during a disaster event. This may also help reduce the number of 911 calls received during a disaster event, which was noted as a problem in adjacent Buchanan County. The Planning Team noted that emergency evacuation route planning is needed for areas across the county.
- **Continuity of Operations Plan:** A Continuity of Operations Plan (COOP) details how an organization will remain operational and perform essential functions following any event that makes it unsafe or impossible for employees to work in the normal location. COOPs go beyond activities detailed in an emergency action plan including:
 - Delegation of transfer of authority;
 - Identification of essential functions (information technology, payroll, communications);
 - Alternate facilities for performing work;
 - o Alternate transportation and remote work capabilities;
 - o Access to and safeguarding of information (physical, local server, cloud); and,
 - Return to normal operations.

Ordinances and Regulations

The County has adopted and maintains several ordinances which support the ability of County officials to reduce flood risk. The ordinances are described below.

Floodplain Management

The County has an existing Floodplain Management Plan adopted as Chapter 12 of the Tazewell County Code of Ordinances.⁶ The purpose of the chapter is to prevent loss of property and life, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base while creating health and safety standards. This is accomplished through regulating uses that will cause unacceptable increases in flood heights, velocities, and frequencies, restricting or prohibiting certain uses from locating within areas subject to flooding, and requiring uses that do occur in flood-prone areas to be protected and/or hardened against flooding and flood damage and protecting an individual from buying lands and structures which are unsuited for intended purposes because of flood hazards.

Soil and Erosion Control

The County has an adopted Soil and Erosion Control Ordinance as Chapter 9 of the Tazewell County Code of Ordinances.⁷ Land-disturbing permits are required and issued by the County for clearing, filling, excavating, grading, or transporting, or any combination thereof, on all lands except privately owned, occupied, or operated, agricultural, horticultural, or forestry lands.

Soil and erosion control regulations are effective when implemented, however, there is a lack of awareness among the public as to when permits are required. For example, soil and erosion control permits are often not sought for the construction and/or expansion of single-family homes even though it is a requirement. The County staff indicated challenges with effectively enforcing the soil and erosion control regulations.

Stormwater Management Plan

Tazewell County does not have a stormwater management plan. However, the soil and erosion and subdivision regulations prohibit lands from being platted for residential use if they are subject to flooding, irregular drainage conditions, and excessive drainage control and such hazards have not been corrected. A stormwater drainage plan demonstrating adequate drainage improvements is required before approval of major subdivisions.⁸

Building Codes

Tazewell County has adopted and enforces the Virginia Uniform Statewide Building Code. Building codes regulate construction standards. In many communities, permits and inspections are required for new construction. Decisions regarding the adoption of building codes, the type of permitting process required both before and after a disaster, and the enforcement of inspection protocols all affect the level of risk faced by a community.

⁶ Tazewell County Code of Ordinances. Accessed March 17, 2023. <u>https://library.municode.com/va/tazewell/codes/</u> <u>code_of_ordinances?nodeId=PTIICOOR_CH12FLDI</u>

⁷ Tazewell County Code of Ordinances. Accessed March 17, 2023. <u>https://library.municode.com/va/tazewell/codes/</u> <u>code_of_ordinances?nodeId=PTIICOOR_CH9ERSECO</u>

⁸ Tazewell County 2017 Comprehensive Plan. Retrieved February 24, 2023. <u>2017-Comprehensive-Plan-Final.pdf</u> (tazewellcountyva.org)

Zoning and Subdivision Ordinances

Zoning codes and subdivision ordinances are tools used by communities to regulate land uses and building types within certain geographic areas. When used correctly, zoning and subdivision ordinances can be used to manage development in a logical, harmonious way that keeps residents safe. For instance, zoning can direct sensitive land uses out of hazard areas. Tazewell County does not currently have zoning or subdivision ordinances in place.

Limitations

While the county has implemented numerous plans and policies to help mitigate flood risk, certain planning and policy limitations were identified by the Planning Team in addition to the ones described in the above sections. These limitations are described below.

- **Floodplain management**: Homes built within the floodplain that go through the permitting process have experienced limited damage during flood events relative to pre-1997 construction, which was not subject to flood damage prevention requirements. However, enforcement to keep sheds, trucks, and other encroachments out of the floodplain is challenging. Additionally, private bridges (e.g., driveways) are common throughout the county and are not typically constructed to floodplain management standards. During flood events, bridges have the potential to constrict floodways, and washed-away bridges may contribute to jammed waterways.
- Logging: A lack of controls on logging may contribute to flood problems within the county due to runoff generated by logging practices. Logging is enforced by the Virginia Department of Forestry (DOF). It is unknown if the County has the authority to regulate runoff from logging. Further, the County currently lacks the staffing capacity to enforce logging runoff controls. It was noted that while DOF is responsive to soil and water notification of problems from the County, the agency does not have current initiatives to proactively enforce logging controls within the county.
- **Stormwater**: The Virginia Department of Environmental Quality (DEQ) possesses the authority to regulate stormwater. Currently, little is done with the sheet flow from roadways. Implementation and enforcement of stormwater controls would likely reduce flood risk within the county, especially for roadways and access.
- Stream buffers: Constraints regarding available land for development and infrastructure placement (due to topography) limit the implementation of stream buffers within the county. Vegetation along streams is often within residential yards and not subject to any stream buffer requirements. One potential avenue for implementing stream buffers is Virginia's Agricultural Cost-Share program⁹. The Agriculture Cost-Share Program established in 1984 helps farmers implement conservation practices that prevent pollution from reaching waterways. "Best management practices" funded by the program include livestock fencing near streams, planting buffers of trees and native plants along waterways, and nutrient management plans to ensure

⁹ Agricultural BMP Cost-Share Program. Virginia Department of Conservation and Recreation. Accessed March 24, 2023. <u>https://www.dcr.virginia.gov/soil-and-water/costshar2</u>

farmers utilize the correct amount of fertilizer among other stream and waterway preservation methods.¹⁰

Staffing and Training

The ability of a local government to develop and implement flood risk reduction projects, policies, and programs is directly tied to its ability to direct staff time and resources for that purpose. As summarized below, County staff currently has limited capacity to implement flood risk reduction. There is a need for staff to implement flood risk reduction measures and for an official to conduct reviews and enforcement of the building code and flood damage prevention ordinance.

Limitations

The Planning Team noted that most County officials serve multiple roles within the county, which impacts staff members' capacity to pursue new initiatives, such as funding opportunities or partnerships. County officials also recognize the need to have a Certified Floodplain Manager (CFM) on staff who would be able to pursue flood-risk reduction measures. County officials indicated a preference for contract work for this position over hiring more full-time staff.

In addition to the limitations described above, Tazewell County experienced significant flood events in 2020, 2021, and 2022. Because of these events, County staff has focused efforts on emergency response and recovery rather than preemptive flood risk reduction. However, the recovery process presents opportunities for reducing flood risk during rebuilding.

Additional Initiatives and Considerations

Environmental Permitting

The Clinch River boasts more endangered mussel species than any other river in North America as it flows through the far southwestern corner of the Commonwealth in Tazewell, Russell, and Scott counties before crossing into the state of Tennessee. A record 55 species of mussels once inhabited the watershed. However, pollution events, poor land use practices, loss of anadromous fish hosts, and fragmented habitat caused by dams have reduced that number to 46 species, according to recent accounts.¹¹ Within Tazewell County, there are six endangered species of mussels according to the U.S. Fish and Wildlife Services.

Limited capacity and staff expertise present a regional problem with complying with federal environmental permitting and regulations, such as the Endangered Species Act, specifically concerning stream maintenance. The presence of the mussels adds requirements for the protection of the mussels and additional complexities or directly prevents removing debris and collected sediment from clogged streams that were previously allowed – both of which are significant contributors to floods. The inability to remove debris and sediment from impacted streams was expressed as the largest barrier to reducing

¹⁰ Virginia's Agricultural Cost-Share Program. Chesapeake Bay Foundation. Accessed March 24, 2023. <u>https://www.cbf.org/about-cbf/locations/virginia/issues/virginias-agricultural-cost-share-program.html</u>

¹¹ We're Ready for Musselrama 2021! Virginia Department of Wildlife Resources. Retrieved March 23, 2023. <u>https://dwr.virginia.gov/blog/were-ready-for-musselrama-2021/</u>

flood risk, as removing debris promotes unobstructed stream flows and allows streams to store and channel greater volumes of water within their banks.

Table 5-2 below summarizes the location and status of the local endangered mussel species within Tazewell County. According to the Fish and Wildlife Service, the Cumberlandian combshell mussels, oyster mussels, purple bean, and rough rabbitsfoot mussels persist at extremely low levels in portions of the Cumberland and Tennessee River basins in Kentucky, Tennessee, and Virginia. Currently, the species and their habitats are impacted by deteriorating water quality, primarily from impactful and poor landuse practices. The species are vulnerable to toxic chemical spills.¹² The slabside pearlymussel and fluted kidneyshell are endemic to portions of the Cumberland and Tennessee River systems of Alabama, Kentucky, Mississippi, Tennessee, and Virginia. The fluted kidneyshell mussel is restricted to the Cumberland Region.¹³

Mussel Common Name	Scientific Name	Scientific River		
Cumberlandian Combshell	Epioblasma brevidens	Clinch	Endangered	
Oyster Mussel Freshwater Mussel	Epioblasma capsaeformis	Clinch	Endangered	
Slabside Pearlymussel	Pleuronaia dolabelloides	Clinch	Endangered	
Fluted Kidneyshell	Ptychobranchus subtentum	Clinch and Little River	Endangered	
Rough Rabbitsfoot	Quadrula cylindrica strigillata	Clinch	Endangered	
Purple Bean	Villosa perpururea	Clinch	Endangered	

Table 5-2: Critical Habitat – Mussels within Tazewell County.¹⁴

The endangered species of mussels are shown in Figures 5-1 to 5-6

¹² ETWP; Determination of Endangered Status for the Cumberland Elktoe, Oyster Mussel, Cumberlandian Combshell, Purple Bean, and Rough Rabbitsfoot. USFW. Retrieved April 11, 2023. <u>ETWP; Determination of</u> <u>Endangered Status for the Cumberland Elktoe, Oyster Mussel, Cumberlandian Combshell, Purple Bean, and Rough</u> <u>Rabbitsfoot | FWS.gov</u>

¹³ U.S. Fish & Wildlife Service. Retrieved April 11, 2023. 2013-233556.

¹⁴ U.S. Fish & Wildlife Service. Retrieved April 11, 2023. Listed Species.



Figure 5-1 USFW Tazewell County Critical Habitat – Cumberlandian Combshell Freshwater Mussels



Figure 52 Tazewell County Critical Habitats - Oyster Mussel Freshwater Mussel



Figure 53 Tazewell County Critical Habitat - Slabside Pearlymussel Freshwater Mussel



Figure 54 Tazewell County Critical Habitats - Fluted Kidneyshell Freshwater Mussel



Figure 5-5 Tazewell County Critical Habitat – Rough Rabbitsfoot Freshwater Mussel



Figure 56 Tazewell County Critical Habitat – Purple Bean Freshwater Mussel

National Flood Insurance Program (NFIP)

Tazewell County has a total of 6 communities participating in the NFIP. As of March 30, 2023, the county has a total of 197 policies in place, with over \$36.5 million of insurance in force. The Town of Bluefield was the first community to join the regular NFIP, joining in 1978. The other 4 communities, along with the unincorporated areas of Tazewell County, joined in 1983. The communities within the county have reported 451 paid losses, totaling \$5.06 million. ¹⁵ Table 5-3 below provides a breakdown of the NFIP in Tazewell County.

NFIP Data for Tazewell County							
Community Name	Year of Entry	Policies in Force	Insurance in Force	Number of Paid Losses	Total Losses Paid		
Town of Bluefield	1978	40	\$6,596,000	113	\$781,740		
Town of Cedar Bluff	1983	19	\$2,494,000	13	\$61,027		
Town of Pocahontas	1983	8	\$1,229,000	5	\$247,048		
Town of Richlands	1983	46	\$8,074,200	147	\$1,346,278		
Tazewell County (Unincorporated	1983	73	\$15,844,000	139	\$1,994,987		
Town of Tazewell	1983	11	\$2,313,000	34	\$630,561		
	Totals:	197	\$36,550,200	451	\$5,061,642		

Table 5-3: NFIP in Tazewell County

The County does not currently participate in the Community Rating System (CRS) program, which is an incentive-based program that encourages counties and municipalities to undertake defined flood risk reduction activities that go beyond the minimum requirements of the NFIP. All CRS flood mitigation activities are assigned a range of point values. As points are accumulated and reach identified thresholds, communities can apply for improved CRS class ratings, which are tied to flood insurance premium reductions.

Emergency Communications

Tazewell County maintains a Reverse 911 emergency communications system. The system allows the County to send messages to residents during emergencies. The County has noted that the system is nearing replacement. The County would like to improve their capabilities with a more advanced system to allow for targeted communications and integration with sensors.

FEMA Hazard Mitigation Grant Program in Town of Bluefield

As a result of severe flood events in 2001 and as part of FEMA's Hazard Mitigation Grant program, the Town of Bluefield was awarded funds to buyout several houses along Walnut Street adjacent to Clinch River that had suffered frequent recurrent flooding and relocate the families. A local church is currently in the process of retrofitting the empty lots into recreation fields to serve the community.

¹⁵ FEMA Community Information System (CIS). Retrieved March 30, 2023.

US Army Corps of Engineers (USACE)

The northern portion of Tazewell County is included in the Huntington District while the southern end of the County is located within the Nashville District. Currently, the Nashville District USACE is preparing a Flood Plain Management Services technical services and planning study for the Richlands area of Tazewell County. The study will include the creation and updating of hydraulic modeling (Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic model) for the Clinch River to be used in the preliminary analysis of flood risk management measures for the Richlands area. Project deliverables will include a detailed report, presentation, models, data, and results. In addition, a FEMA Flood Insurance Study Update will include a submission to FEMA with updated modeling and results for FEMA FIRM and FIS mapping for the Clinch River throughout the Richlands area.

This concurrent effort provides a great opportunity for coordination and collaboration on proposed flood mitigation measures in the Richlands area. Ongoing meetings, exchange of information, and collaboration on proposed flood mitigation measures are planned with the Nashville USACE staff working on the ongoing project described above so that recommendations within this Tazewell County Flood Resilience Plan are coordinated.