

Tropical Storm Helene damage to River Arts District in Asheville. – Photo by Stephan Pruitt

Interagency Recovery Assessment

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1. Executive Summary

This Recovery Needs Assessment (RNA) identifies the recovery needs in the impacted areas. Information for this assessment came from many sources, including from information provided by FEMA, other interagency partners, and state, local, and tribal, (SLT) partners. A Federal Disaster Recovery Coordinator (FDRC) and the Federal Disaster Recovery Officer (FDRO) were assigned on September 30. The supporting Interagency Recovery Coordination (IRC) staff were deployed in early October to coordinate the federal interagency recovery mission. Both participated in daily briefings with the Federal Recovery Support Function (RSF) National Coordinators.

Many of the Mission Assignments were completed by October 14 with assistance from FEMA Headquarters' Interagency Coordination Division (ICD) and the National Response Coordination Center (NRCC). ICD expedited the mission assignment process for all states impacted by Hurricane Helene and Milton, which allowed for the rapid activation of Recovery Support Functions (RSFs) and Other Federal Agency (OFA) Advisors.

The recovery needs were mainly identified due to ongoing engagement between the FDRC, FDROs, RSF Field Coordinators, State, Local and Tribal (SLT) partners and other key stakeholders in the impacted area. Due to the high visibility because of the catastrophic impacts, there were many VIP visits (including the President and the White House Representative) that highlighted other critical needs. The severity of the damage was high, particularly in areas without experience in this level of disruption and devastation.

The FEMA Administrator and Deputy Administrator continued monitoring the recovery efforts, often residing in the state for extended periods of time. Also, due to the massive scale and widespread impacts, Interagency Recovery Coordination was fortunate to have regional surge support from Regions 4 and 5 during the first 30 days following the declaration. Impacts were across all sectors expected for a Type 1 event such as infrastructure and housing, however, unique to this event was acknowledgement of this being an economic disaster with significant implications for the economy of the Western North Carolina (WNC) region.

The IRC team focused on the mission in support of the Incident Action Plan (IAP) Objective 12 "Implement FEMA programs and Recovery Support Function capabilities in coordination with the State to identify and address whole community requirements for recovery." The early activation of IRC allowed for participation in the response and recovery task forces and IRC representatives embedded at the branches and Joint Field Office in Hickory for the identification of gaps.

Federal Disaster Recovery Coordinator (FDRC) established operational coordination with North Carolina Emergency Management. FDRCs and FDROs

FDRC James McPherson: *"Listen from the bottom up (local) and support from the top down (FED/State) with assistance and resources."*

participated in multiple discussions and conversations which reiterated and confirmed the issues and priorities.

IRC recognized from the beginning that North Carolina was a high-capacity state, and the intent was to be in lockstep with the State. The State has a recovery structure and framework with 12 State Recovery Support Functions. The FDRC and FDRO sought to engage with state agencies proactively working toward recovery to not further overwhelm partners and communities. The RSFs and Advisors connected with state counterparts and conducted individual listening sessions from late October to mid-December.

Community Assistance (CA) participated in recurring meetings with the Councils of Government (COGs). The Housing RSF conducted formal listening sessions and outreach to over 200+ stakeholders; the Economic RSF supported economic events in Western North Carolina; Infrastructure Systems met with local county officials; Health, Education and Human Services (HEHS) actively engaged state partners; and the Natural & Cultural Resources RSF met with local partners including artisans and the Eastern Band of Cherokee Indians.

The following engagements were significant and yielded great information with the identification of recovery needs and priorities for Western North Carolina:

October 7

The State Disaster Recovery Coordinator (SDRC) briefed the FEMA Assistance Administration for Recovery and the FDRC the State's recovery priorities as:

- 1. Housing:** Goal to have survivors safely housed by the holidays with winter weather approaching and need for more rental assistance.
- 2. Water/Wastewater Repairs**
- 3. Health Care Services and Facilities**
- 4. Support for Private Bridges (5000) and Private Wells**
- 5. Tourism/ Small Business Resources:** (NC considered a very business centric state. There will be significant impacts to the economy with the possibility of no tourism this season. Identify resources for small businesses that are not loans).
- 6. Work with communities to understand their needs and recovery goals, then Fed/State supports.**
- 7. Expedite Public Assistance:** Assist with contractors/consultants to get worksheets done quickly understanding the capacity of local counties and governments.
- 8. Work within existing networks:** Including universities, Councils of Government, Long-Term Recovery Groups (LTRGs), etc.

October 14

The FDRC and the NC Emergency Management (NCEM) State Recovery Coordinator conducted a 10-day site tour to Western NC, meeting with local county managers and officials from the most impacted counties and communities. The visits resulted in identification of immediate and longer-term priorities for recovery. It was during those conversations the Firewood Repurposed of Wooded Debris plan was developed to ensure the Arboretum reopened. Also, conversations with Mennonite Disaster Service (MDS) and the Appalachian Regional Commission (ARC) began to support private roads and bridges.

October 23

- During the RNA process, the State developed their recovery priorities and Governor Roy Cooper released a preliminary (October 23) and final Hurricane Helene Recovery Damage and Needs Assessment December 13: *“Helene’s impacts—particularly flooding and landslides have made it one of the deadliest U.S. storms of the 21st century, with more than 100 confirmed deaths in North Carolina alone. An estimated 4.6 million people live in one of the designated counties. Updated estimates indicate damage and needs of \$59.6 billion compared to the \$53.6 billion released in October,”* as determined by the Office of State Budget & Management.

Five categories drive close to 90 percent of estimated direct and indirect damage: Economy, Housing, Utilities and Natural Resources, Transportation, and Agriculture—roughly 3.5 times the \$16.7 billion impact of Hurricane Florence in 2018.

The report highlighted two keys to successful recovery and lessons learned:

1. Quickly mobilizing significant, flexible capital; and
2. Proactively investing in local capacity and expertise to support post-disaster efforts.

The report was used to make requests for funding from the state legislature and supplemental funding from Congress.

- Coordination sessions with NC Association of County Commissioners (NCACC), NC Office of Recovery and Resiliency (NCORR) and Univ. of NC (UNC) School of Government were ongoing. NCORR is responsible for convening the state RSFs and they shared their plans and goal for recovery for WNC.

NCORR’s GOAL

Provide long-term support for resilient recovery in Western North Carolina.



These essential recovery partners highlighted the needs including those for technical assistance (TA) and resources especially for under-resourced and underserved communities, stormwater (mapping, planning and TA); Project/Grant Development (engineering support) and education on land use-increased resiliency connections. They recognized that this recovery will be a multi-year process to support local governments; therefore, considerations should be given to leverage existing regional and academic partners and resources.

- Buncombe County and the City of Asheville, considered the economic driver for Western NC, were very hard hit. IRC staff was embedded to support the city and county's transition from response Emergency Support Functions (ESFs) to establishing an RSF structure. Buncombe County established seven RSFs and Asheville established eight. On October 30, listening sessions were held with Federal RSFs and Advisors and the city and county separately. The following priorities were identified: Potable water was the main concern for both the city and county. Debris management, economic recovery, housing, watershed restoration, and the overall challenges with staff capacity comprised the others. These listening sessions confirmed the same issues, needs and challenges at the local level.

November 8

- One of the most important listening sessions took place when the NCACC convened Helene-impacted counties and communities. The five Councils of Government representing 25 counties in WNC included the High Country COG, Foothills Regional Commission, Land of Sky Regional Council, Southwestern Commission COG, and Western Piedmont COG. Each identified priorities for their region, summarized below. Refer to the Methodology section for a breakdown of the COG priorities.
 - **Infrastructure:** Redundancy and Resiliency Infrastructure including Roads & Bridges, Utilities Communications Water, Sewer
 - **Debris:** Expedited Debris Management & Waterway/Blueway's Debris Removal
 - **Businesses/Economic/ Tourism Support** including support for small businesses
 - **Housing:** Immediate and longer-term, and during the gap between Individual Assistance and Community Development Block Grants (CDBG-DR), More Affordable Options, Lack or Shortage pre-disaster, Innovative and Faster-built Housing; i.e. Modular.
 - **Capital/Funding:** Revenue, Capital funding, Streamline Funding Requirements for Grants, Fewer Loans and More Grants, Need for Cash Flow on Hand to be better prepared.

- Lastly, engagements with nonprofit partners including with the Office of Strategic Partnerships, National Coalition for Arts Preparedness & Emergency Response (NCAPER) and others resulted in the identification of issues and needs as well.

The NC Inclusive Disaster Recovery Network is a statewide, cross-sector coalition of over 300 organizations founded in 2016. They are working toward a disaster recovery system in which all North Carolina communities can fully recover. The group developed “A Framework for Helene Recovery,” which suggested addressing the underlying conditions that put rural communities and others at greater risk during disasters and recovery—addressing the full range of needs from mental and behavioral health to physical infrastructure and other issues such as connectivity, schools and childcare, housing/eviction moratorium and capacity building at various levels of government. This coordination also allowed for early identification of resources for immediate recovery priorities and unmet needs.

As IRC was actively involved in the RNA process, FEMA Planning developed and published the Integrated Strategic Plan (ISP) December 13. Senior leadership identified the priorities for achieving the mission with three recovery outcomes: Individual and Family Resilience; Natural and Built Infrastructure Resilience and Community and Economic Resilience. IRC will support with strategies to assist with achieving the State’s recovery outcomes and priorities.

Early deployment of IRC to the recovery mission yielded an enhanced ability to recognize where immediate recovery support and/or solutions could be quickly provided. Throughout this recovery assessment process, given catastrophic impacts across all sectors, miscommunication and other challenges; the team made every effort to seek and identify opportunities to identify immediate resources and support recovery—achieving the following results:

Recovery Assistance Provided through Rapid Needs Identification

SBA	Offers Disaster Assistance to Businesses and Residents in NC/ Increased Loan Limits: Up \$2M for businesses, up to \$500k homeowners, \$100k for renters.
DOL	Dept. of Labor approves up to \$10 million in initial funding to support disaster recovery jobs, training for North Carolina after Hurricane Helene.
HUD	Announces \$3 million to the State to support people experiencing homelessness in impacted communities under the Rapid Unsheltered Survivor Housing (RUSH) program; \$1.7 million for Hurricane Response in Asheville to support families and businesses; \$4M in CDBG funding will be available to Haywood County from Hurricane Fred and an FHA foreclosure moratorium extension to April 11, 2025.
HEHS	Coordinates with the University of North Carolina System and the North Carolina Association of County Commissioners to assess IHE grant writing capabilities and partnership opportunities on Dec. 3, 2024.
Dept. of Education	Working seven Project SERV applications (Six for K-12, 1 IHE) submitted to date.
USDA	Federal Highways Administration releases \$43 million in Emergency Relief Funds for use by the USDA Forest Service for impacts from Hurricane Helene. Forest Service will use funding, in part, for roads.
Philanthropic	The Community <u>Fdn.</u> Of W. North Carolina's Emergency and Disaster Response Fund awarded a \$2 million grant to Lutheran Disaster Response Carolinas to partner with Mennonite Disaster Service in rebuilding private bridges destroyed by Helene. The project will prioritize the hardest-hit areas in Avery, Mitchell, Yancey, Madison, Rutherford and Buncombe Counties and bridges impacting multiple families and the critically vulnerable. Some 5,000 private bridges were damaged by the storm. 11/26
Rural Development	Single Family Housing Section 504 Home Repair Loans and Grants in presidentially-declared disaster areas pilot program.
IRC	Completes activity to repurpose in excess of 5,000 fallen trees in the Pisgah National Forest downed by Tropical Storm Helene. More than 320,000 pounds of wood was removed in partnership with NC Division of Emergency Management, UNC System, the US Army Corps of Engineers, Team Rubicon, American Red Cross, Mennonite Disaster Services, USDA-RD and the US Forest Service.
IRC	Completes identification of interagency funding options to restore private roads and bridges damaged and destroyed by Helene. Funding sources included relevant grants and programs from SBA and the USDA.

FEMA launched the “Community Liaison Program,” in October, a pilot program to hire community-based staff to serve as liaisons between survivors and FEMA. Community Liaisons will collaborate directly with local entities to foster relationships and support long-term recovery and are planned to coordinate closely with IRC to leverage assistance and resources in conjunction with recovery partners.

This RNA summarizes the background situation, main areas of focus, and the jointly identified recovery needs. Identified recovery needs are organized according to the lead federal Recovery Support Function and Advisor, followed by Cross-cutting Recovery Needs also organized by lead RSF and Advisor.

1.1. SUMMARY OF NEEDS

Table 1 provides a brief description of the identified recovery needs by the lead RSF.

Table 1: Summary of Needs

NEED	SUMMARY
Community Assistance	
5.1.1 Limited local capacity for recovery and resilience planning	The recovery process requires a blend of local insights and specialized expertise, with trauma-informed professionals engaging communities to shape holistic, sustainable strategies tailored to their unique needs and informed by lessons from past disasters.
5.1.2 Building codes and permitting are carried out at different levels of government	North Carolina's building permit process requires compliance with state and local codes, separate sub-permits for specific work like plumbing and electrical, and additional forms for residential construction.
5.1.3 Capacity and staffing gaps exist in county and local governments impairing recovery planning and recovery operations	Understaffed rural governments in Western North Carolina face challenges in disaster recovery due to limited resources, personal losses, and decreased tourism following Tropical Storm Helene.
5.1.4 Flooding and landslide impacts changed topographical features of waterways and floodplains	Tropical Cyclone Helene's flooding and landslides have altered the landscape, necessitating climate adaptation planning based on new topography and its impact on watersheds and infrastructure.
5.1.5 Rural residents have limited and fragmented access to digital public recovery communications	In Western North Carolina, digital communications are vital for local governments to provide recovery information, combat misinformation, gather feedback, and support survivors in areas with limited traditional communication infrastructure, especially after disasters.
5.1.6 Historic impacts and repetitive loss in small town and unincorporated areas require significant redevelopment	Tropical Cyclone Helene's landslides and flooding have severely damaged infrastructure and reshaped landscapes in Western North Carolina, requiring holistic, town-scale planning for rebuilding efforts.
Economic	
5.2.1 Interruptions to Supply Chain, Shipping Concerns, Manufacturing and Future Manufacturing Development	Ensuring resilient supply chains, efficient shipping, and access to technical assistance, such as Manufacturing Extension Partnership (MEP) support, are vital for recovery and rebuilding efforts.
5.2.2 Disaster Impacts Exacerbated Existing Need for Regional Economic Diversification	Updating CEDS, conducting economic vulnerability and opportunity assessments, and focusing on tax-base and population retention are crucial for strengthening economic resilience and recovery.
5.2.3 Damage to and Loss of Small businesses	Supporting childcare businesses is essential for community recovery, workforce stability, and economic resilience.
5.2.4 Reduction of infrastructure and resources supporting the Workforce leading to concerns for Workforce Retention and Loss of Jobs	Workforce planning, retaining the pre-disaster workforce, and addressing childcare needs are critical components of recovery efforts.

5.2.5 Skills Gap identified by Increased Demand for Workforce in Trades related to Rebuilding and Recovering	Addressing immediate construction needs, including debris removal, permitting, engineering, and building, alongside continued development and diversification, is essential for sustainable recovery.
5.2.6 Storm Impacts Fragmented and Eliminated Key Commercial, Industrial and Arts Districts Causing Difficulties in Redeveloping in a Safe Way That Mitigates Future Hazards	Community planning, floodplain management, revitalizing business districts, and utilizing updated hazard data are critical for informed and resilient recovery efforts.
Health, Education, & Human Services	
5.3.1 Timely Human Services Coordination will be essential, especially with needs	Efficient coordination around Human Service Needs.
5.3.2 Impacts to Childcare	The North Carolina Division of Child Development and Early Education (DCDEE) confirmed at least 55 child care centers sustained damage that prevented reopening. Additionally, the General Assembly granted NC DHHS the flexibility to waive certain mandatory standards for licensing child care facilities in an area impacted by Tropical Storm Helene to address the child care needs of families in the 39 impacted counties.
5.3.3 Extreme Impacts of Prolonged Stress and Behavioral Health (Domestic Violence, Substance Abuse, Child Maltreatments/CPS)	Natural disasters negatively impact mental health. This is driven by both newly induced post-traumatic stress disorder (PTSD) in disaster survivors as well as, for existing mental health patients, a higher likelihood that their access to needed care is disrupted and that underlying conditions are worsened.
5.3.4 Impacts to Social Services	According to North Carolina Department of Health and Human Services, there are more than 4,000 children in the custody of DSS and their resource parents in the impacted counties. There are six guardianship corporations in the Helene-impacted counties that are responsible for meeting the essential needs of individuals in their care.
5.3.5 Need for enhanced Operational Support including Training and Developmental Needs	The behavioral health team will exam the need to expand behavioral health focused training programs, as well as enhancements in telehealth capabilities to support long-term recovery efforts and ensure continued access to services.
5.3.6 Public Health Impacts from Damage Public/Private Infrastructure	Six weeks after Helene, western North Carolina communities, still lacking potable water, are sharing a map of public access points and safety tips. Additionally, local health departments express concerns about potential damage to private well and septic systems due to lack of awareness during debris cleanup and rebuilding efforts.
5.3.7 Recovery Planning Capacity for County Health	Concerns around the recovery planning capacity of county and local health, as well as gaps in the assistance being offered to group home residents and owners.
5.3.8 Challenges to Restoration / Adaptation of Public Health Program Services	Challenges with sustaining core public health functions.
5.3.9 Environmental Exposures from Mold/Debris/Sediments	Concern surrounding potential chemical and biological contaminants in sediment and mud.
5.3.10 Potential Exacerbation of Communicable Diseases	Communicable diseases are potentially exacerbated by the impacts of Tropical Storm Helene.
5.3.11 Concerns around Social and Structural Challenges	The behavioral health team will examine how social, health, and economic factors, such as housing affordability, workforce dynamics, and access to behavioral health resources for the uninsured, impacts behavioral health outcomes.
5.3.12 Education Facility Recovery	Tropical Storm Helene damaged K-12 schools, institutions of higher education, and early learning program facilities causing extended school closures; funding shortages for repair, relocating, and rebuilding costs; and loss of materials such as technology, curriculum, learning materials, and furniture.
5.3.13 Disruptions to Services and Resources for K-12 school districts,	Tropical Storm Helene created numerous challenges to restore the learning environment for educational communities including insufficient mental and behavioral resources; lack of affordable housing for displaced families and

early learning programs, and institutions of higher education	education staff; inadequate and unsafe transportation routes to schools; insufficient number of childcare providers; lack of funding resources to address learning loss; lack of funding resources to address additional staffing needs; lack of funding resources to address depleted funds from response efforts; insufficient resources to support unhoused and displaced students; and insufficient support to manage the influx of in-kind donations.
Housing	
5.4.1 Challenges Associated with Reduced Insulation Due to Structural Damage	Helene's strong winds, flooding, and debris caused both structural and non-structural damage to homes, leaving residents vulnerable to weather, temperature changes, and mold, while increasing energy use and bills, especially in winter.
5.4.2 Lack of Flood Insurance & High Uninsured/Underinsured Survivor Rates	44.92% of IA's Individuals & Households Program applicants had housing insurance, and 1.07% had flood insurance, making underinsurance or lack of coverage a barrier to housing and economic recovery, as IHP assistance alone is often insufficient to fully restore homes and businesses.
5.4.3 Lack of Temporary Housing for Displaced Residents	The High Country Council of Government reported that over 100 people in Watauga and surrounding counties remain homeless, urgently needing shelter as colder weather and potential snow approach.
5.4.4 Extensive Storm-Damaged & Destroyed Houses in Multiple Counties	Western North Carolina faces severe housing losses, with hundreds of homes destroyed or damaged across Buncombe, Avery, Yancey, Henderson and Brevard Counties, worsening pre-existing housing shortages.
5.4.5 Structural Damage to Homes & Businesses	Helene's winds, flooding, and debris have damaged homes and businesses, leaving residents homeless or without income, forcing some to relocate.
5.4.6 Renters Facing Evictions as a Result of Loss of Income Sources	Income losses and limited landlord leniency have increased evictions, while rental assistance programs face hesitation due to repair funding gaps and unclear details.
5.4.7 Pre-Disaster Affordable Housing Shortages Exacerbated	Helene worsened an already limited affordable housing market in Western North Carolina, reducing housing stock further and forcing residents to relocate, which has also impacted local businesses.
5.4.8 Disproportionate Impacts to Limited English-Speaking/Vulnerable Populations	Counties in the declared disaster area have higher levels of vulnerable populations, with 12.8% of individuals in western North Carolina having a disability and 17.5% to 33% of the population in impacted counties being 65 or older, making them less likely to relocate and more reliant on limited resources for housing repairs.
5.4.9 Outdated Building Codes & Zoning Challenges	North Carolina's outdated building codes, based on older editions of the International Building Code, reduce eligibility for federal disaster recovery and hazard mitigation funding, while efforts to implement inclusionary zoning practices have raised legal concerns.
5.4.10 Challenges to Reconstruction/Relocation as a Result of Damages to Land	Tropical Storm Helene's damage has created a need for new land development, hindered by topographical issues like erosion and landslides, and process challenges such as shortages of certified developers and funding, adding strain on residents rebuilding or relocating.
5.4.11 Water Contamination due to Well & Septic System Damage	In Western North Carolina, damaged wells, septic systems, and flood debris have contaminated water supplies, caused mold growth, and eroded soil, posing health risks and hindering long-term housing recovery.
Infrastructure	
5.5.1 Widespread damage to dams and impoundments	Tropical Storm Helene damaged multiple impoundments, including Asheville's run-of-the-river dam, highlighting the urgent need to repair and restore waterways.
5.5.2 Extraordinary Debris is Straining Storage Capabilities	Tropical Storm Helene strained landfill capacity, emphasizing the need for sustainable debris management and alternative disposal methods to support recovery and resilience.
5.5.3 Storm damage significantly altered geomorphology of western North Carolina, rendering existing mapping of watersheds, zoning and insurance rates obsolete	Helene reshaped Western North Carolina's geomorphology, requiring extensive remapping of its 35 HUC-8 watersheds for insurance, zoning, and waterway restoration to support recovery.
5.5.4 Impacts to waterways, loss of habitat and bank de-stabilization due	Flooding caused stream channel shifts, habitat loss, and unstable banks, increasing erosion risks to nearby structures, with challenges in restoration complexity, funding, and technical support.

to flooding and hydrogeomorphology changes	
5.5.5 Damage to public roads and bridges	Helene damaged multiple interstates, state, city, and private roads, creating challenges in determining responsibility, securing funding, addressing hydrology issues, and navigating complex regulations.
5.5.6 Damage to water and wastewater treatment plants and pipes	Flooding, power loss, and system damages have disrupted multiple infrastructure systems, with key challenges including funding and insufficient technical support in affected counties.
5.5.7 Numerous damaged and destroyed private roads and bridges in rural areas are the only access points linking residents with community services	In Western North Carolina, digital communications are vital for local governments to provide recovery information, combat misinformation, gather feedback, and support survivors in areas with limited traditional communication infrastructure, especially after disasters.
Natural & Cultural Resources	
5.6.1 Aquatic habitat loss	Tropical Storm Helene severely damaged streams and aquatic ecosystems in Western North Carolina, disrupting habitats, endangering species, and impacting fishing economies, requiring extensive restoration and collaboration efforts.
5.6.2 Terrestrial habitat loss	Helene's 1,900 landslides altered streams, damaged habitats, threatened endangered species, increased wildfire risks, and obstructed roads and properties, requiring urgent stabilization and recovery efforts.
5.6.3 Damaged state/local parks, wildlife management areas and other green spaces	Tropical Storm Helene damaged trails, farmland, recreational facilities, and roads in Western NC, impacting agriculture, tourism, and safety, while highlighting the need for better flood monitoring.
5.6.4 Flooded historic downtowns and buildings	Tropical Storm Helene damaged state historic sites, museums, and over 100 historic properties, reducing tourism and requiring compliance with complex environmental and cultural regulations, highlighting the need for expedited review processes to facilitate recovery.
5.6.5 Impact and damage to art, art studios, and cultural institutions	Tropical Storm Helene devastated Western North Carolina, causing toxic silt, damage to libraries, arts venues, and studios, reducing arts tourism, and prompting a shift to e-commerce for artists while highlighting the need for memorialization.
5.6.6 Shift in creeks obstructing private property	Helene-induced creek shifts in Buncombe County have obstructed private properties and access routes, including roads, bridges, and culverts.
Advisor Findings	
6.1.1 Damage to Electrical Grid, Broadband, and Communication Infrastructure	Providing more resilient electrical systems that reduce the risks of disruptions is an achievable outcome by assessing storm risks in the electrical grid and proactively building back better.
6.1.2 Flooding to Households due to Dam in Marshall and other Counties	A now defunct dam in Marshall contributed to 13 homes being washed out.
6.1.3 Building Codes to Improve Upon Energy Efficiency and Resilience	Building codes to improve upon energy efficiency.
6.1.4 Opportunities for Distributed Generation and Back-up Power for Hubs and Microgrids	Creating redundant and resilient infrastructure to create stronger, storm resilient communities.
6.1.5 Displaced Residents and Businesses at Risk in Temporary Structures Utilizing Unconventional Power and Temporary Utilities	Many survivors are relying on temporary structures with unsafe power sources, risking long-term use due to delays in repairing their primary residences.
6.1.6 Low Capacity in Permitting	Energy permitting is a slow process, and local governments do not have the capacity to handle many upgrades and damages.
6.1.7 Hazardous substances, pollutants and contaminants present potential liabilities and impair reuse of land in impacted communities	Helene worsened contamination at brownfields, increasing cleanup costs and delaying redevelopment, but strategic use of EPA grants and sustainable practices can turn these sites into economic assets, driving growth and resilience.
6.1.8 Limited funding for impacted water/wastewater utilities that	Helene damaged critical water systems, highlighting the need for resilient infrastructure, equitable funding, and sustainable recovery practices.


presents challenges to rebuilding and resiliency	
6.1.9 Disproportionate impact on environmental justice communities	Hurricane Helene highlighted the disproportionate impact of extreme weather on environmental justice communities, which face heightened exposure to hazards and systemic barriers to recovery, emphasizing the need for equitable, sustainable recovery strategies with resilient infrastructure and community engagement.
6.1.10 Community and survivors have limited resources to help address recovery needs	Work across all sectors to identify and secure financial, technical and additional resources to address unmet needs.
6.1.11 Need to expand the involvement and coordination of the partnership with the North Carolina Philanthropic Network	Engaging counterparts from the North Carolina philanthropic community is essential to fostering collaborations that address funding gaps and connect resources to needs.
6.1.12 Need to establish support from the private sector to assist addressing unmet needs	Corporate giving contacts can be accessed through collaborations with FEMA's EA Private Sector program and the Philanthropy liaison at North Carolina's Office of Strategic Planning.
6.1.13 Multiple federal, state, and local agency involvement on undertakings creates need to align and streamline EHP compliance review efforts	The scale of the disaster in Western North Carolina has led to overlapping programs, regulatory challenges, and inexperience with federal grant requirements, causing uncoordinated recovery efforts and delays in funding.
6.1.14 Disruption and Loss to Agriculture Sector	Hurricane Helene disrupted agriculture, aquaculture, livestock, and biomass industries, with USDA cost-share and reimbursement requirements creating financial hardships for recovery applicants lacking capital access.
6.1.15 Farmland and Topsoil is Severely Eroded and/or Contaminated	Helene caused severe farmland erosion, soil contamination, and crop losses, impacting farmers, the agricultural supply chain, and local food availability, with USDA programs critical for recovery and replanting efforts.
6.1.16 Disaster Supplemental Nutrition Assistance Program (D-SNAP) - Application Process Too Complex for Spanish-speaking Students	Spanish-speaking students had significant trouble with the DSNAP application. The application process is too complicated, not bi-lingual friendly, and high call volume not managed properly
6.1.17 Ambiguity in Disaster Supplemental Bill Eligibility and Rural Area Limitations for USDA Programs	The Disaster Supplemental Bill remains unclear, as the USDA has not defined program implementation or eligibility criteria, and its varying definitions of "rural areas" across different programs may limit participation in funding for business, housing, and infrastructure, creating confusion for applicants.

2. Background

In the days before Hurricane Helene’s landfall, a significant rain event occurred in North Carolina which saturated the ground to 90 percent, greatly increasing the risk of floods and landslides. Helene made landfall as a strong Category 4 hurricane in Big Bend, Taylor County, Florida on September 26, moved in a northeasterly direction and entered Western North Carolina on September 27 as a tropical storm.

Pre-Disaster Conditions

U.S. Census Statistics: In 39 Designated Counties	Percentage No.
Population over 65 years old	17 %
Population below the poverty level	12.5 %
Population without health insurance	11 %
Population under 65 with Medicaid only	15 %
Number of people living with a disability	560,404
Households with housing cost burden*	27 %



***Mortgage/rent plus utilities totaling 30% or more of household income.**

Communities along the Blue Ridge Mountains received nearly 14” of rainfall, with some isolated areas receiving up to 31.3 inches; only the second time in recorded state history. Saturated soil could not absorb the excess rain, resulting in five feet of inundation in some areas. Flash flooding and heavy rain triggered mudslides and landslides that crippled infrastructure. Thousands of homes were destroyed, and tens of thousands more were damaged. Significant, long-term impacts dealt a severe blow to the region’s economy threatening livelihoods and the communities’ long-term viability,” the governor said in his report. Helene spawned several tornadoes in eastern North Carolina causing further damage.

Tropical Storm Helene was the deadliest and most damaging storm in North Carolina’s history, claiming the lives of 103 North Carolinians across the state; 43 in hardest-hit Buncombe County alone. Helene’s impacts to infrastructure, homes, businesses, economy, the communities and neighborhoods, health and the environment across the Western half of the state affected 4.6 million people living in one of the 39 disaster-designated counties, more than 40 percent of North Carolina’s population.

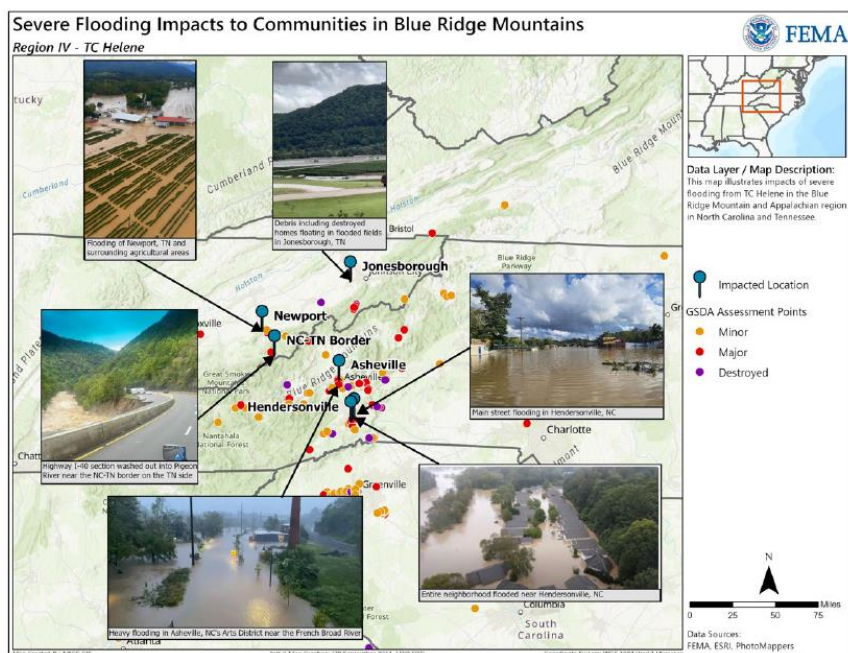
2.1. INCIDENT DESCRIPTION

As Helene headed inland along a 500-mile track through Georgia, Western North Carolina, South Carolina, Virginia and eastern Tennessee, it delivered a broad and deadly swath of tornadoes and flooding causing rivers to overflow, bridges to fail, roads to wash away and mud and sediment to slide down hills and mountainsides. Four million residents were without power and communication across the six Southern states; complicating response and recovery efforts. The combined effects of flooding, landslides, straight-line winds, and tornadic activity left thousands displaced, while mountainous terrain and storm debris limited access to emergency services.

Passing through already rain-soaked Western North Carolina, Helene’s record-breaking rainfall severely impacted Swannanoa, Asheville, Chimney Rock, Lake Lure, Spruce Pine, Montreat and many other townships, overcoming homes and businesses with mud-heavy floodwaters. Valley communities in the Appalachians were left isolated as raging waters, mud and debris funneled into low-lying areas. Streams and rivers already swollen to flood stage produced 1,000-year flood events in several counties, destroying

houses, businesses and infrastructure and cutting off power and access to critical services—water and sewer systems, healthcare and communications.

Eight tornadoes touched down in the state including five EF1s in Durham, Sampson, Vance Counties and elsewhere. An EF3 struck Rocky Mount, injuring 15. Rushing water and mud cut road and rail connections to Asheville, damaged and destroyed hundreds of structures and severed pipes connecting its water treatment plants.



Tropical Storm Helene, a complex and widespread Type I incident, damaged or destroyed an estimated 126,000 homes, 6,000 miles of roads and more than 1,000 bridges and culverts. Floodwaters caused 1,400 landslides and damaged at least 160 water and sewer systems. As many as 236,000 homes and businesses were without power and water in excess of 25 counties, mostly in the hard-hit mountainous areas. An estimated 620 roads were closed deemed unsafe for travel; three interstates including I-40 and I-26 were impassable in several locations, 42 U.S. routes, 60 state routes

and 515 secondary routes were affected.

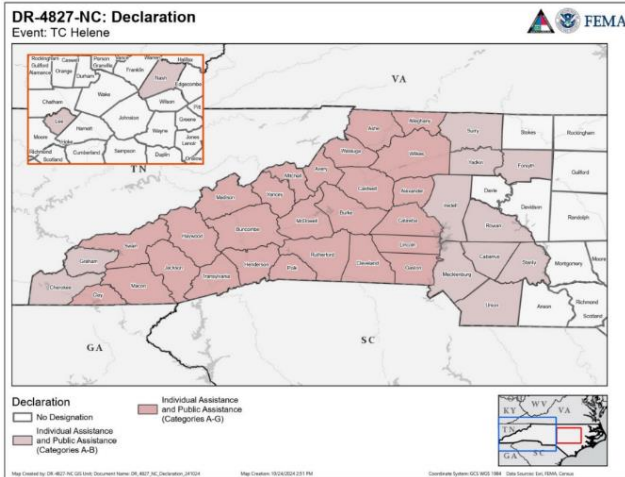
Approximately 220,000 households have applied for federal assistance; however, close to 93 percent of homes with flood damage lacked flood insurance.

Helene struck areas that may have a particularly difficult time recovering from the disaster. U.S. Census figures indicate counties in declared disaster zones tended to have higher shares of older adults, people with disabilities and mobile homes than those outside of the disaster-declared area.

Long-term impacts to the state are include delays in returning to business due to infrastructure damage as well as delays in restoring agriculture and tourism due to damage to natural landscapes, health and environmental factors.

Disaster Declaration

A Major Disaster Declaration was approved for North Carolina on Sept. 28, 2024, initially designating 25 counties and the Eastern Band of Cherokee Indians for Individual Assistance; 25 counties and the Eastern



Band of Cherokee Indians for debris removal and emergency protective measures (Categories A & B) including direct federal assistance under the Public Assistance program.

All areas within the state were designated as eligible for assistance under the Hazard Mitigation Grant Program.

Subsequent amendments to the declaration expanded federal assistance to 39 counties and the Eastern Band of Cherokee Indians for Individual Assistance and expanded Public Assistance to Categories C-F.

Six Recovery Support Functions were activated and mission capable between October 12-13 to include Community Assistance, Economic Recovery, Health & Social Services, Housing, Infrastructure Systems and Natural & Cultural Resources.

A U.S. Dept. of Agriculture Advisor was also mission-assigned and onsite Oct. 13, followed by the Environmental Protection Agency, Small Business Administration, Dept. of Energy and internal advisors in Philanthropy, Unified Federal Review and External Affairs.

Disaster Declared Counties Tribal Nation				
County Tribal Nation	IA	PA	A & B	C, D, E, F
Alexander	*	*	*	*
Alleghany	*	*	*	*
Ashe	*	*	*	*
Avery	*	*	*	*
Buncombe	*	*	*	*
Burke	*	*	*	*
Cabarrus	*	*	*	*
Caldwell	*	*	*	*
Catawba	*	*	*	*
Cherokee	*	*	*	*
Clay	*	*	*	*
Cleveland	*	*	*	*
Eastern Band of Cherokee Indians of North Carolina	*	*	*	*
Forsyth	*	*	*	*
Gaston	*	*	*	*
Graham	*	*	*	*
Haywood	*	*	*	*
Henderson	*	*	*	*
Iredell	*	*	*	*
Jackson	*	*	*	*
Lee	*	*	*	*
Lincoln	*	*	*	*
Macon	*	*	*	*
Madison	*	*	*	*
McDowell	*	*	*	*
Mecklenburg	*	*	*	*
Mitchell	*	*	*	*
Nash	*	*	*	*
Polk	*	*	*	*
Rowan	*	*	*	*
Rutherford	*	*	*	*
Stanly	*	*	*	*
Surry	*	*	*	*
Swain	*	*	*	*
Transylvania	*	*	*	*
Union	*	*	*	*
Watauga	*	*	*	*
Wilkes	*	*	*	*
Yadkin	*	*	*	*
Yancey	*	*	*	*

2.2. COMMUNITY CONTEXT

The impacted areas from Tropical Storm Helene include the mountain and foothills regions of Western North Carolina. Known as a major recreational hub within the eastern US, its attractions include climbing,

fly fishing, hiking, skiing, and many other outdoor activities. Among the major economic drivers of Western North Carolina, locals are particularly proud of their many breweries and world-class Christmas tree farms.

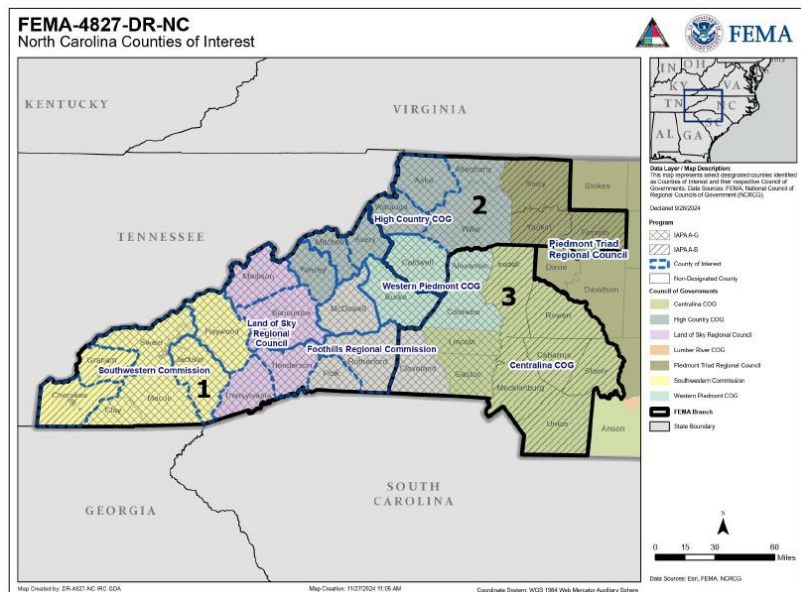
Following Helene, Western North Carolina has shown incredible resiliency and eagerness among locals to rebuild and recover. They are leveraging strong state recovery capabilities, building broad partnership networks, and working with active Councils of Government to promote regional-level efforts and priorities. However, many concerns remain, including small-town and unincorporated area recovery management capacities, small business recoveries, impacts to natural and cultural resources, and a lack of affordable housing. Moreover, damaged or destroyed private roads and bridges, building codes complexities, and harmful misinformation are significant barriers to Western North Carolina’s recovery.

County Impacts

The Community Assistance Recovery Support Function uses a Community Assessment Tool (CAT) to identify the counties, municipalities, and Census-designated Places (unincorporated communities) that have the highest levels of impact as well as indicators of low capacity to manage disaster recovery and high indicators of vulnerability. This tool helps identify areas that may be of highest impact; however, this is only one measure and must be validated based on direct community engagements and other on-the-ground assessments of damages and community indicators.

Based on the CAT, preliminary results identified counties of interest which have limited capacity for recovery, chronically mid- to highly vulnerable populations and high impacts. These Yancey, Mitchell, Buncombe, Avery, Henderson, McDowell, Watauga, Haywood, Ashe, Rutherford, Polk and Madison Counties.

Other counties of interest may include Transylvania, Wilkes, Caldwell, Burke, Cleveland, Allegheny, Gaston, Swain, Mecklenburg, Macon, Iredell, Forsyth, Clay, Cherokee, Cabarrus, Union, Stanly, Catawba, Yadkin, Alexander and Lee Counties.



may
are:

Community Impacts

Preliminary results also identified the following communities of concern which may have limited capacity, high vulnerability and high impact: Montreat Town, Chimney Rock Village, Old Fort Town, Marshall Town, Clyde Town, Crossnore Town, Asheville, Black Mountain Town, Hot Springs Town, Biltmore, Forest Town, Lake Lure, Mills River Town, Woodfin Town, Fletcher Town, Newland Town, Banner Elk Town, Boone, Lansing, Maggie Valley, Weeerville Town and Marion City.

Additionally, several Census-designated Places of concern emerged in the analysis: Valle Crucis and Cove Creek (Watauga County), Barnardsville, Swannanoa, Fairview and Royal Pines (Buncombe County), and Gerton (Henderson County).

Community Assistance is coordinating with four Councils of Government that govern the counties and communities of concern. They are the Foothills, High County, Southwestern and Land of Sky Councils of Government.

3. Interagency Recovery Coordination (IRC) Methodology

IRC and its recovery partners initiated fact finding and identification of impacts, needs and issues utilizing all methods of discovery and research including operational reporting, collaboration with Emergency Support Functions, Recovery Support Functions, interviews with informal partners and FEMA programs as well as news media and social listening monitoring. Ground truthing and detailed discovery efforts began on October 30 with a series of site tours and listening sessions in the highly impacted areas of Western North Carolina.

To minimize repetitive engagements with state, local, tribal nation and territorial (SLTT) partners and enhance efficiencies for visits to areas dealing with complex recovery issues and difficult physical access, IRC adopted a group approach to listening sessions, inviting multiple field coordinators and advisors to participate in single convenings. Similarly, site tours were conducted collectively as routing and schedules permitted. Participation by those joining in listening sessions and site visits was notably high given these challenges to access and high-impact zones.

A predominance of photos and aerial imagery (before and after views) was also made available for study through the National Oceanic and Atmospheric Administration (NOAA) and supplemented fact finding until physical tours were conducted. Site tours and listening sessions are continuing as road and bridge repairs and reconstruction permit travel and as stakeholders are ready and available.

The focus of IRC's listening sessions supports an exchange of information enabling SLTT representatives and officials to learn about IRC as IRC learned about their impacts, needs and recovery issues. Thereafter, focus shifted to analysis of the impacts, needs, issues and the priorities for recovery. Fact sheets about IRC's recovery operations, technical assistance and available resources were shared with stakeholders and partners to review and encourage further interaction.

Conversations with municipal and county leaders enhanced and broadened understanding of recovery needs and how long-term recovery planning and assistance unfolds locally. For IRC, the interchange brought about early recognition of complex issues necessitating cross-sector collaboration as well as preliminary visioning of quick wins as acute issues presented immediate opportunities for recovery assistance.

Partner Engagements per Month by RSF and Advisor

Lead Recovery Support Function	Oct 2024	Nov 2024	Dec 2024	Total
INFRASTRUCTURE	5	4	1	10
HOUSING	0	10	13	23
NATURAL & CULTURAL RESOURCES	1	7	2	10
ECONOMIC	7	6	5	18
HEALTH, EDUCATION AND HUMANA.	7	29	4	40
COMMUNITY ASSISTANCE	12	25	14	51
PROGRAM AREA/ADVISOR	8	6	8	22
Total	40	87	47	174

174 total issues

Issue Count by Due Date 3M and Lead Recovery Support Function 7

These initial meetings with the SLTTs and partners established relationships that will continue throughout the validation of needs, as development of recovery priorities and strategies are discussed and as the recovery implementation and support stage begins.

Especially significant to the Recovery Needs Assessment process was the “Helene Recovery Special Convening of the North Carolina League of Municipalities” event held Nov. 8, attended by Governor Roy Cooper, members of the state legislature, North Carolina’s Councils of Government for the Foothills, High Country, Land of Sky, Southwestern Commission and Western Piedmont, FEMA Administrator, U.S. Congress and Senate members, State and Federal Coordinating Officers, IRC’s FDRO and FDRC and Recovery Support Function Field Coordinators and Advisors. The convening included keynote addresses on Helene’s recovery and a series of breakout sessions with the Councils of Government.

At these breakout sessions, representatives from the Councils of Government identified their top five recovery needs:

Council of Government	RECOVERY NEEDS 1-5				
	Small Business Tourism	Help for Business Revenue, Sales, Property Tax	Infrastructure	Debris Management	Housing
High Country					
Foothills	Dam Resiliency, Waterway Debris Removal, Water/Sewer, Capital Funding, Backup Systems	Small Businesses Left in Large Hole; Flood Plain Mapping	Regulatory Reform, Design-Built Requirements and Approvals, Procurement, TDA Tourism, Grandfathering	Not Feasible Floodplain and Energy Code Requirements; Need Inundation Maps; Medical Support	Regional: Shared Facilitation, Donation Management, Shared Staffing, Community Trauma, Housing Issues Before Helene
Land of Sky	Economic and Business; Creative Financing, Waive Fees on Property Tax, <u>Downtown</u>	Messaging that WNC is Open, Grants, Reopening of Businesses	Housing: Immediate and Long-term for Families, Lack of Direct Lease, Help for How to Rebuild	Fast Debris Removal, Use Local Contractors	Water/Sewer Rebuilding, Policy Regulatory Flexibility
Southwestern	Town of Murphy and Cherokee County	Communications; 911, Cell phones	Private roads and Bridges; Preparedness; Match for Local Governments	Water-Sewer Upgrades; Mill Closure	Mental Health Challenges
Western Piedmont	Public Assistance; Streamline Funding; Increase Housing Inventory	Redundant Systems, Financial Support; Debris Removal; Catawba River Basin	Regulation; Mill Town; Building on Smaller Lots	Financial Support for Small Business	Davis Bacon 1931 is Outdated, Runs Up Costs

In group sessions, the councils prioritized needs by Immediate, Intermediate and Future Needs. The well-timed, well-received and insightful event connected local leaders with recovery partners to share their needs, issues and concerns with those who support them, facilitated knowledge sharing among all recovery partners and widened connections with all levels of government for future collaboration.

Beyond research, listening sessions, meetings and site visits, the Recovery Needs Analysis was also built through recording disaster damage/impact

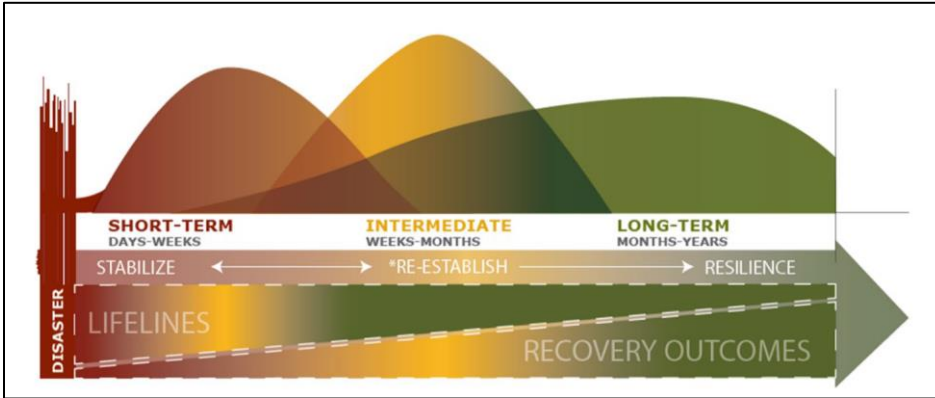
reports, reports of engagements and outcomes of activities in the Max-Trax project tracking platform.

Findings inform the joint objectives and recovery needs shared in this RNA advising the next stage of recovery—defining the recovery strategies to meet needs, recovery planning and ultimately delivering recovery support.

4. Joint Recovery Objectives

Joint Recovery Objectives, developed by the Unified Coordination Group (UCG), are shared in operational reports and in the FEMA-DR-4827 Integrated Strategic Plan (ISP). The plan provides a strategic response and recovery guide to support decision making by federal and state leadership.

Joint recovery objectives and strategies achieve the goals of the State and FEMA for an equitable, risk-resistant, resilient recovery for the whole community.



The ISP guides the overall direction for incident management and its priorities, objectives and strategies enable recovery progress measurement throughout the recovery continuum.

As disasters start and end locally, through the identification of recovery responsibilities and resources, the strategic plan

ensures local, state, tribal and federal activities, including those of IRC are integrated and mission oriented.

The joint priorities for achieving the North Carolina recovery mission are:

- **Individual and Family Resilience**
- **Natural and Built Infrastructure Resilience**
- **Community and Economic Resilience**

Interim general objectives supporting recovery are defined periodically in the Incident Action Plan.

Recovery outcomes guiding strategic actions in response to recovery needs and in support of the priorities are summarized below.

Recovery Outcomes

Individuals and Families remain in their communities, resilient to future disruptions, and disaster-related homelessness has been prevented.	Catastrophically rearranged natural and built infrastructure has been rehabilitated, preserved, and made more resilient and sustainable.	Economy has been restored to contribute to GDP and taxable income and tribal/local governments can plan resource and manage their own recovery.
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5. Recovery Support Function (RSF) Findings

5.1. COMMUNITY ASSISTANCE (CA) RSF

After a disaster, communities must lead complex recovery efforts. The CA RSF supports Tribal Nations and localities by building relationships, providing training, and supporting efforts to plan, prioritize, and implement their recovery goals and objectives.

Mission: Coordinate assistance and support from across the federal government and nongovernmental partners to help SLTT governments effectively plan for and manage their recovery.

Participating Agencies: American Red Cross | AmeriCorps | Delta Regional Authority | Department of Agriculture | Department of Commerce | Department of Education | Department of Justice | Department

of Health and Human Services | Department of Homeland Security | Department of Housing and Urban Development | Department of the Interior | Department of Transportation | Environmental Protection Agency | General Services Administration | National Voluntary Organizations Active in Disaster | Small Business Administration | U.S. Access Board | U.S. Army Corps of Engineers

[5.1.1 Limited local capacity for recovery and resilience planning](#)

Last Updated: 12-16-2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: The recovery process demands more than just local insight- it necessitates a blend of grassroots understanding with specialized technical knowledge. Local recovery planning is pivotal, as it molds the recovery strategy to include the specific needs, aspirations, and challenges of the impacted community. Moreover, community engagement that is carried out by professionals who are trauma-informed and have experience in complex post-disaster community building is critical. Leveraging lessons from past disasters elsewhere, technical experts can offer time-tested solutions that can be tailored to the unique contexts of impacted North Carolina communities. This melding of local knowledge with external insights aims to ensure that recovery strategies are holistic, forward-thinking, and capable of steering the community towards a resilient and sustainable future.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.1.2 Building codes and permitting are carried out at different levels of government](#)

Last Updated: 12-16-2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: North Carolina has a multifaceted approach to building codes and permits. All permits must comply with North Carolina state building codes, but permits are issued at the local/county level and must also comply with any additional building codes the local/county government may have enacted. Furthermore, in addition to standard building permits, sub-permits for mechanical, plumbing, or electrical work must also be separately obtained, as well as Authorization to Construct forms for residential structures.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.1.3 Capacity and staffing gaps exist in county and local governments impairing recovery planning and recovery operations](#)

Last Updated: 12-16--2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: Understaffed rural counties and local governments in Western North Carolina do not have the capacity to plan for and lead their disaster recovery operations, including managing an influx of federal and state recovery resources.

Recovery requires sufficient staffing to design, manage, implement, and monitor recovery projects and programs. Many impacted counties and local governments have either only part-time staff or staff who are filling disaster roles on top of their steady-state responsibilities. Furthermore, many of these staff are survivors themselves and are trying to manage their community's recovery while handling personal losses and grief.

While national media attention after Tropical Storm Helene generated opportunities for more people to donate or provide resources to impacted organizations and communities, it highly curbed tourism, with many people changing their travel plans to other locations. For communities and businesses who relied on tourism, this has generated a fear that it will impact their recovery.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.1.4 *Flooding and landslide impacts changed topographical features of waterways and floodplains*](#)

Last Updated: 12-16-2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: As flooding and landslides from Tropical Cyclone Helene have changed the topographical features of impacted areas, communities are faced with undertaking significant climate adaptation planning. It will be important to understand the new geography of the land, as well as how the previous watersheds, dams, and geographical landscapes may have produced or exacerbated the impacts they experienced.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.1.5 *Rural residents have limited and fragmented access to digital public recovery communications*](#)

Last Updated: 12-16-2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Infrastructure Systems

Description: The path to recovery is often paved with questions, uncertainties, and apprehensions. In Western North Carolina, local governments rely heavily on digital communications, to disseminate critical public recovery communications, as many rural residents may have limited access to traditional communications infrastructure. Consistent communication is critical to ensuring that survivors feel supported and informed by their local governments. Local governments also rely on these communications to engage with and receive community feedback from survivors as to their needs, to combat misinformation, and to implement services. These communications are especially critical in the wake of a disaster, when local governments cannot rely on in-person community engagements to gather information from survivors. These engagements include holding town hall meetings, open forums, hosting telephonic help lines, or disseminating informative leaflets.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.1.6 [Historic impact and repetitive loss in small town and unincorporated areas require significant redevelopment](#)

Last Updated: 12-20-2024

Lead RSF: Community Assistance

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Housing, Infrastructure Systems, Natural and Cultural Resources

Description: Landslides and flooding from Tropical Cyclone Helene have caused widespread damage to infrastructure, housing, businesses, and natural and cultural resources, in some cases significantly altering the physical landscape and waterways of Western North Carolina. Impacted communities will require holistic planning to rethink how and where they rebuild- in some cases at the entire town scale.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.2. ECONOMIC RSF

Mission: Integrate the expertise of the federal government to help SLTT governments and their partners sustain and rebuild businesses and employment and develop economic opportunities that result in sustainable and economically resilient communities after large-scale and catastrophic incidents.

Participating Agencies: AmeriCorps | Department of Agriculture | Department of Energy | Department of Health and Human Services | Department of Housing and Urban Development | Department of the Interior | Department of Labor | Department of Homeland Security | Department of the Treasury | Department of Transportation | Environmental Protection Agency | FEMA | Small Business Administration

[5.2.1 *Interruptions to Supply Chain, Shipping Concerns, Manufacturing and Future Manufacturing Development*](#)

Last Updated: 12-14--2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Natural and Cultural Resources

Description: Ensuring resilient supply chains, efficient shipping, and access to technical assistance, such as Manufacturing Extension Partnership (MEP) support, are vital for recovery and rebuilding efforts.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.2.2 *Disaster Impacts Exacerbated Existing Need for Regional Economic Diversification*](#)

Last Updated: 12-14--2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Updating CEDS, conducting economic vulnerability and opportunity assessments, and focusing on tax-base and population retention are crucial for strengthening economic resilience and recovery.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.2.3 [*Damage to and Loss of Small businesses*](#)

Last Updated: 12-17-2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description:

- Small businesses account for 99.6 percent of all businesses in North Carolina. In some impacted counties in Western North Carolina (WNC), small business employees account for well over 75% of the workforce. These businesses are critical to the economy of WNC and have experienced an outsized impact from the storm. Many small businesses are in downtowns or arts districts centered along WNC's rivers and thus were among the most heavily impacted by riverine flooding. Numerous other small businesses, especially in more rural areas, are home-based businesses, and the loss of a business included the loss of a home for the proprietors.
- A wide swath of other businesses that were not directly impacted with physical damage have experienced significant economic injury due to loss of power and water, customers and employees, and anticipated revenue generated during the region's peak fall tourism season. In the months following the storm, millions of visitors typically flock to WNC to view the changing leaves, pick apples, or participate in similar "seasonal" experiences, or just generally enjoy the region's natural beauty and mild climate. This is the time of year that most businesses in WNC, both small and large, bring in their greatest revenue for the year. This opportunity was lost this year, leaving many businesses in precarious straits for making it through the usually slower winter months.

- To ensure that they can make it through until tourists return, these businesses could use loans. However, the US Small Business Administration's Disaster Loan Program is currently lacking Congressional funding appropriation. Additionally, many of the impacted businesses are already overleveraged and may not survive without grant assistance, which is very limited compared to the needs. Many of the impacted small businesses also lack experience and understanding of how to navigate the recovery process and properly document their losses to qualify for the various types of assistance that are available.
- Additionally, while some businesses, such as those in construction, debris removal, landscaping, engineering, etc., do not rely on the seasonal nature of WNC's tourism-based economy and could also potentially benefit from the increased need for their services post-storm, many do not have the required State and Federal certifications or bonding capacity to qualify for valuable government contracts for recovery and rebuilding efforts, which are then at risk of being primarily awarded to larger or non-local businesses. These concerns demonstrate a significant need for increased technical assistance and business counseling to support small businesses across a variety of aspects related to planning and implementing their individual recovery strategies.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.2.4 Reduction of infrastructure and resources supporting the Workforce leading to concerns for Workforce Retention and Loss of Jobs](#)

Last Updated: 12-20--2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Health, Education, and Human Services, Housing

Description: Workforce planning, retaining the pre-disaster workforce, and addressing childcare needs are critical components of workforce retention.

Source: None identified.

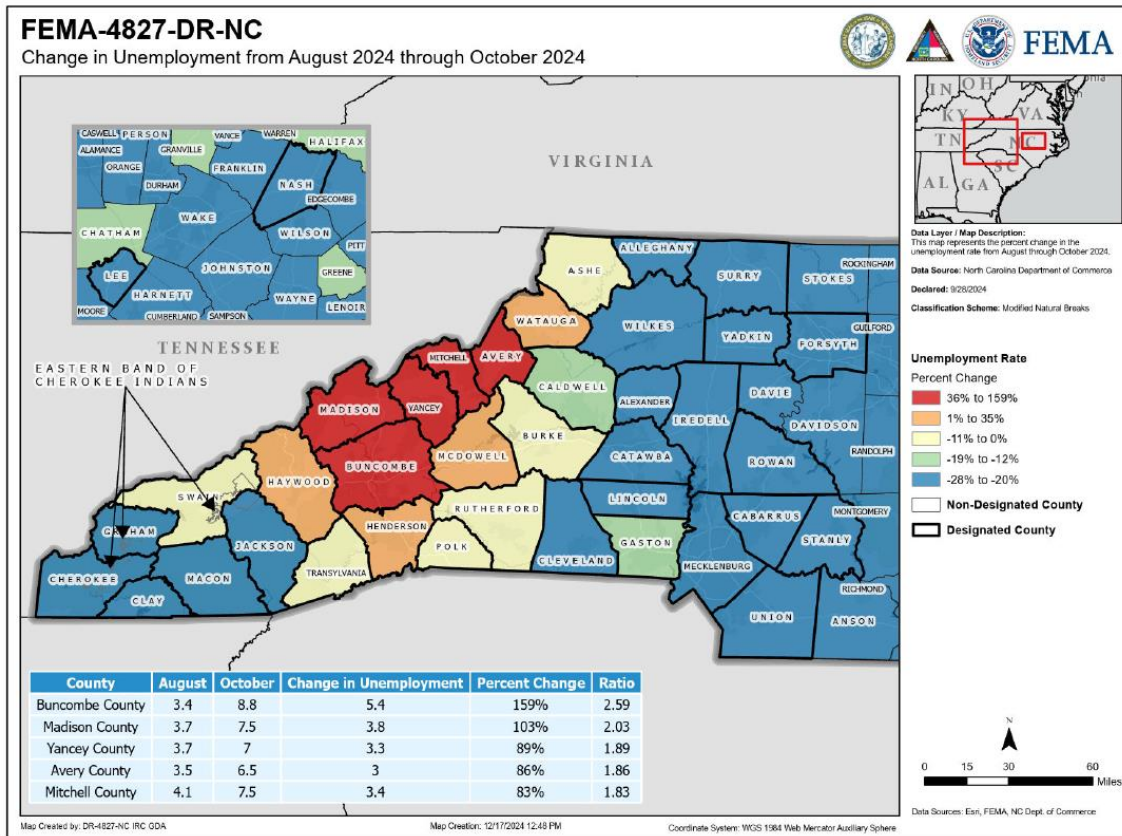
Advisor: Philanthropy Advisor, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.2.5 [Skills Gap identified by Increased Demand for Workforce in Trades related to Rebuilding and Recovering](#)

Last Updated: 12-14--2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Housing, Natural and Cultural Resources

Description: Addressing immediate construction needs, including debris removal, permitting, engineering, and building, alongside continued development and diversification, is essential for sustainable recovery.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.2.6 Storm Impacts Fragmented and Eliminated Key Commercial, Industrial and Arts Districts Causing Difficulties With Redeveloping in a Safe Way That Mitigates Future Hazards](#)

Last Updated: 12-16--2024

Lead RSF: Economic

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Natural and Cultural Resources

Description: Community planning, floodplain management, revitalizing business districts, and utilizing updated hazard data are critical for informed and resilient recovery efforts.

Source: None identified.

Advisor: SBA Advisor, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3. HEALTH, EDUCATION, & HUMAN SERVICES (HEHS) RSF

Mission: Assist locally led recovery efforts to restore public health, health care, human services, education, and behavioral health networks to promote the resilience, health, and well-being of affected individuals and communities.

Participating Agencies: Administration for Children and Families | Administration for Community Living | Agency for Healthcare Research and Quality | Agency for Toxic Substances and Disease Registry | American Red Cross | AmeriCorps | Centers for Disease Control and Prevention | Centers for Medicare & Medicaid Services | Commissioned Corps of the U.S. Public Health Service | Department of Agriculture | Department of Education | Department of Veteran Affairs | Environmental Protection Agency | Food and Drug Administration | Health Resources and Services Administration | HHS Office of the Secretary | Indian

Health Service | National Institutes of Health | National Voluntary Organizations Active in Disaster | Substance Abuse and Mental Health Services Administration

5.3.1 [Timely Human Services Coordination will be essential, especially with unmet needs](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance

Description: Efficient coordination around Human Service Needs. Timely access to grant, philanthropic opportunities, and Disaster Case Management

Source: None identified.

Advisor: Philanthropic

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.2 [Impacts to Child Care](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic

Description: While access to facility damage data is limited, DCDEE confirmed at least 55 childcare centers sustained damage that prevented reopening. Additionally, the General Assembly granted NC DHHS the flexibility to waive certain mandatory standards for licensing childcare facilities in an area impacted by Hurricane Helene to address the childcare needs of families in the 39 impacted counties.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.3.3 *Extreme Impacts of Prolonged Stress and Behavioral Health \(Domestic Violence, Substance Abuse, Child Maltreatments/CPS\)*](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Housing

Description: Substantial research has shown that natural disasters negatively impact mental health. This is driven by both newly induced post-traumatic stress disorder (PTSD) amongst disaster survivors as well as, for existing mental health patients, a higher likelihood that their access to needed care is disrupted and that underlying conditions (e.g. anxiety) are worsened.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.3.4 *Impacts to Social Services*](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Housing

Description: According to DHHS, there are more than 4,000 children in the custody of DSS and their resource parents in the impacted counties. DHHS estimated that the cost to provide basic needs like food and clothing to youth and their resource parents, as well as continued access to other critical services is \$5.5 million.

There are six guardianship corporations in the Helene-impacted counties that are responsible for meeting the essential needs of individuals in their care. Guardianship corporations have utilized their resources during the emergency to provide critical supplies such as food, water, and hygiene items. DHHS estimates that guardianship corporations need \$3 million to continue providing these critical supplies, ensuring the safety of the more than 1,400 individuals in the care of these corporations.

FEMA does not typically cover specific therapeutic needs of community members with I/DD. DHHS estimates \$2 million in need to purchase transitional supplies for individuals with I/DD who must transition to a new group due to damage to the facility in which they currently reside.

DHHS estimates a total need of \$0.3 million to ensure individuals who currently utilize assistive technology through the North Carolina Assistive Technology Program can access replacement technology. This estimate includes the cost of relocating nine emergency kits, such as assistive technology devices such as wheelchairs and communication boards, and magnifiers.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.5 [Need for enhanced Operational Support including Training and Developmental Needs](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance

Description: The potential need to expand behavioral health focused training programs, such as Psychological First Aid, Skills for Psychological Recovery, SAF-T, are being examined to support long-term recovery efforts. For Behavioral Health Providers, Crisis Responders, Disaster Survivors, and Educators.

Enhancements in telehealth capabilities are being explored to ensure continued access to behavioral health services. Development programs (e.g., Training of Trainers) to leverage and strengthen the skills of existing teams and partnerships for key stakeholders like Vaya, Partners Health, and WNCCHS for improved service delivery are also under consideration. Developing a focused directory of Federally Qualified Health Centers that provide behavioral health services within the impacted area.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.6 [Public Health Impacts from Damage Public/Private Infrastructure](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: As some western North Carolina communities remain without potable water six weeks after Helene, community members are sharing a map of public access points for potable water around the greater Asheville area. The post also includes water safety tips and information about various factors that can impact water quality.

Concerns from local health departments on activities by some non-governmental organizations may be causing adverse damage to private well and septic systems due to lack of awareness during debris cleanup, reentry, and rebuild.

Gaps in data collection and tracking new and historic private wells

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.7 [Recovery Planning Capacity for County Health](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance

Description: There are concerns about the recovery planning capacity of county and district health departments, as well as gaps in the assistance being offered to group home residents and owners. Additionally, there are concerns regarding the capacity and competencies of frontline local health and facility managers to assess and mitigate both current and future mold damage.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.8 [Challenge to Restoration / Adaptation of Public Health Program Services](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Challenges with sustaining core public health functions in some impacted communities.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.9 [Environmental Exposures from Mold/Debris/Sediments](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Concerns on potential chemical and biological contaminants in sediment and mud.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.10 [Potential Exacerbation of Communicable Diseases](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Potential Exacerbation of Communicable Diseases

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.11 [Concerns around Social and Structural Challenges](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Housing

Description: Examine the behavioral health impacts related to social, health and economic factors such as housing affordability, workforce dynamics (service industry and artisans), and additional behavioral health resources for the uninsured population.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.12 [Education Facility Recovery](#)

Last Updated: 12-20-2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Housing

Description: Tropical Storm Helene damaged K-12 schools, institutions of higher education, and early learning program facilities causing extended school closures; funding shortages for repair, relocating, and rebuilding costs; and loss of materials such as technology, curriculum, learning materials, and furniture.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.3.13 [Disruptions to Services and Resources for K-12 school districts, early learning programs, and institutions of higher education](#)

Last Updated: 12-20--2024

Lead RSF: Health, Education, and Human Services

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Housing

Description: Tropical Storm Helene created numerous challenges to restore the learning environment for educational communities including insufficient mental and behavioral resources; lack of affordable housing for displaced families and education staff; inadequate and unsafe transportation routes to schools; insufficient number of childcare providers; lack of funding resources to address learning loss; lack of funding resources to address additional staffing needs; lack of funding resources to address depleted funds from response efforts; insufficient resources to support unhoused and displaced students; and insufficient support to manage the influx of in-kind donations.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4. HOUSING RSF

Mission: Provide housing development expertise while engaging in and facilitating collaboration among federal, state, and local partners involved in housing recovery. Support communities in developing a holistic, inclusive, and equitable recovery plan and implementation process. Assist in assessing impacts, determining key issues, analyzing damage data, and identifying resources, tools, and technical assistance to support the communities' resilient and sustainable rebuilding.

Participating Agencies: American Red Cross | AmeriCorps | Consumer Financial Protection Bureau | Department of Agriculture | Department of Commerce | Department of Health and Human Services | Department of Justice | Department of Veterans Affairs | Environmental Protection Agency | Federal Housing Finance Agency | FEMA | National Voluntary Organizations Active in Disaster | Small Business Administration

5.4.1 [Challenges Associated with Reduced Insulation Due to Structural Damage](#)

Last Updated: 12-17-2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance

Description: Strong winds, flooding, and debris as a result of Hurricane Helene have caused not only structural but also non-structural damages to households (i.e. broken windows, wall damage, broken trim), leaving many of those residents who still have homes nevertheless more vulnerable to inclement weather, temperature changes and mold. Especially during the winter, non-structural damage can reduce buildings energy efficiency, leading to higher energy use and bills while reducing residents' quality of life.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.2 [Lack of Flood Insurance & High Uninsured/Underinsured Survivor Rates](#)

Last Updated: 12-17-2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: 44.92% of IA's Individuals & Household's Program applicants had housing insurance and 1.07% had flood insurance. Being underinsured or uninsured slows housing and economic recovery because IHP assistance alone is often insufficient to fully restore homes and businesses, leaving survivors unable to rebuild or recover without additional financial resources.

Source: None identified.

Advisor: None identified.

Attachments: [This issue has additional information.](#)

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.3 [Lack of Temporary Housing for Displaced Residents](#)

Last Updated: 12-14-2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: The High Country Council of Government reported that >100 people are still without homes, sleeping in either cars or shelters, in Watauga and surrounding counties. They voiced concerns over the urgency of the issue, as it was set to start getting colder over the week, and even potentially snow.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.4 [Extensive Storm-Damaged & Destroyed Houses in Multiple Counties](#)

Last Updated: 12-17-2024

Lead RSF: Housing

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Economic

Description: The Buncombe County Administrator reported that

1. Approximately 300 houses were destroyed, and approximately 600 houses were majorly damaged in Buncombe County. There was a shortage of around 8,000 housing units pre-disaster.

The High Country Council of Government reported that

1. More than 200 houses were destroyed, and 700-800 houses were majorly damaged, in Avery County.
2. More than 700 general housing recovery needs in Henderson County. No further specification was given to them.
3. Approximately 200 houses were destroyed, and approximately 770 houses were majorly damaged, in Yancey County.

The Land of Sky Council of Government reported that

1. Around 60 households were destroyed in Brevard. There was already a lack of rental properties beforehand as well.

Source: None identified.

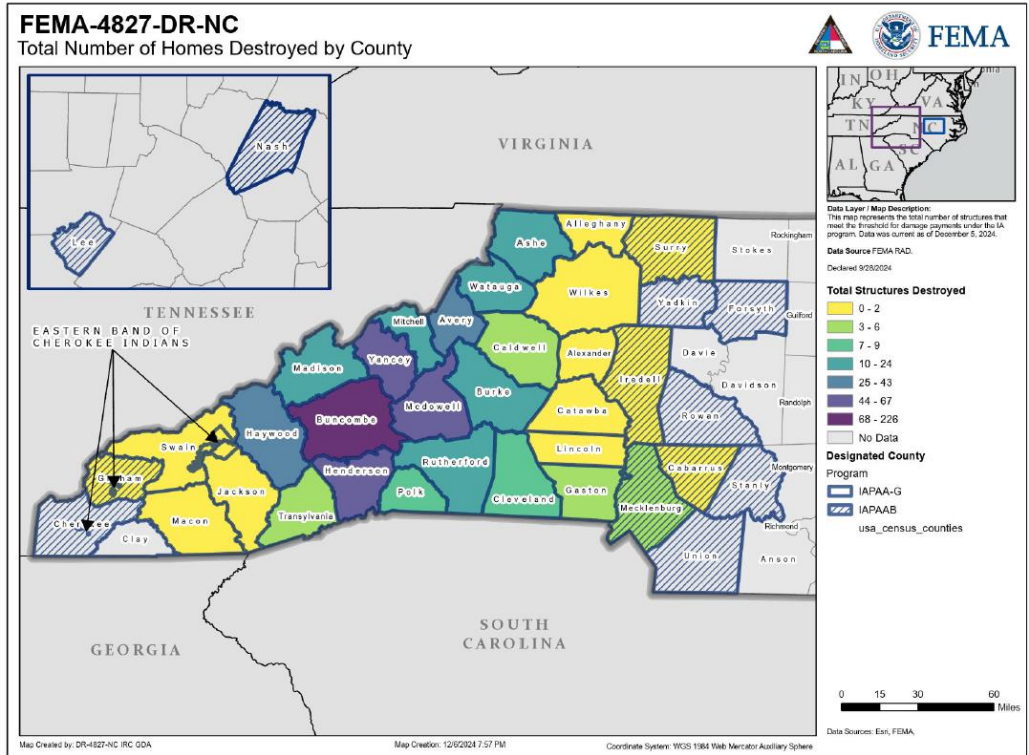
Advisor: Philanthropy Advisor, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.4.5 [Structural Damage to Homes & Businesses](#)

Last Updated: 12-14-2024

Lead RSF: Housing

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Economic

Description: Strong winds, flooding, and debris as a result of Hurricane Helene have caused structural damages to households, leaving residents without homes. Additionally, structural damage to local businesses is leaving some who still have homes without an income to pay their cost of living, forcing residents move away.

Source: None identified.

Advisor: Philanthropy Advisor, USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.6 [Renters Facing Evictions as a Result of Loss of Income Sources](#)

Last Updated: 12-14--2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: Losses of income for residents due to damages to local businesses have caused impacted renters to face evictions. There has generally been little-no leniency from landlords, with some even pursuing evictions more aggressively. Many state and local partners are seeking tenant-based rental assistance as a solution. Residents have asked for a moratorium as well, however that is less likely to be adopted.

On the landlord side of the issue, there are currently no funding streams for landlords to make immediate repairs to their properties, particularly multi-family properties. They are hesitant to accept rental assistance programs and require more information.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.7 [Pre-Disaster Affordable Housing Shortages Exacerbated](#)

Last Updated: 12-17--2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: Affordable housing occupancy was already near capacity pre-disaster, with a significant portion of the housing stock in western North Carolina being long-term rentals for second home-owners. Impacts of Hurricane Helene only exacerbated this by further decreasing the housing stock, forcing impacted residents to move away and affecting local businesses.

Source: None identified.

Advisor: Equity Advisor, USDA/RD Advisor

Attachments: [This issue has additional information.](#)

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.8 [Disproportionate Impacts to Limited English-Speaking/Vulnerable Populations](#)

Last Updated: 12-17-2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Health, Education, and Human Services

Description: Counties in the declared disaster area have higher levels of vulnerable populations than those outside the disaster area. 12.8% of individuals in western North Carolina identify as having a disability. Between 17.5% and 33% of the population in each impacted county is 65 or older. Consequently, vulnerable populations may not have the ability to relocate and are more likely to have limited resources to make housing repairs.

Source: None identified.

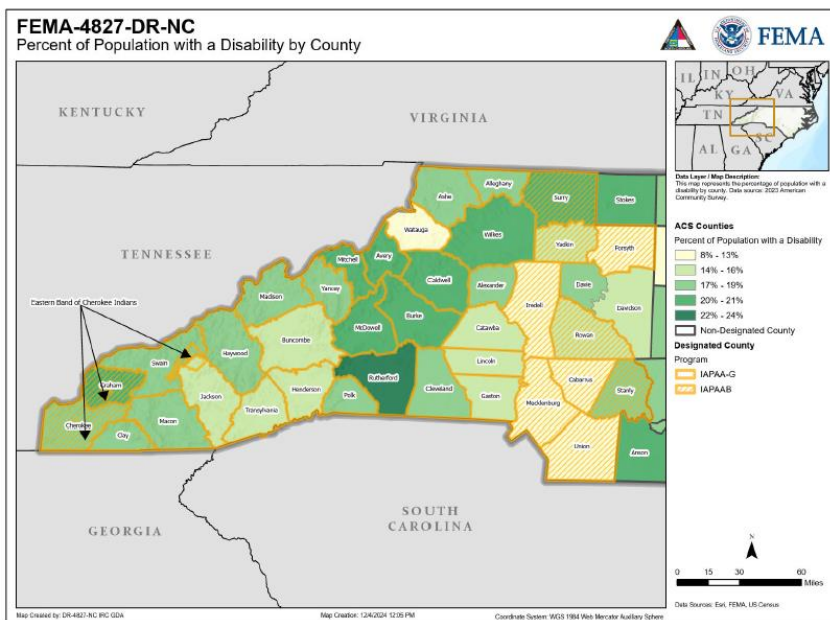
Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.4.9 Outdated Building Codes & Zoning Challenges

Last Updated: 12-17-2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Infrastructure Systems

Description: North Carolina’s building codes are based on older editions of the International Building Code. Federal funding programs, such as those administered by FEMA for disaster recovery and hazard mitigation, often prioritize regions with updated and resilient building practices. The lack of alignment between North Carolina’s building codes and the most recent international standards has led to a reduction in eligibility for certain federal grants and funding opportunities. Furthermore, attempts to implement or mandate inclusionary zoning practices have led to legal concerns.

Source: None identified.

Advisor: USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.10 [Challenges to Reconstruction/Relocation as a Result of Damages to Land](#)

Last Updated: 12-16--2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic

Description: Damages to existing developed land have created a need for new land to be developed for reconstruction, as well as challenges in developing said land. This is primarily for two reasons:

1. Topographical issues - Damages from Hurricane Helene have led to soil erosion, water contamination, and increased risk of landslides that makes land unsafe to be developed on, limiting land availability and potentially creating additional challenges for long-term recovery.
2. Process issues - The increased need for reconstruction has exacerbated a shortage of affordable housing developers and contractors, particularly those that meet certification requirements, as well as created a need for new funding and zoning requirements.

This is placing additional logistical, financial, and emotional strain on residents seeking to rebuild or relocate as a result.

Source: None identified.

Advisor: Philanthropy Advisor, Sustainability Advisor, Unified Federal Review Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.4.11 [Water Contamination due to Well & Septic System Damage](#)

Last Updated: 12-17--2024

Lead RSF: Housing

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Health, Education, and Human Services, Infrastructure Systems

Description: In Western North Carolina, many residents depend on wells and septic tanks instead of public water infrastructure, which are not conducive to the mountain topography. The damage to these wells and septic systems, combined with flood debris in local water supplies, have caused water contamination,

mold growth, and soil erosion on residents' properties, which could create health hazards and impact long-term housing recovery.

Source: None identified.

Advisor: Philanthropy Advisor, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.5. INFRASTRUCTURE SYSTEMS (IS) RSF

Mission: Provide support to SLTT governments undertaking the rehabilitation and reconstruction of affected infrastructure systems through coordinated delivery of federal resources, while supporting long-term infrastructure resilience that highlights the use of new, accessible, and permanent infrastructure system options.

Participating Agencies: Cybersecurity and Infrastructure Security Agency | Delta Regional Authority | Department of Agriculture | Department of Commerce | Department of Defense | Department of Energy | Department of Homeland Security | Department of Housing and Urban Development | Department of the Interior | Department of the Treasury | Department of Transportation | Environmental Protection Agency | Federal Communications Commission | FEMA | General Services Administration | Nuclear Regulatory Commission | Tennessee Valley Authority | U.S. Fire Administration

5.5.1 [Widespread damage to dams and impoundments](#)

Last Updated: 12-19-2024

Lead RSF: Infrastructure Systems

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Natural and Cultural Resources

Description: Multiple impoundments were impacted during Tropical Storm Helene. Repairing and restoring waterways is vitally important.

Source: None identified.

Advisor: Department of Energy

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.5.2 [Extraordinary Debris is Straining Storage Capabilities](#)

Last Updated: 12-20-2024

Lead RSF: Infrastructure Systems

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Health, Education, and Human Services

Description: Potential impacts to landfills, and any mitigation efforts needed. Capacity is also a potential concern as debris collection and overall cleanup will impact storage capability. There are 17 landfills in the declared area, according to the North Carolina Department of Environmental Quality, NCDEQ. Average landfill life, pre-Helene, was 28 years, and that timeline is accelerated due to debris. To build resilience, municipalities must integrate sustainable waste and debris management practices into their recovery and future planning. This includes developing emergency debris management plans, recycling construction materials or composting organic waste, improving waste segregation protocols, and exploring alternative disposal options such as waste-to-energy facilities. These practices enhance community resilience, mitigate risks to the environment and public health, and ensure a more efficient recovery process for future disasters.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.5.3 [Storm damage significantly altered geomorphology of western North Carolina, rendering existing mapping of watersheds, zoning and insurance rates obsolete](#)

Last Updated: 12-19-2024

Lead RSF: Infrastructure Systems

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Natural and Cultural Resources

Description: Tropical Storm Helene significantly altered the geomorphology of western North Carolina. Extensive remapping of the area is needed to determine insurance rates, zoning permits, and waterway restoration. There are 35 HUC, hydrologic unit systems, 8 watersheds in the declared area. Substantial work is needed to ensure the area fully recovers.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[5.5.4 *Impacts to waterways, loss of habitat and bank de-stabilization due to flooding and hydrogeomorphology changes*](#)

Last Updated: 12-11-2024

Lead RSF: Infrastructure Systems

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Natural and Cultural Resources

Description: The event resulted in multiple areas being flooded and shifts in stream channel locations or morphology, loss of habitat and loss of bank stabilization. Denuded stream banks result in increased instability and accelerated erosion, which can threaten proximate structures. Key challenges are stream restoration complexity funding and lack of available technical/engineering support.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.5.5 Damage to public roads and bridges

Last Updated: 12-16-2024

Lead RSF: Infrastructure Systems

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic

Description: Multiple sections of Interstate were washed away. Multiple state, city and private roads were also impacted. This is complicated by regulations governing which party is responsible for repair. Some key challenges are determination of responsible parties, funding, hydrologic and hydraulic (H&H) issues, and compounding regulatory requirements.

Source: None identified.

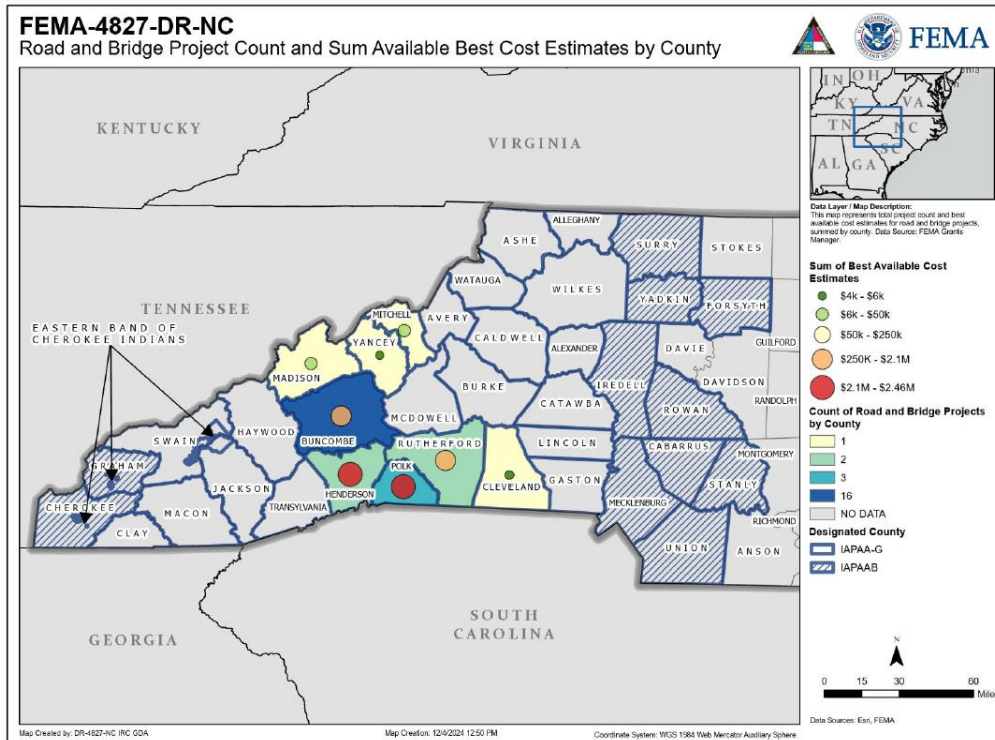
Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.5.6 [Damage to water and wastewater treatment plants and pipes](#)

Last Updated: 12-16--2024

Lead RSF: Infrastructure Systems

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Health, Education, and Human Services

Description: Multiple systems were impacted due to a combination of flooding, loss of power, and damages to distribution and collections systems. Key challenges are funding sources and lack of available technical/engineering support within the counties.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.5.7 [Numerous damaged and destroyed private roads and bridges in rural areas are the only access points linking residents with community services](#)

Last Updated: 12-16--2024

Lead RSF: Infrastructure Systems

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Natural and Cultural Resources

Description: Western North Carolina’s rural areas include numerous private roads and bridges that were destroyed or damaged, which are the sole access point linking rural homeowners/renters/small businesses/farms to their vital community services.

Source: None identified.

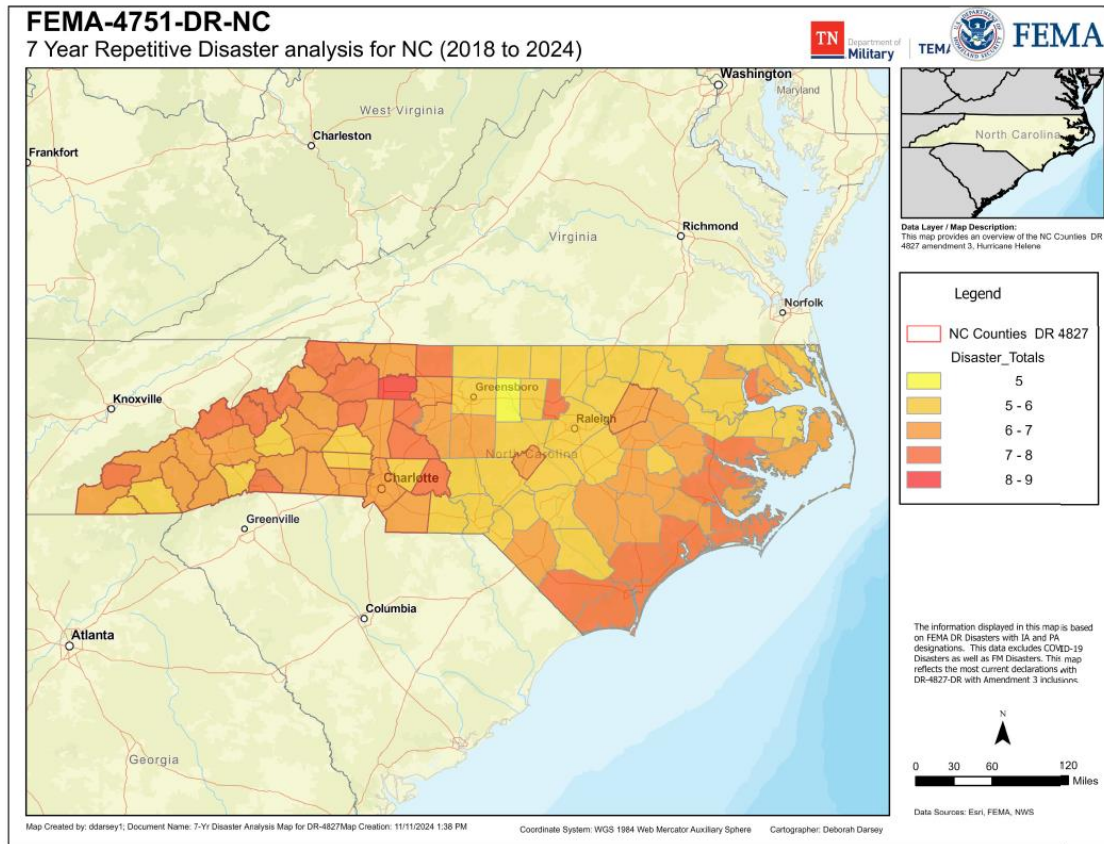
Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.6. NATURAL AND CULTURAL RESOURCES (NCR) RSF

Mission: Assist SLTT governments in the protection, preservation, and recovery of natural and cultural resources after disaster. Natural resources are land, fish, wildlife, biota, air, and water. Cultural resources are tangible entities or cultural practices that represent the diverse history, art, and traditions of our nation.

Participating Agencies: Advisory Council on Historic Preservation | AmeriCorps | Council on Environmental Quality | Cybersecurity and Infrastructure Security Agency | Department of Agriculture | Department of Commerce | Department of Education | Environmental Protection Agency | FEMA | General Services Administration | Heritage Emergency National Task Force | U.S. Army Corps of Engineers

5.6.1 [Aquatic habitat loss](#)

Last Updated: 12-19-2024

Lead RSF: Natural and Cultural Resources

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Infrastructure Systems**Description: a) Stream Morphology, Microclimate, and Water Quality Have All Been Altered, Which Will Cause Far-Reaching Impacts**

The stream micro-climate, which is determined in no small part by the amount of sunlight that reaches the stream bottom and the resulting water temperature, will have changed dramatically in many places. This change is caused largely by trees adjacent to the stream falling, which removes the shade that regulates water temperature. In some locations, falling trees, landslides, and debris scour caused a widening of the stream, which also affects the amount of shade on the stream reach.

Streambeds were scoured by falling trees and debris loads, in many cases changing the stream structure and morphology. When large trees on the sides of streams fall over and their root balls uproot, it widens the stream channel and changes the bank structure. When those trees are pushed downstream either by the force of flood waters or by additional debris loads, streambeds that were previously shaded and filled with clear water over rocky cobble/bar structures are changed to silty bottomed streams. Changes to stream dynamics from the scour of debris will mean some species' microhabitat no longer exists or has been shifted downstream. This is of concern because larger stream reaches are often higher in temperature, and species that require cold-water, clear, rock/cobble-bottomed streams, such as trout and hellbenders, will not survive in warmer water.

Streams have been inundated with silt resulting from stormwater runoff and from large loads of loose soil resulting from landslides, debris loads, and tree root balls that were knocked down during the storm and carried downstream. During and immediately after the storm, the increased water velocity and churn caused uncharacteristic stream turbidity that was an immediate, short-term stressor on in-stream organisms. The combination of siltation and turbidity causes reduced visibility, reduced dissolved oxygen, and gill irritation, which can vary from a short-term stressor to a mortality event, depending on the sensitivity of individuals and species. Many aquatic species in mountain streams are especially sensitive to siltation and turbidity outside their normal disturbance regime. While the turbidity has likely mostly resolved at this point, and the added suspended sediment may be beginning to settle out, the impacts from these events will continue for some time. As the sediment settles out, it will cover the rocky bottom substrate in silt, which will make it more difficult for bottom-dwelling organisms to get sunlight and oxygen and reduce their ability to forage effectively.

b) Fish Passage in Streams Has Been Obstructed, Leading to Population-Level Effects

Fish passage is inhibited because of failed culverts or other stream structure issues, and as a result fish reproduction will be limited to shorter reaches, which could result in reduction in volume of fish stock or even extirpation of some species in some stream reaches. Insufficient passage can also lead to increased genetic homogeneity (i.e., decreased genetic diversity) in the stock that remains. Genetic homogeneity is

undesirable as it magnifies genetic defects and often results in weaker or poorer quality stock. Conversely, genetic diversity is important for maintaining species resilience, especially during times of disturbance.

c) Endangered Species and Their Critical Habitats are Doubly at Risk from Storm Impacts

More than 60 threatened, endangered, or candidate species for listing under the Endangered Species Act (ESA), and 12 “critical habitats” as defined by the ESA, exist within the disaster area. By definition, threatened and endangered species (T&E species) are not as effective at overcoming disturbance to their habitats as more common species, and likewise by definition, the designated critical habitats for these species are integral to the species’ continued existence. In Western North Carolina, the majority of aquatic T&E species (including salamanders, fish, and mollusks) live in mountain streams that have suffered a great deal of disturbance to their microclimate, water quality, stream structure and morphology, as discussed above. Many of these species are threatened and endangered because of their lifecycle requirement for streams with clean, clear water. As human activity has increased on the landscape, waterbodies in general have become more polluted, causing these species to retreat to areas with little human impact. The major impact of Tropical Storm Helene on streams in Western North Carolina has adversely affected their habitat quality and their ability, as individuals and as species, to overcome the setbacks and changes to their habitat.

d) Impacts to Wildlife Food Chains Will Affect Wildlife and Economics

Changes in stream microclimate, stream structure and morphology, and overall stream water quality will result in reduced health or mortality for all aquatic organisms in the food chain, from microbenthic organisms to large fish. This food chain effect will have impacts to terrestrial species that feed on in-stream organisms, such as birds, and a reduction in fish yields will ultimately be of adverse impact to economics as well, as fishing is both a tourism and subsistence activity.

Additionally, certain toxins will bioaccumulate as they move through the food chain. Depending on what has wound up in the stream and on the landscape, as species ingest toxic substances, they move up the food chain, affecting other wildlife species and potentially humans through hunting and fishing. There is a need for additional, storm-specific research regarding the storm’s impacts in this arena; we will engage NC and regional colleges, universities, and nonprofits who are already engaged in similar research.

e) Far-Reaching Impacts to Recreational Fishing From Loss of Fall Fish Stock at Eastern Band of Cherokee Indians' Hatchery

Damage to Eastern Band of Cherokee Indian's Fish Hatchery caused them to lose their fall stock when they no longer had functioning infrastructure with which to maintain the stock ponds. 23,000 pounds of fish were lost because of the storm. The loss of this fall's stock will mean fewer trout available for recreational fishing in the spring, which will have an economic impact to the communities where EBCI's fish are normally stocked, as word of fewer fish available to catch may mean fewer fishermen will visit the

area. It will likely have an impact on subsistence fishing for those who typically feed their families some meals with EBCI trout they catch. It could also have an ecological effect on the stream biota as the number of fish typically introduced to the stream each spring are not introduced in 2025.

f) Spread and Proliferation of Invasive Species

The spread and proliferation of invasive plant species is of concern in both aquatic and terrestrial environments after the storm. In aquatic environments, the magnitude of flooding means that seed sources have had the opportunity to travel farther, and deposit higher on the flood plain, than they have in the recent past. Additionally, the level of disturbance on streambanks will make it easier for invasive plants to establish, potentially out-competing native vegetation and creating monocultures that are less resistant to and resilient against future flooding.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.6.2 [Terrestrial habitat loss](#)

Last Updated: 12-19-2024

Lead RSF: Natural and Cultural Resources

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Housing, Infrastructure Systems

Description: a) Landslides and Erosion Have Affected Roads, Streams, and Built Structures

There were over 2,000 landslides in the disaster area, with many stream channels altered remarkably with a lot of undercutting because of the slides. Stream assessments need to be conducted, and the streams stabilized. Landslides have damaged roads, bridges, culverts, and private homes and built structures. The USACE and EPA are engaged on this issue with assistance from USGS.

b) Impacts to Wildlife Food Chains Will Affect Wildlife and Economics

Major changes to streams will result in reduced health or mortality for all aquatic organisms in the food chain, which will cascade into impacts to terrestrial species that feed on in-stream organisms, such as

birds, and a reduction in fish yields will ultimately be of adverse impact to economics as well, as fishing is both a tourism and subsistence activity.

Additionally, certain toxins will bioaccumulate as they move through the food chain. Depending on what has wound up in the stream and on the landscape, as species ingest toxic substances, those substances accumulate and move up the food chain which will affect other wildlife species and potentially humans through hunting and fishing. This is more research-based work; we will engage NC and regional colleges, universities, and nonprofits who are already engaged in such research.

c) Endangered Species and Their Critical Habitats are Doubly at Risk from Storm Impacts

More than 60 threatened, endangered, or candidate species for listing under the Endangered Species Act, and 12 “critical habitats” (ESA) exist within the disaster area. By definition, threatened and endangered species (T&E species) are not as effective at overcoming disturbance to their habitats as more common species, and likewise by definition, the designated critical habitats for these species are integral to the species’ continued existence. In Western North Carolina, the majority of terrestrial T&E species (e.g., bats, Carolina flying squirrel) live in densely forested areas. Individuals of these species may have been directly killed during the storm during tree fall, landslides, and shearing winds that tore off the tops of trees. Those individuals of the species who were not killed directly by the storm have experienced a great deal of disturbance to their microhabitats. The Carolina Flying Squirrel, in particular, is at great peril because of landslides and blow-downs, as it requires trees in close proximity to one another in order to glide effectively.

The major impact of Tropical Storm Helene on forests in Western North Carolina has adversely affected habitat quality for these already imperiled species and their ability, as individuals and as species, to overcome the setbacks and changes to their habitat remains to be seen.

e) Loss of Tree Cover Will Cause Many Changes in the Forest

Landslide areas and tree blowdowns have caused and will cause many changes to forest composition and available habitat. Blowdowns add to fuel loads and increase the risk of wildfire. Tree cover loss causes temperature regime changes in nearby streams, affecting fish, mussels, benthic micro and macroinvertebrates, and streamside plants. There is also a risk that fallen trees which can't easily be accessed for removal will create a damming effect in future floods.

f) Shifts in Creeks Obstructing Private Property

The Buncombe County Administrator reported that Helene-induced shifts in local creeks are obstructing certain private properties, preventing homeowners and site inspectors from accessing them. Obstructions include washouts of private- and state-administered roads, bridges, and culverts.

g) Spread and Proliferation of Invasive Species

The spread and proliferation of invasive plant species is of concern in both aquatic and terrestrial environments after the storm. In terrestrial environments, the proliferation is more of a concern because most invasive species thrive in areas of disturbance, where bare soil gets plenty of sunlight. The forest floor and edges have been opened up to sunlight and have had earth exposed by blow-downs and landslides at an unprecedented level, and invasive plants can be anticipated to grow well in these areas over the next few years.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.6.3 [Damaged state/local parks, wildlife management areas and other green spaces](#)

Last Updated: 12-19-2024

Lead RSF: Natural and Cultural Resources

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Health, Education, and Human Services, Infrastructure Systems

Description: a) **Walking and Hiking Trails Damaged or Obliterated from Floodwaters, Landslides, Downed Trees, and Debris**

Many walking and hiking trails have been either completely washed away or damaged by water rilling and rutting along the trails, stream overflows, and landslides and obstructed by fallen trees. This includes trails in community parks within floodplains and also trails in areas with more topographical variation in state parks and forests.

b) Farmland and Topsoil is Severely Eroded and/or Contaminated

Farmland on steeper slopes likely experienced sheet erosion and rill erosion from excessive rainfall/runoff, causing nutrient-rich topsoil to wash away, which will likely reduce yields for years to come. Farmland in the floodplains was severely eroded by high flows, losing topsoil and depositing sediment and debris. Sediment likely includes pathogens and toxins such as fecal coliform from nearby failing septic tanks and

inundated septic drain-lines, as well as asbestos, brake and transmission fluid, and other toxic materials commonly found on asphalt surfaces.

Additionally, there were impacts to the agricultural industry, causing crop losses and soil contamination. This not only affects farmers and ranchers, but also the entire supply chain connected to the agricultural industry, including processors, distributors, and retailers.

In addition to immediate financial impacts on farmers, cascading effects from crop damage will cause local winter shortages of certain products. Farmers need to begin recovery and replanting in a safe and timely manner. USDA programs to support this recovery including Farm Service Agency, Natural Resources Conservation Service, and Rural Development.

c) Sinkholes Pose A Danger to Roads

Many roads have been undercut by sinkholes, making them dangerous on which to drive.

d) Damage to Park and Outdoor Recreational Activities Limiting the Tourism Industry in Western NC

Destroyed parks and outdoor recreational venues adversely affect communities and limit the tourism industry for Western NC. Parks and outdoor recreational facilities across the region, managed at every level of government and by non-governmental organizations, have been badly damaged by floodwaters, debris loads, and landslides. At least state two parks, Chimney Rock and Mount Mitchell, are inaccessible because of roadway damage (landslides, undercut roads, bridge and culvert failures) and obstructions such as downed trees. Even parks that are accessible to the general public have facilities that are unusable. Trails have become badly rutted from surging rains and run-off, are obstructed by downed trees, or have been washed away entirely by the 1,000-year flood event. Local and community outdoor recreational facilities such as greenways, sport fields (soccer, baseball, etc.), and associated picnic structures and restrooms were flooded, and are now covered in deposited silt that may contain pathogens and potentially toxic substances. Some concrete pads these structures sit on are unstable because they were undercut by flood water. Some facilities, such as bleachers and fencing, have been washed away and become debris downstream. These sub-optimal to unusable recreational amenities limit the tourism industry for Western NC, which also constitutes an impact to the area's economy, and the continued poor condition of these amenities is taxing on the mental wellness of survivors.

e) Need for Additional Flood Gauges

A significant number of U.S. Geological Survey (USGS) flood gauges were lost in the flood. The data collected by USGS flood gauges are extremely important to flood prediction and modeling. New gauges are recommended for future monitoring.

Source: None identified.

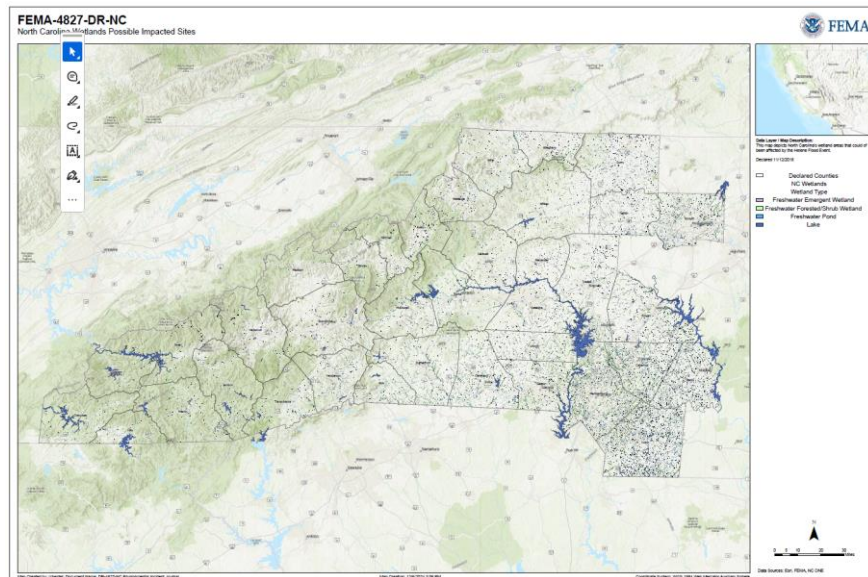
Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.6.4 [Flooded historic downtowns and buildings](#)

Last Updated: 12-19-2024

Lead RSF: Natural and Cultural Resources

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic

Description: a) **State Historic Sites Were Damaged by Floodwaters and Have Had Reduced Visitation Because of Closures and Lack of Tourism Volume**

Many State Historic Site and museums, including the Mountain Gateway Museum in Old Fort, were flooded and had downed trees and property damage. Some are still closed for cleanup and repair. Some of their artifacts and collections may have suffered irreversible injury or even been lost in the flooding.

Other sites are open for business but have seen reduced visitation because of the impacts to infrastructure and overall reduction in tourism that has occurred because of Helene.

b) Damage to Historic Properties in Commercial and Residential Areas

More than 100 identified historic properties were damaged or destroyed by floodwaters. Options include rebuilding or restoration of damaged properties, in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Historic property rehabilitation is eligible for historic income producing tax credits at the state and federal level.

c) Toxic Mud and Dust are a Concern at All Areas in the Floodplains

There is the likelihood of pathogenic or toxic mud and dust resulting from flooding and destruction of many factories, industrial plants, and other commercial and industrial facilities. Fuel tanks in the floodplain washed away and spilled, adding gasoline, diesel, and other fuel oils to the floodwaters. Restroom facilities in floodplains, especially pit and composting toilets at community parks, were flooded, and homes with septic systems in the floodplains might have had inundated septic lines and sewage lines damaged by flooding and/or storm debris as well as flood waters carrying household wastes. All of these events contribute to the potentially pathogenic or toxic quality of the floodwater, which, as it dried, left a layer of potentially pathogenic or toxic silt, mud, and dust across the floodplain. EPA is the lead for this type of cleanup, along with the National Oceanic and Atmospheric Administration (NOAA).

Source: None identified.

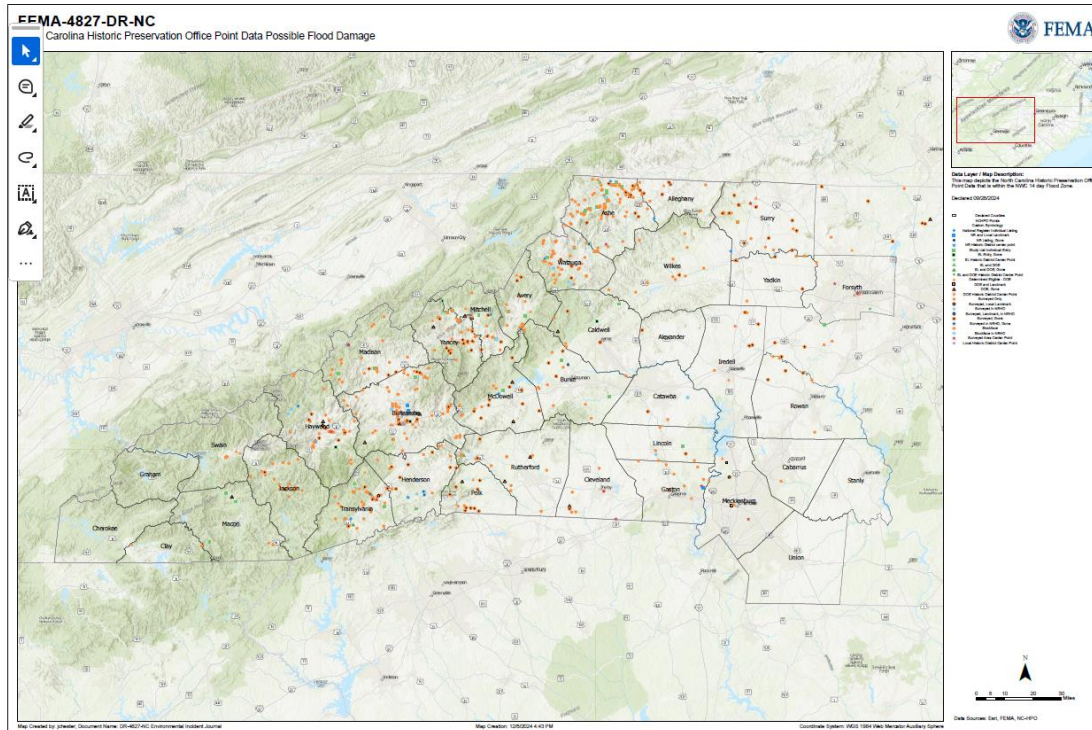
Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.



5.6.5 [Impact and damage to art, art studios, and cultural institutions](#)

Last Updated: 12-20-2024

Lead RSF: Natural and Cultural Resources

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Health, Education, and Human Services, Infrastructure Systems

Description: a) Clay and Glass Scarcity Inhibits Artists' Ability to Continue Making Inventory

Clay has become scarce because of storm impacts to a major provider. Clay is a popular medium for Western North Carolina's artist population, and the lack of fresh clay has limited what work artists can do. Quality glass batch supplies from areas such as Mitchell County, which is a major supplier, are not currently available for local artists.

b) Libraries and Their Collections Have Been Damaged or Destroyed by the Disaster

Libraries, particularly those in communities along waterways, have flooded. The floodwaters and debris damaged the facilities themselves and also made many books and other items in library collections unusable, potentially destroying one-of-a-kind historic archival materials. Some of these libraries are themselves historic buildings.

c) Performing Arts and Historic Venues Were Damaged by Flood Waters and other Storm Impacts

Performing Arts Venues, including outdoor venues such as Salvage Station on the French Broad River in Asheville and the Old Marshall Jail in Marshall, were inundated with floodwaters, their property covered in silt and debris when floodwaters receded, and their facilities damaged by debris loads.

Even those venues that were not physically impacted by flood waters and debris were nonetheless economically impacted because the damage to critical infrastructure (e.g., roads and utilities) in the region necessitated the cancellation of many performances during what is ordinarily the busiest, most lucrative time of the calendar year, and uncertainty about when infrastructure would be restored reduced the number of new performances that were scheduled from what would normally have been booked.

Due to lack of space, educational programming for young people, such as the Junior Appalachian Musicians program, has been cancelled entirely and/or moved to spaces that are not easily accessible to students and families.

d) Damage to Workspaces and Retail Areas, Limiting Inventory and Supply for Artists

Artist inventories and supplies were lost or damaged by the disaster. The shops and studios in which artists worked and sold their art were flooded and many suffered catastrophic damage from debris as well. Any inventory and art supplies in the shops and studios at the time of the storm and post-storm flooding was damaged or destroyed from flood waters. Supply-chain issues resulting from road closures have also made it more difficult to get new supplies, and without functional studio space, artists do not have anywhere to make art or store their supplies. The River Arts District, along the French Broad River in Asheville, lost more than 80% of its studio space where approximately 700 artists from across Western North Carolina created and sold work.

Most artists impacted in Western North Carolina are craft artists. Craft artists need a large amount of space to create work, and they use large, expensive equipment such as looms, printing presses, and kilns, of which most were damaged or destroyed by the flood and debris.

Asheville's famous art district graffiti was damaged by floodwaters as well.

e) Arts Tourism Has Been Reduced and Transitioned to E-commerce due to Lack of In-person Businesses

Art tourism has been greatly reduced because of many factors. Many art studios and shops in the greater Asheville area and in other towns on or near rivers (e.g., Marshall, Hot Springs, Lake Lure, Chimney Rock) were destroyed by river flooding, which caused structural damage to many buildings, including historic buildings, and also inundated inventory. Even those shops that were not directly impacted have experienced a drastic reduction to their business owing to the damage the storm did to roads and local

infrastructure, which has led most tourists to cancel planned trips to the region during what is typically the busiest tourism season of the calendar year, autumn, when people come to "leaf peep" - see the changing colors of the leaves. The temperature and rainfall averages from mid-September to mid-November make Western North Carolina an excellent place for a beautiful mountain vacation, complete with hiking, shopping, dining, and fall festivals. This year, none of those things were possible because of storm damage.

Displaced artists have begun or increased their efforts to sell their remaining inventory online in order to make an income since in-person shopping is limited in the area because of ongoing local access and infrastructure concerns. However, some artists in rural, remote areas still do not have access to reliable internet and do not have the capacity to pivot to e-commerce.

f) Need for Memorialization of the Event through Art Creation and Oral History

Helene was a catastrophic event which has caused tremendous trauma among the residents of the area. There is a need for art and historical accounts to memorialize the event. Memorialization of traumatic events can be a beneficial approach and aid in overall community health and social cohesion.

h) Poor Mental Health for Artists, Arts Administrators, and Creative Workers

Often artists and culture bearers help communities come together and heal after traumatic events. However, in this case, many artists, culture bearers, and creative workers have also experienced trauma in addition to losing property and business revenue during what is normally their busiest, most lucrative season. Many arts administrators are also experiencing fatigue and poor overall wellbeing. There is a strong stigma in Western North Carolina towards asking for help, particularly mental health services.

Source: None identified.

Advisor: None identified.

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

5.6.6 [Shift in creeks obstructing private property](#)

Last Updated: 12-19-2024

Lead RSF: Natural and Cultural Resources

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Housing

Description: Helene-induced shifts in the paths of local creeks and rivers have cut off private properties from their previous roadway access, preventing homeowners and site inspectors from accessing them. Obstructions include washouts of private- and state-administered roads, bridges, and culverts.

Source: None identified.

Advisor: USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6. Advisor Findings

In addition to the six RSFs supporting recovery, internal and external advisors from other federal agencies are participating in North Carolina's recovery.

Advisor findings identify the impacts, needs and issues to which their respective programs, technical assistance and resources can respond.

6.1.1 [Damage to Electrical Grid, Broadband, and Communication Infrastructure](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Infrastructure Systems

Description: Leading Advisor – Department of Energy

Providing a more resilient electrical systems that reduces the risks of disruptions is an achievable outcome. Assessing storm risks in the electrical grid and proactively building back better.

At peak outage, hundreds of thousands of North Carolinians were without power due to downed or destroyed power lines and flooded substations, and outages lasted several weeks in some areas. Additionally, many areas experienced broadband and communication losses due to damaged cell towers. Loss of these vital services hindered emergency response efforts, cut off communication among families and social networks, and stalled public service and business operations. Rural and remote communities face additional challenges with repair and restoration. This extensive lack of connectivity indicates a need for to improve energy infrastructures' resilience to hurricanes, flooding, landslides, wildfires and other

hazards. Resilient repair, rebuilding and mitigation includes hardening, undergrounding power lines, vegetation management, and implementing microgrids, distributed energy and storage solutions, among other approaches. The initiative would also aim to educate the community about the benefits of such infrastructure improvements and integrate these efforts into broader resilience, mitigation, and emergency response plans.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.2 [Flooding to Households due to Dam in Marshall and other Counties](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Infrastructure Systems, Natural and Cultural Resources

Description: Leading Advisor – Department of Energy

Many low-lying communities in the region face significant risk of riverine flooding. Intense rainfall and the overtopping or significant damage to at least 56 dams, according to Governor Cooper's Damage and Needs Assessment, have driven repetitive household flooding, resulting in repeated property damage, displacement, and health risks. There is a need to assess these impacts and plan for the rebuilding of homes and potential decommissioning and removal of dams to increase resilience against future flooding.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.3 [Building Codes to Improve Upon Energy Efficiency and Resilience](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Community Assistance, Housing, Infrastructure Systems

Description: Leading Advisor – Department of Energy

Rebuilding housing and other buildings presents the opportunity to build with more energy-efficient materials, insulation, windows, heating and cooling systems, and appliances, distributed energy and storage, which can make homes more resilient and cost-effective for property owners and residents. Widespread adoption of energy-efficient rebuilding standards may be challenging within North Carolina’s building code and permitting landscape, and there is a need to coordinate with utilities, builders, and multiple levels of government.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[6.1.4 Opportunities for Distributed Generation and Back-up Power for Hubs and Microgrids](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Economic, Health, Education, and Human Services, Housing, Infrastructure Systems, Natural and Cultural Resources

Description: Leading Advisor – Department of Energy

To compensate for disruption in electricity provision, due not only to service disruption in their area but also structural damage, residents are adopting new temporary power sources. These are usually diesel generators and wood-burning fires, exposing some areas to increased air pollution and fire hazards.

Distributed Energy Resources (DERs), such as solar photovoltaic systems, battery storage and other renewable energy sources, can supply critical power during outages and provide on-site generation autonomous to the larger power grid, making communities more resilient to future hazards.

DERs can be implemented in temporary housing structures as carbon-free alternatives to diesel generators and wood-burning, providing safer, healthier, and more reliable power. DERs can also be

implemented in the long-term rebuilding of permanent housing, commercial, and public buildings to enhance resilience, decrease energy costs, and reduce pollution.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[6.1.5 Displaced Residents and Businesses at Risk in Temporary Structures Utilizing Unconventional Power and Temporary Utilities](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Housing, Infrastructure Systems

Description: Leading Advisor – Department of Energy

Many residents and businesses were displaced due to significant damage or complete loss of their homes and businesses. They have taken shelter or are operating in temporary structures, which may lack power, heating and cooling, and water. To compensate for disruption in electricity provision, due not only to service disruption in their area but also structural damage, residents and businesses are adopting new temporary power sources, including generators and burning of wood and fuels for heating and cooking, exposing some areas to increased health and safety hazards, air pollution, and fire hazards.

Distributed Energy Resources (DERs), such as solar photovoltaic systems, battery storage and other renewable energy sources, can supply critical power during outages and provide on-site generation autonomous to the larger power grid, making communities more resilient to future hazards. DERs can be implemented in temporary structures as carbon-free alternatives to diesel generators and wood-burning, providing safer, healthier, more affordable and reliable power.

Utilities and emergency managers lack understanding of these impacts and consequences for rebuilding and interconnection, and there is need for analysis that examines fully-burdened cost of services, and cost-benefit analysis of alternatives including distributed energy and storage solutions, heat pumps, minisplits, induction cooktops, and energy efficiency measures.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.6 [Low Capacity in Permitting](#)

Last Updated: 12-19-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Economic, Infrastructure Systems

Description: Leading Advisor – Department of Energy

Some areas are challenged by limited permitting capacity due to budget and resource constraints, lack of personnel, and overwhelming demand on local governments, especially in rural, remote, and sparsely populated areas. Low permitting capacity may delay repairs to damaged infrastructure, prolong rebuilding, and hinder community resilience planning and economic recovery. Efforts to provide training and resources to make adoption and implementation of updated zoning, codes, standardized, expedited and automated permitting and interconnection are needed.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.7 [Hazardous substances, pollutants and contaminants present potential liabilities and impair reuse of land in impacted communities](#)

Last Updated: 12-16-2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Health, Education, and Human Services, Housing, Infrastructure, Natural and Cultural Resources

Description: Leading Advisor – Environmental Protection Agency

Tropical Storm Helene deepened contamination issues at brownfields and other environmentally sensitive sites, increasing cleanup costs and delaying redevelopment efforts. These sites, already costly to remediate, now require additional assessments and recovery measures, straining local government budgets and discouraging potential investors, particularly when competing with other urgent recovery priorities. The resulting delays reduce property values, stall development timelines, and hinder broader economic recovery efforts. For municipalities, the compounded expenses and lost opportunities at brownfield sites pose significant barriers to achieving long-term economic growth.

Despite these challenges, brownfields offer substantial opportunities for economic revitalization if redeveloped strategically. Leveraging federal and state programs like EPA Brownfields Grants can offset cleanup costs, attracting investment for projects such as renewable energy facilities, mixed-use developments, or public green spaces. These sustainable redevelopment projects can create jobs, stimulate local economies, and provide long-term financial benefits. By prioritizing sustainable practices and fostering public-private partnerships, municipalities can transform brownfields into assets that drive economic growth and resilience while addressing the environmental and social impacts of disasters like Hurricane Helene.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor, USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[6.1.8 Limited funding for impacted water/wastewater utilities that presents challenges to rebuilding and resiliency](#)

Last Updated: 12-16-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Community Assistance, Economic, Infrastructure Systems

Description: Leading Advisor – Environmental Protection Agency

Tropical Storm Helene caused widespread damage to water, wastewater and stormwater utilities, disrupting essential services and endangering public health. Floodwaters and landslides cause structural damage to pumps, pipelines, and storage tanks, leaving many facilities inoperable. Power outages further compounded these issues, halting the treatment of drinking water and wastewater, leaving communities to cope without access to safe drinking water and wastewater services for extended periods. Aging

systems in many regions are not designed to withstand the increasing intensity of storms. Limited funding and competing priorities can delay essential repairs, while smaller utilities serving low-income or rural areas often lack the financial reserves or staff capacity to recover quickly. These delays can have cascading effects, including ongoing public health risks, hindered economic recovery, and increased environmental degradation from untreated discharges.

Long-term recovery for utilities is hampered by high costs, aging infrastructure, and limited resources, especially for smaller or rural systems. Delays in repairs can prolong public health risks, environmental damage, and economic setbacks. To improve resilience, utilities must adopt sustainable practices like elevating critical equipment, integrating decentralized treatment systems, integrating renewable clean energy backup power systems, and using natural infrastructure to mitigate storm impacts. Collaborative planning and access to equitable funding are crucial to ensuring these systems can recover effectively and adapt to the challenges of extreme weather events.

Source: None identified.

Advisor: Department of Energy, Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.9 [Disproportionate impact on environmental justice communities](#)

Last Updated: 12-16--2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Community Assistance, Natural and Cultural Resources

Description: Leading Advisor – Environmental Protection Agency

Tropical Storm Helene underscored the disproportionate impact of extreme weather on environmental justice communities, often made up of vulnerable communities which face combined, multiple environmental harms and health impacts. These communities, frequently located in flood-prone areas or near industrial sites, faced not only the destruction of homes and infrastructure but also heightened exposure to hazards like toxic waste, mold, and contaminated water. Such environmental health risks exacerbate pre-existing inequities, leaving residents more vulnerable to long-term health and economic challenges, while reducing their capacity for recovery.

The path to recovery for environmental justice communities is riddled with systemic challenges. Limited access to financial aid, insurance, and healthcare, coupled with displacement risks for renters, often

delays rebuilding efforts. Neglect in infrastructure improvements perpetuates cycles of vulnerability to future disasters. To address these disparities, recovery efforts must prioritize equity by incorporating resilient infrastructure like green stormwater systems, renewable energy systems, and ensuring community engagement to reflect local needs. By embedding equity and sustainability into recovery strategies, we can break cycles of inequality and build a more inclusive, resilient future.

Source: None identified.

Advisor: Sustainability Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.10 [Community and survivors have limited resources to help address recovery needs](#)

Last Updated: 12-14--2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic, Health, Education, and Human Services, Housing

Description: Leading Advisor – Philanthropy

Work across all sectors to identify and secure financial, technical and additional resources to address unmet needs.

Source: None identified.

Advisor: External Affairs Advisor, Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.11 [Need to expand the involvement and coordination of the partnership with the North Carolina Philanthropic Network](#)

Last Updated: 12-14--2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Leading Advisor – Philanthropy

Identification of likely or appropriate counterparts from the NC Philanthropic Community would be helpful to launch the type of collaborations necessary to be the catalyst for connecting needs or funding gaps with potential resources.

Potential for a Funders Roundtable.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

[6.1.12 *Need to establish support from the private sector to assist addressing unmet needs*](#)

Last Updated: 12-16-2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: Leading Advisor – Philanthropy

Several avenues exist for accessing appropriate corporate giving points of contact, from beginning purposeful and strategic collaborations with the FEMA External Affairs Private Sector program and the Philanthropy liaison with North Carolina Office of Strategic Planning.

Source: None identified.

Advisor: Philanthropy Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.13 [Multiple federal, state, and local agency involvement on undertakings creates need to align and streamline EHP compliance review efforts](#)

Last Updated: 12-13--2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Lead Advisor - Unified Federal Review

Due to the large scale of this disaster many different programs and agencies have been activated in North Carolina which can cause confusion around overlapping programs. Compounding that confusion is a growing number of recovery projects in an area with a slew of regulatory concerns surrounding waterways, endangered species, historic properties, and floodplains. Western North Carolina communities are often remote and inexperienced with the requirements for federal grant programs. This sets the stage for an uncoordinated approach to recovery with conflicting advice around EHP requirements and delays in funding when EHP reviews are conducted independently.

Source: None identified.

Advisor: Unified Federal Review Advisor

Attachments: [This issue has additional information.](#)

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.14 [Disruption and Loss to Agriculture Sector](#)

Last Updated: 12-14--2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Economic

Description: Lead Advisor – United States Department of Agriculture-Rural Development

Impacts to networks and distribution, aquaculture, agriculture technology, specialty heirloom and organic small farms, livestock farming recovery and biomass (Christmas trees, lumber and nurseries/landscaping industry).

Some USDA programs require a 10-25 percent cost share and are also operated on a reimbursement basis. Applicants must have capital access to cover the expenses, creating a financial hardship for the applicants.

Source: None identified.

Advisor: Sustainability Advisor, USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.15 *Farmland and Topsoil is Severely Eroded and/or Contaminated*

Last Updated: 12-14-2024

Lead RSF: Not Identified

Report Type: Damage Report - Recovery Needs Assessment

Supporting RSF: Economic, Health, Education, and Human Services, Infrastructure Systems, Natural and Cultural Resources

Description: Lead Advisor – United States Department of Agriculture-Rural Development

Farmland on steeper slopes likely experienced sheet erosion and rill erosion from excessive rainfall/runoff, causing nutrient-rich topsoil to wash away, which will likely reduce yields for years to come. Farmland in the floodplains was severely eroded by high flows, losing topsoil and depositing sediment and debris. Sediment likely includes pathogens and toxins such as fecal coliform from nearby failing septic tanks and inundated septic drain-lines, as well as asbestos, brake and transmission fluid, and other toxic materials commonly found on asphalt surfaces.

Additionally, there were impacts to the agricultural industry, causing crop losses and soil contamination. This not only affects farmers and ranchers, but also the entire supply chain connected to the agricultural industry, including processors, distributors, and retailers.

In addition to immediate financial impacts on farmers, cascading effects from crop damage will cause local winter shortages of certain products. Farmers need to begin recovery and replanting in a safe and timely manner. USDA programs to support this recovery including Farm Service Agency, Natural Resources Conservation Service, and Rural Development.

Source: None identified.

Advisor: USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.16 [Disaster Supplemental Nutrition Assistance Program \(D-SNAP\) - Application Process Too Complex for Spanish-speaking Students](#)

Last Updated: 12-16-2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Health, Education, and Human Services

Description: Lead Advisor – United States Department of Agriculture-Rural Development

Spanish-speaking students had significant trouble with the DSNAP application. The application process is too complicated, not bi-lingual friendly, and high call volume not managed properly

Source: None identified.

Advisor: USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

6.1.17 [Ambiguity in Disaster Supplemental Bill Eligibility and Rural Area Limitations for USDA Programs](#)

Last Updated: 12-18-2024

Lead RSF: Not Identified

Report Type: Impact Analysis - Recovery Needs Assessment

Supporting RSF: Not Identified

Description: Lead Advisor – United States Department of Agriculture-Rural Development

The Disaster Supplemental Bill remains surrounded by ambiguity, as the USDA has yet to define how the programs will be implemented or how eligible disasters will be determined. It is crucial to gain a clear understanding of all USDA funding available through the bill, communicate these changes to stakeholders, and target outreach to potential applicants. Additionally, not all impacted areas meet USDA Rural Development's definition of "rural areas," which can limit their ability to participate in programs related to

business, community facilities, housing, and infrastructure. USDA Rural Development uses varying population limits to define “rural areas” across different programs, leading to confusion among applicants.

Source: None identified.

Advisor: Equity Advisor, USDA/RD Advisor

Attachments: No additional information.

Objectives will be developed based on stakeholder input and data analysis.

Desired Outcomes:

To be determined.

7. Cross-Cutting Needs

The nature of the damage and widespread impacts of Hurricane Helene affected six states. Though downgraded to a tropical storm as it reached North Carolina, its 50-70 mph winds, gusting in pockets to 80 mph, whipped across already inundated lowlands and mountainous terrain in Western North Carolina. Compounded by heavy rains, the combined forces split homes and buildings apart, lifted cars where they rested and uprooted vegetation and trees that wind alone could have managed.

Carried downhill and across the landscape in walls of rushing water and mud, the debris became projectiles causing further destruction and landslides that damaged or destroyed roads and bridges; isolating pockets of homes and townships before pooling and coming to rest in homes, neighborhoods, businesses, parks, waterways and landfills. In all, 39 counties—nearly 40 percent of the State—sustained damage and ruin.

Cascading effects of such acute and widely diffused impacts affected all manner of the environment, infrastructure, economy and society, individual health and well-being. Multiple, complex recovery issues resulted, requiring close coordination, recovery assistance and resources from multiple federal, state, local and tribal recovery partners to achieve equitable, risk-resistant, resilient outcomes for North Carolina.

Complex Recovery Issues



Damage to roads and bridges impeded commerce and isolated communities, impacting supply routes, communications, safety, health and wellness of people, agriculture and tourism.



Floodwaters carried mud, timber and debris impacting homes, businesses, lakes, utilities, landfills, water systems, septic and sewers, human and animal health and natural and cultural resources.



Damaged and destroyed homes and businesses displaced more than 200,000 residents, impacted 45 percent of small businesses; destabilizing local economies, disrupting communications, and affecting health and access to services.

Cross-cutting issues are complex recovery issues that span multiple Recovery Support Functions and/or Advisors, requiring extraordinary collaboration to identify and fulfill strategies and solutions with all available programs, technical assistance and resources. Many examples of cross-sector issues exist in both RSF and Advisor Findings sections.

These include addressing capacity gaps affecting recovery planning and operations in local government, building capacity for vulnerable populations, infrastructure damage and environmental impacts, damaged roads and bridges blocking access to community services, damage to farmland, morphology changes due to shifting waters and safe places to build, damage to water and wastewater systems, challenges to relocation and reconstruction as a result of damage to land, and others.

8. Conclusion

The expectation of this assessment and research behind it will be used to support the State and shape ongoing conversations with state, local, tribal partners with the identification of goals and outcomes to address recovery priorities.

Upon completion of the Recovery Assessment, the recovery partners will continue to identify strategies, solutions, and resources in the DR-4827-NC Recovery Strategy plan, as detailed in the timeline below. The Recovery Strategy outlines the overall IRC mission and includes RNA findings, the RSF objectives, recovery strategies and support actions, partners, resources and timelines.

