

Hurricane Helene Recovery

Governor Roy Cooper

Revised Damage and Needs Assessment

December 13, 2024

Original Assessment and Governor Cooper's recommendations published October 23, 2024



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Executive Summary

On October 23, 2024, Governor Cooper and the Office of State Budget and Management (OSBM) released a preliminary Damage and Needs Assessment for Hurricane Helene based on available data. With the assistance of state agencies, non-governmental organization partners (e.g., League of Municipalities, Association of County Commissioners), and private stakeholders (e.g., utilities), OSBM has collected new data to build a more comprehensive report of damage as of December 13, 2024. Updated estimates indicate damage and needs of **\$59.6 billion**, compared to the preliminary estimate of \$53.6B released in October.

Hurricane Helene reached North Carolina on Friday, September 27, bringing historic rainfall, strong winds, and tornadoes generated by the storm. Helene's impacts – particularly flooding and landslides – have made it one of the deadliest US storms of the 21st century, with more than 100 confirmed deaths in North Carolina alone. The President declared a Major Disaster and FEMA has designated 39 counties for federal disaster assistance. An estimated 4.6 million people – more than 40% of the state's population – live in one of the designated counties. The region accounts for 45% of the state's GDP.

Hurricane Helene has left significant, long-term impacts on western North Carolina. In addition to the devastating loss of life, the storm destroyed thousands of homes and damaged tens of thousands more. Millions of North Carolinians lost access to critical services like water and sewer, electricity, telecommunications, and healthcare facilities. Thousands of miles of roads and bridges were damaged, cutting communities off and limiting egress for residents and entrance by essential response and recovery teams. The region's economy has suffered a severe blow, threatening livelihoods and the long-term viability of communities.

Estimates of damage and needs as of December 13, 2024, are more than \$59.6 billion across the state, including \$44.4 billion of direct damage, \$9.4 billion of indirect or induced damage, and \$5.8 billion of potential investments for strengthening and mitigation. Five categories drive close to 90% of estimated direct and indirect damage: Economy, Housing, Utilities and Natural Resources, Transportation, and Agriculture. The damage attributable to Helene is roughly three and a half times the \$16.7 billion impact of Hurricane Florence in 2018.

Early action will be critical to the long-term well-being of affected communities. Recent research investigating nearly 3,000 county-level recoveries from large disasters found that two of the keys to successful recoveries are (1) quickly mobilizing significant, flexible capital and (2) proactively investing in local capacity and expertise to support post-disaster efforts.

Helene is a reminder of the importance of strengthening our communities against flooding and other severe weather. Investments made in mitigation save \$6 per \$1 spent,¹ and adopting national building code standards saves \$11 per \$1 spent.² Taking smart steps now to make

¹ National Institute of Building Sciences. "Mitigation Saves: Mitigation Saves up to \$13 per \$1 Invested." 2020

² FEMA. "Building Codes Save: A Nationwide Study." November 2020

communities safer and to prevent loss of life and damage is critically important, especially when using taxpayer dollars.

The state appreciates initial federal support, which included close to \$850 million in FEMA Individual Assistance and Public Assistance, technical assistance from federal agencies, and the mobilization of more than 8,500 federal personnel for emergency response. However, the scale of remaining unmet need highlights the necessity of additional support immediately.

As of December 13, 2024, Governor Cooper and OSBM have formally requested an additional \$25.6 billion in federal support. In parallel, President Biden on November 18, 2024, requested \$98.6 billion in federal funding from Congress to support recovery of communities across the Southeast and Appalachia from Hurricanes Helene and Milton – this request has significant overlap with and supports Governor Cooper and OSBM’s request for federal support.

In addition, Governor Cooper has requested \$3.9 billion in funding from the North Carolina General Assembly (NCGA) on October 23. To date, the NCGA has made available \$1.2 billion and set aside another \$225 million through Session Laws 2024-51, 2024-53, and 2024-57.

Estimates (Millions)										
	Damage & needs					Investments				
Category	Direct	Indirect/ Induced	Subtotal	Strengthen- ing & Mitigation	Total	Expected Federal	Expected Private & Other	State Funded as of 12/12/24	Unfunded	Governor Recommended as of 10/23/24
Economy	\$9,845	\$5,595	\$15,440	\$435	\$15,875	\$1,604	\$1,415	\$56	\$12,800	\$650
Housing	\$13,454	-	\$13,454	\$1,926	\$15,380	\$6,779	\$2,650	\$20	\$5,931	\$650
Utilities & Natural Resources	\$5,267	-	\$5,267	\$1,695	\$6,962	\$4,884	\$1,155	\$193	\$730	\$578
Transportation	\$8,962	\$100	\$9,062	\$1,280	\$10,342	\$7,923	\$195	\$125	\$2,100	\$55
Agriculture	\$3,903	\$782	\$4,685	\$209	\$4,894	\$1,441	\$121	\$27	\$3,305	\$422
Government & Recovery Ops	\$1,512	\$2,685	\$4,197	\$214	\$4,411	\$2,408	\$781	\$493	\$729	\$594
Education	\$697	\$165	\$862	\$70	\$932	\$315	\$290	\$131	\$196	\$282
Health and Human Services	\$723	\$79	\$802	\$19	\$821	\$522	\$74	\$61	\$164	\$252
Tribal and Federal Lands*										
Helene subtotal	\$44,363	\$9,406	\$53,769	\$5,848	\$59,617	\$25,875	\$6,681	\$1,106	\$25,955	\$3,481
Other Disasters								\$90	\$406	\$420
All disasters total	\$44,363	\$9,406	\$53,769	\$5,848	\$59,617	\$25,875	\$6,681	\$1,196	\$26,361	\$3,902

* While OSBM has been in communication with the Eastern Band of Cherokee Indians, they have not yet completed damage assessments. OSBM has not included direct damage to federal lands in this assessment, as assessment and recovery work will be completed by the federal government. Indirect economic impact from loss of tourism associated with federal lands can be found in the Economy section. Further detail can be found on page 124.

Introduction

Hurricane Helene made landfall along Florida's Gulf Coast on Thursday, September 26 as an extremely strong category 4 storm with maximum sustained winds of 140 miles per hour.

Helene reached North Carolina on Friday, at which point the state's western region had already received substantial rain. Helene brought significantly more precipitation, driving three-day rainfall totals that exceeded 8 inches across North Carolina's mountain region and 12 inches in many areas. Highest local rainfall maximums across the state exceeded 30 inches for only the second time in recorded state history.

The rain swelled streams and rivers – many of which were already in flood stage – to record highs, producing 1,000-year flood events in several counties.³ Flooding, landslides, strong winds, and tornadoes generated by the storm combined with unique aspects of western North Carolina to produce a major disaster. Helene is one of the deadliest US storms of the 21st century, with over 100 confirmed deaths in North Carolina.

While North Carolina has been impacted by several major disasters in recent years, Helene was characterized by:

A large number of severe or catastrophic impacts on homes and essential services

- **Large-scale damage to homes:** Helene is expected to have damaged more than 73,000 homes, with many thousands having experienced severe or catastrophic impacts.
- **Disruption of life-sustaining services:** Helene damaged or destroyed sewage and water treatment systems in multiple communities and 44 emergency response facilities. The storm resulted in the evacuation of 145 healthcare facilities (including hospitals; nursing homes; and adult, family, mental health, and community health facilities) across western North Carolina.
- **Impacts to transportation and utilities:** Entire communities lost access to core services and communication. The storm caused damage to roads and bridges in more than 6,900 sites, forcing traffic closures, including on I-40. Landslides and flooding cut residents off from outside help and communication.

Impacts that may be particularly long-lasting

- **Delay in return-to-business:** With the loss of essential services, utilities, and transportation corridors came long-term cessations in operations for businesses across western North Carolina. The complexity of restoring infrastructure has directly slowed the reopening of businesses and has impaired access to key customer bases. In turn, businesses face challenges to their survival, which may have significant impact on the region's communities.
- **Multi-year damage:** Key centers of production and revenue generation in industries such as agriculture and tourism experienced impacts that are likely to last for years (e.g., damage to nursery plants, which will need multiple seasons to regrow; damage to

³ A flood with a 1-in-1,000 statistical likelihood of occurring in a given year.

backcountry infrastructure and natural landscapes at state and national parks, which may not return to ‘normal’ for years). The longevity of this damage is likely to slow re-building, and may make it more challenging for communities to recover, retain residents, and attract visitors.

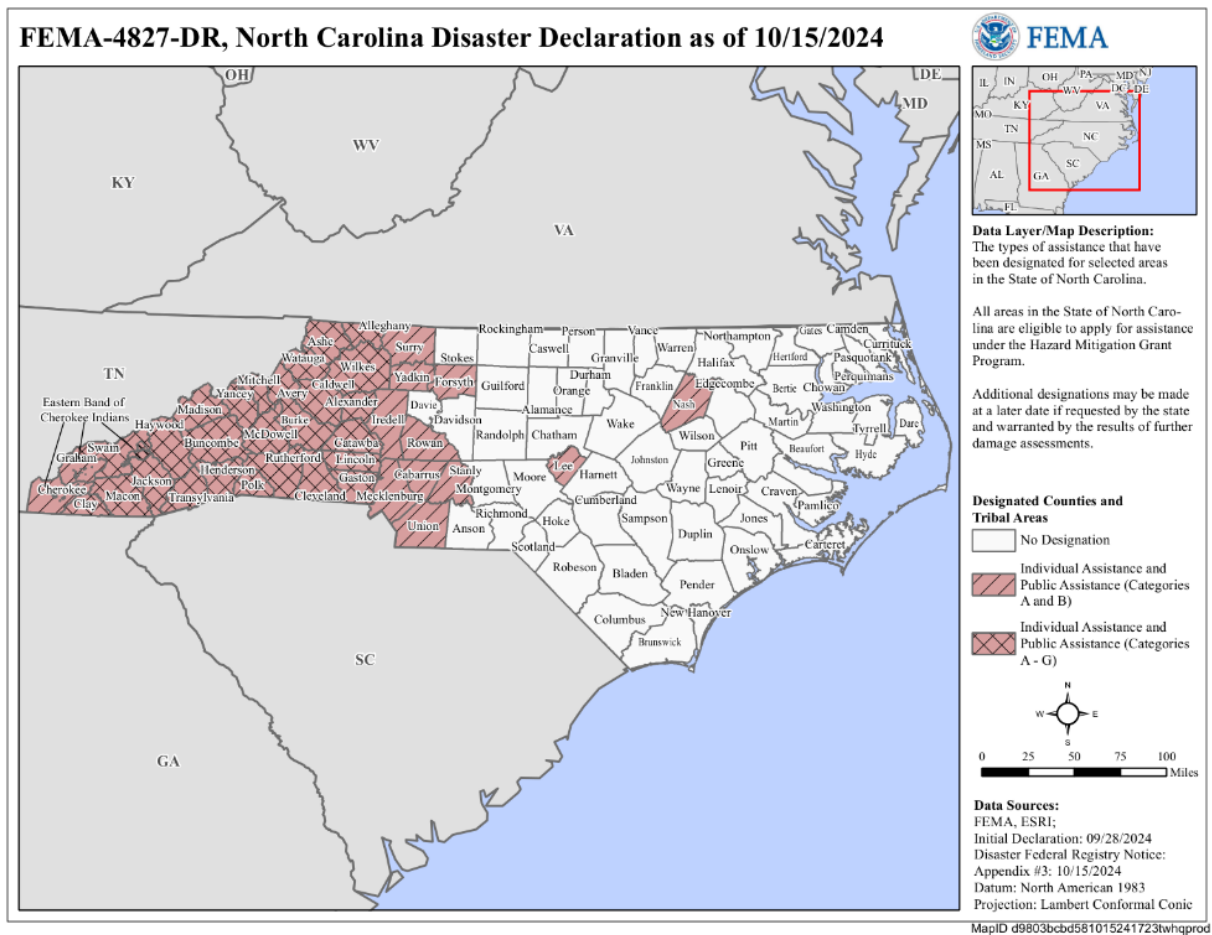
- **Substantial uninsured home and property losses:** Helene damaged thousands of structures, including many residences. Unlike in coastal areas, most homeowners do not carry flood insurance. This coverage gap will dramatically reduce private financial resources for recovery.

Increased costs to complete recovery and mitigate future harm

- **Increased construction costs:** Construction costs have risen significantly since COVID-19. In addition, multiple recovery efforts from concurrent natural disasters across the Southeast may lead to higher-than-normal costs than for disaster recovery.
- **Opportunity for strengthening and mitigation:** Unprecedented damage and impact to the state have led to calls for strengthening and mitigation to prevent future disasters of this magnitude from happening again.

On September 27, 2024, Governor Roy Cooper requested a Major Disaster Declaration from the federal government for 39 North Carolina counties and the Eastern Band of Cherokee Indians for federal Public Assistance and Individual Assistance. On September 28, 25 counties in North Carolina were declared a major disaster by the President of the United States under the Stafford Act (P.L. 93-288), approving individual and public assistance for these counties as well as the Eastern Band of Cherokee Indians. On October 5, two additional North Carolina counties were declared eligible for federal individual assistance, followed by twelve more on October 16. At 4.6 million people, more than 40% of the state’s population live in one of the 39 officially declared federal disaster assistance counties. Of these 39 counties, there are 26 counties currently eligible for all categories of FEMA public assistance (FEMA Public Assistance Categories A-G). 1.8 million people, or about 16% of all North Carolinians, live in these 26 most impacted counties.

Exhibit 1: North Carolina counties included in FEMA's Helene disaster declaration



To aid response and relieve burden on affected North Carolinians, the Cooper Administration quickly signed executive orders deploying State Emergency Response and temporarily waiving certain requirements on vehicles supporting emergency relief;⁴ temporarily suspending limitations on certain types of vehicle fuels;⁵ temporarily increasing flexibility for affected state employees and expediting hiring to support emergency response;⁶ temporarily waiving certain requirements for medical practice and enabling delivery of emergency medications;⁷ and temporarily increasing flexibility for essential social programs (e.g., childcare, foster care, public health, aging, Medicaid, TANF, vocational rehabilitation);⁸ addressing the impact on water

⁴ E.O. 315, September 25, 2024

⁵ E.O. 316, October 3, 2024

⁶ E.O. 317, October 4, 2024

⁷ E.O. 318, October 5, 2024

⁸ E.O. 319, October 9, 2024

systems and other infrastructure and waiving regulatory requirements;⁹ and providing unemployment insurance relief to those affected.¹⁰

While North Carolina has experienced storms of similar size and strength to Helene – like 2018’s Hurricane Florence – the damage and regional characteristics have created complexities the state has never before experienced. These new challenges complicated the comprehensive damage and needs assessment due to:

- **Impaired access:** Large-scale flooding and landslides caused extensive damage to transportation infrastructure in the region. The extensive road damage has at times slowed aid and hindered damage assessments of many of western North Carolina's more isolated communities. Road construction crews have worked tirelessly to make it safe for first responders and inspectors to move in and out on a limited set of transportation corridors.
- **Difficulty of communication:** Helene caused significant damage to communications infrastructure in western North Carolina. These impacts were amplified by damaged transportation infrastructure, which has slowed network restoration by service providers, and the region's mountainous topography, which limited the range and quality of connections provided by temporary solutions. The resulting severe, prolonged communications disruption has limited the ability of first responders and inspectors to communicate across and outside the region.
- **Disparate nature of communities:** Many affected communities and residences are spread far apart and isolated by western North Carolina's mountainous terrain. This is evidenced by the region's relatively low population density. Counties in the major disaster declaration that experienced greatest rainfall have an average population density of 156 residents per square mile, compared to 169 per square mile in Florence-affected counties and 223 per square mile for North Carolina as a whole.

Despite the unique challenges of Hurricane Helene and the western North Carolinas area impacted, the Office of State Budget and Management (OSBM) with the assistance of state agencies, non-governmental organization partners (e.g., League of Municipalities, Association of County Commissioners), and private stakeholders (e.g., utilities) completed a preliminary damage and needs assessment soon after the storm. This preliminary assessment was released by Governor Cooper and OSBM on October 24, 2024 and estimated damages of \$53.6 billion.

In the weeks that followed, OSBM has worked to refine and update this estimate. Based on available data, revised estimates of damage and needs as of December 13, 2024 are more than \$59.6 billion across the state, including \$44.4 billion of direct damage, \$9.4 billion of indirect or induced damage, and \$5.8 billion of potential investments for strengthening and mitigation. Five categories drive close to 90% of estimated direct and indirect damage: Economy, Housing, Utilities and Natural Resources, Transportation, and Agriculture. The damage attributable to Helene is roughly three and a half times the \$16.7 billion impact of Hurricane Florence in 2018.

⁹ E.O. 320, October 15, 2024

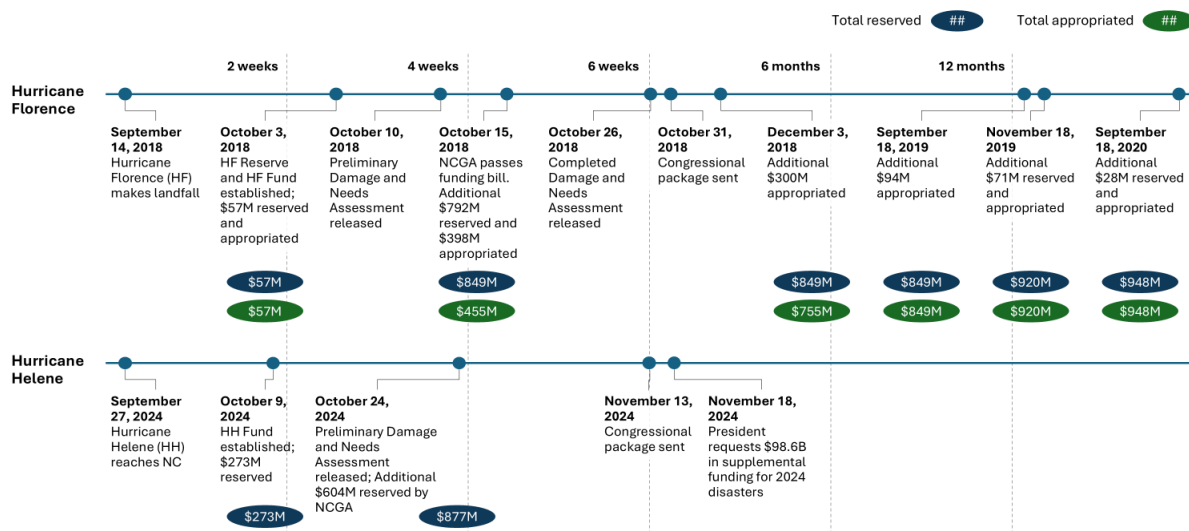
¹⁰ E.O. 322, October 16, 2024

Early action is critical to the long-term well-being of affected communities. Recent research investigating nearly 3,000 county-level recoveries from \$1 billion disasters found that those that experienced “leading recoveries”¹¹ were more likely to quickly mobilize significant, flexible capital and proactively invest in local capacity and expertise to support post-disaster efforts.¹²

Following Hurricane Florence, the General Assembly reserved and appropriated \$57 million on October 3, 2018. This was followed by reservation of an additional \$792 million and appropriation of an additional \$398 million based on a preliminary damage and needs assessment, 4 weeks after the storm. To date, state appropriations to support Florence recovery total \$1.06 billion.

To date, the General Assembly has appropriated \$1.1 billion, reallocated another \$77 million to support response and recovery efforts, and set aside but not appropriated another \$225 million. This amount addresses 2.4% of the total Helene-related damage and need. Reserved funds for Florence at the same stage in the recovery process (\$755M) accounted for 4.4% of total Florence-related damage and need.

Exhibit 2: Timeline for DNA development and appropriations for Hurricanes Florence and Helene (to date)



The state is also grateful for initial support provided by the federal government in the first month, including close to \$850 million in FEMA Individual and Public Assistance to-date; technical assistance from FEMA, USACE, and other federal agencies; and the mobilization of 7,000 federal personnel and 1,500 federal troops to support emergency response. In addition, North Carolina has formally requested \$25.6 billion in total federal assistance. In parallel, President Biden on November 18, 2024, requested \$98.6 billion in federal funding from

¹¹ Recoveries in which economic growth in the first two years after the disaster exceeded pre-disaster levels and was sustained at least five years after the disaster

¹² Mysore, Mihir , Tim Ward, Tom Dohrmann and David Bibo. “Bounce Back Better: Four Keys to Disaster Resilience in U.S. Communities.” Edited by Kayyem, Juliette and Nate Bruggeman. October 1, 2024

Congress to support recovery of communities across the Southeast and Appalachia from Hurricanes Helene and Milton – this request has significant overlap with and supports Governor Cooper and OSBM’s request for federal support. This assistance will be critical in addressing needs for recovery, including temporary housing and the reconstruction of homes, restoration of critical infrastructure, resources to help small businesses reopen, and cashflow support for local governments.

North Carolina estimates \$6.9 billion of the federal request will be received through eligibility-based funding including FEMA Individual Assistance (IA), Public Assistance (PA), and Hazard Mitigation Grant Program (HMGP).

As of December 12, 2024, North Carolinians have received \$555 million in FEMA IA awards, including \$78 million in Housing Assistance and \$195 million in Other Needs Assistance (ONA). The state currently anticipates another \$200 million in IA funding, for a total estimate of \$755 million.

Eligible North Carolina state agencies, local governments, and private nonprofits have received \$293 million in PA funds to assist with immediate Helene response efforts. The state anticipates another \$5.2 billion in PA funding, for a total of approximately \$5.5 billion.

As a state with an enhanced mitigation plan, North Carolina anticipates receiving a higher percentage of eligible Stafford Act assistance (measured as total FEMA assistance from PA, IA, and other programs) as FEMA Hazard Mitigation Grant Program support. The state expects to receive about \$1.4 billion in HMGP Funding.

While IA, PA, and HMGP are eligibility-based and do not require stand-up of new programs, they do require the state to invest alongside the federal government by matching a portion of the funding received. State matching funds are required to unlock these essential funding sources for recovery.

Exhibit 3: FEMA PA and IA funding and state match requirements across taxonomy categories

<i>Category - IA & PA</i>	<i>Federal FEMA Funding</i>	<i>State Match Requirement</i>
Economy	\$131	\$15
Housing	\$734	\$164
Utilities & Natural Resources	\$3,525	\$385
Transportation	\$109	-
Agriculture	-	-
Government and recovery operations	\$658	\$73
Education	\$265	\$27
Health and human services	\$50	\$6
Tribal and federal lands	-	-
Other storms	\$54	\$18
HMGP funding	\$1,419	\$394
Total	\$6,945	\$1,081

The pages that follow focus on nine categories relevant to the areas of North Carolina affected by Helene: local economies, housing, utilities and natural resources, transportation infrastructure, agriculture, government property and revenue, education, health and human services, and tribal and federal lands. For each category, this report provides a comprehensive estimate of damage and needs based on best available data as of December 13, 2024. In addition, the report outlines recommended federal policy changes; expected private, federal, and state funding; funding received to date; and remaining unmet need to address damage and needs in that category.



Economy

Addresses physical damage and economic losses for non-agricultural businesses and non-profit organizations

Estimates (\$M)								
	Damage & needs			Investments				
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	Expected Other	State Funded as of 12/12/24	Unfunded
Business Disruption	\$6,830	\$5,595	\$12,425	\$559	\$108	\$89	\$56	\$11,613
Structures/ Equipment	\$2,900	-	\$2,900	\$645	\$1,132	-	-	\$1,124
Vehicles	\$115	-	\$115	-	\$86	-	-	\$29
Sub-Total	\$9,845	\$5,595	\$15,440	\$1,204	\$1,326	\$89	\$56	\$12,765
Strengthening & mitigation	\$435	-	\$435	\$400	-	-	-	\$35
Total	\$10,280	\$5,595	\$15,875	\$1,604	\$1,326	\$89	\$56-	\$12,800

1. Summary

Western North Carolina is forever changed in the wake of the devastating impacts of Hurricane Helene, significantly impacting the area's economy. Thousands of businesses in the region suffered damage from rushing flood waters, landslides, wind, and falling trees. Even businesses spared from direct damage were often cut off from workers and customers due to washed-out roads or being unable to open due to extended outages of electricity, water, sewer, and communications.

The findings of this analysis confirm that the economic devastation from Hurricane Helene is unparalleled in modern North Carolina history: nearly \$16 billion in total impact. The total includes an estimated \$3 billion in damage to business and nonprofit property, including structures, equipment, and vehicles, plus \$435 million in needs for hazard mitigation, and more than \$12.4 billion in economic loss from reduced business revenue, resulting in billions of dollars less in income for workers and business owners. OSBM estimates payments from private insurance, federal grants and subsidized loans, state funding, unemployment insurance, and other assistance will cover about \$3 billion of the \$16 billion total damage and needs.

Economic Overview

Most of the damage from Hurricane Helene was concentrated in the western third of the state. Western North Carolina is home to scenic parks and cultural attractions that drive tourism and support local hospitality, retail, and restaurant businesses. Seasonal tourism surrounding "peak leaf season" in fall is particularly important in many of the counties most affected by Helene,

with local businesses regularly citing the relative importance of October to annual revenue. The mountains receive nearly 30% of annual visitor spending in fall and early winter, totaling more than \$2 billion in western North Carolina during the prior fall season.¹³ Several counties within the affected region rely on arts, entertainment, recreation, accommodation, and food services for 5% or more of total employment, much higher than the 1-3% share for those industries in most other areas of the state.¹⁴

Of 100 counties in the state, 39 are eligible for FEMA Individual Assistance (IA). Those counties:

- Make up 45% of North Carolina's total GDP (20% excluding Mecklenburg and Forsyth Counties);
- Host 115,237 separate employer business establishments, 46% of which have five or fewer employees;¹⁵
- Are home to an additional 384,000 "mom and pop" businesses with no employees and \$18.7 billion in receipts;
- Had an average unemployment rate of 3.3% in 2023, lower than the state average of 3.5%.
- Are home to unique businesses that play major roles in supplying products for specific industries, including Baxter International in McDowell County, an IV fluid manufacturer whose North Carolina plant supplies 60% of IV fluids nationwide,¹⁶ and quartz mining operations in Spruce Pine, which supply most of the world's high-purity quartz for semiconductors and other technologies worldwide.¹⁷

Following Hurricane Helene, some businesses have begun to clean up and reopen following initial disruptions but face obstacles to complete recovery, particularly in the hardest-hit counties.

- Although regional unemployment data lags the effects of major disaster events, initial unemployment claims in North Carolina in the week after Hurricane Helene spiked to more than three times the average in 2024 thus far.¹⁸ Although unemployment in the region was, on average, lower than the North Carolina unemployment rate before the storm, the unemployment rate in the affected region rose to a range of 6% to 9% in the month after Hurricane Helene struck.
- As of December 4, FEMA provided more than 138,000 households with housing and other assistance related to the effects of Hurricane Helene, totaling approximately \$264 million in support. FEMA assistance to families helps sustain local consumer spending,

¹³ VisitNC special data request.

¹⁴ North Carolina Regional Economic Analysis Project, 2022 data.

¹⁵ US Census Bureau. 2022 County Business Patterns.

¹⁶ NPR. "Baxter bringing back hurricane-hit IV supply facility in stages." October 9, 2024.

<https://www.reuters.com/business/environment/hurricane-impact-baxter-further-constrain-iv-fluid-supply-hhs-says-2024-10-09/>

¹⁷ NPR. "A tiny town just got slammed by Helene. It could massively disrupt the tech industry." October 1, 2024.

<https://www.npr.org/2024/09/30/nx-s1-5133462/hurricane-helene-quartz-microchips-solar-panels-spruce-pine>

¹⁸ FRED Initial Claims in North Carolina (NCICLAIMS).

which helps businesses that remain open but are experiencing lower sales from out-of-town visitors.¹⁹

- FEMA reported that over 90% of gas stations, grocery stores, and pharmacies in the area affected by Helene had resumed conducting transactions by October 13. These locations represent key consumer staples, and spending levels in these stores were nearing pre-Helene levels. Other businesses, however, are operating far below pre-Helene levels.

2. Scope

Losses in scope for the economic-impact estimates include:

- Physical damage to real and personal property, including vehicles, owned or leased by private businesses and non-profit organizations
- Economic loss from business-disruption effects, including lost revenue to businesses and lost income for workers

The economic losses from business disruption cover the whole of the state's economy, except for the farming and fishing industries (those losses are covered in the Agriculture section) and government (losses to government entities are covered in the Government and Recovery Operations section).

3. Methodology

Damage to Buildings and Other Business Property: OSBM combined two approaches to estimating structural damage: a “top-down” approach to estimate total damage given limitations in modeling floods, landslide, and wind damage, and a “bottom-up” approach using a combination of on the ground observations and flood and landslide modeling to estimate the distribution of total damage.

- **Top-down approach:** The top-down approach leveraged detailed data from FEMA IA applications and inspections to identify structural damage. OSBM used the most recent publicly available applicant-level Helene IA data as of December 2 to project the final number of Helene IA registrations, the number of FEMA home inspections, and the total amount of verified damage for IA applicants. OSBM estimated the projected amount of verified damage for Helene IA applicants to be 155% higher than the final amount of FEMA-verified damage from Hurricane Florence IA applications.

Because FEMA-verified damage only accounts for a small fraction of total damage, OSBM estimated the total amount of damage to business and nonprofit structures and to equipment to be 155% higher than the final estimate of total damage from Hurricane Florence based on OSBM's October 2018 Damage and Needs Assessment for Hurricane Florence, adjusted for more recent data from the NC Department of Insurance on final insurance payments and losses resulting from Hurricane Florence. This method provides information only on the total amount of damage to business and nonprofit

¹⁹ FEMA Daily IA Status Report for 10/16/2024.

structures and equipment, not the distribution of damage across counties, structure types, or level of damage.

- **Bottom-up approach:** This approach relies primarily on Search and Rescue (SAR) data collected by FEMA and the NC Division of Emergency Management (DEM) through November 19. These teams categorize properties they observe as destroyed, having major or minor damage, affected, or unaffected based on criteria established by FEMA. OSBM supplemented SAR observation data with modeled geospatial data on flood inundation produced by DEM and modeled geospatial data on landslides developed by the NC Department of Environmental Quality (DEQ) and the US Geological Survey. OSBM and DEM combined these datasets with parcel data from counties, which provides property values for most of the structures with confirmed damage from SAR data or likely damage based on flooding and landslide modeling. Although the data are very detailed, SAR teams have only categorized a subset of damaged buildings, and the mountainous topography and unprecedented level of flooding in the area resulted in underestimates for the number and severity of damage to structures based on flood and landslide modeling.
- **Combined approach:** Given the limitations of both methods, OSBM employed a hybrid approach. The top-down approach likely provides a more accurate representation of total structural damage and is more consistent with estimates of structural damage from Hurricane Helene by organizations like property analytics firm CoreLogic and Moody's Analytics. CoreLogic estimates between \$20 billion and \$30 billion in uninsured flood property losses from Helene and between \$11.5 billion and \$17.5 billion in insured property losses.²⁰ Moody's Analytics estimates \$38 billion to \$58 billion in total economic loss, with property damage accounting for most of the total.²¹ The bottom-up approach shows a total of nearly \$2.4 billion damage to commercial and non-profit buildings, which is approximately 80% of the \$2.9 billion estimate from the top-down approach (with the top-down and bottom-up approaches nearly matching for non-profit structures). Assuming that the SAR and DEM geospatial data did not have complete coverage, the bottom-up total validates the top-down estimate. The bottom-up approach allows for better estimating the distribution of damage across counties, structure types, and level of damage. The table at the end of this section has the distribution of damage to structures and contents based on the county classification.

Business Disruption: OSBM estimates total nonfarm non-governmental business disruption loss to North Carolina from Hurricane Helene to be \$12.4 billion – inclusive of direct and secondary (indirect and induced) effects.

- All 100 counties were grouped into five categories of impact – critical, high, moderate, low, and minimal (see figure in Assumptions below). Criteria for designation include FEMA designation for and uptake of IA as of December 2 (as a proxy for workforce disruption and displacement), duration and severity of electric power outages, search-

²⁰ CoreLogic. "Helene Insured Loss Estimate Updated, Gap Becomes Clear." October 4, 2024.
<https://www.corelogic.com/intelligence/blogs/hazard-hq/ptc9-hurricane-helene-florida/>

²¹ Moody's Talks: Inside Economics. "Consumer Prices & Catastrophic Hurricanes." October 11, 2024.
<https://www.moody's.com/web/en/us/about/insights/podcasts/moodys-talks-inside-economics/consumer-prices-catastrophic-hurricanes.html>

and-rescue-based damage estimates as a proportion of county assessed real property value, and the duration of county school closures.

- OSBM estimated and projected the level of decreased economic output over multiple time periods for each severity category extending 12 months after the initial impact of the storm (see Assumptions section below).
- The disruption assumptions were applied to the average daily nonfarm, non-government employee compensation figures in each group of counties to determine the total direct impact on compensation.
- Compensation losses were scaled to employment, GDP, and total industry output (i.e., business receipts) in an economic modeling platform (IMPLAN) to calculate the direct and secondary impacts on economic output and other economic indicators. OSBM ran five separate models, one for each group of counties by severity of impact (critical, high, medium, low, and minimal). Model estimates also include the impact of disruptions in county groups on one another.
- Direct effects include lost production and sales to firms resulting from storm-related disruptions (e.g., business closures, reduced access by employees and customers, etc.). Indirect effects include changes to business-to-business purchases and household purchases affected by disruptions and wage losses. The total business disruption loss reported is the total effect on business output, which is consistent with business-disruption estimates for Hurricane Florence and other states' storm-impact modeling.

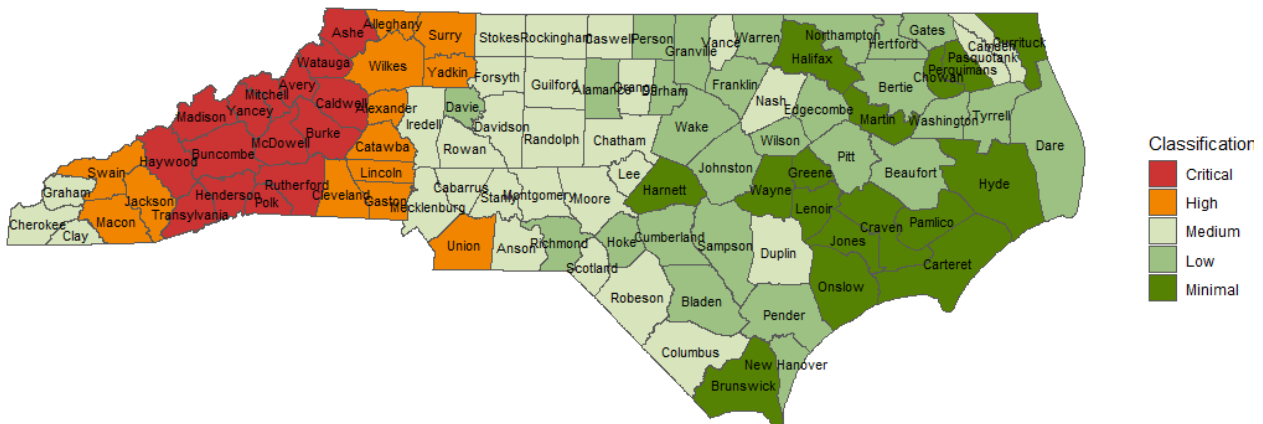
4. Assumptions

- ***Buildings and Structure Losses:*** For the top-down approach, this assessment assumes flood related and non-flood related structural damage data from Hurricane Florence can serve as a reasonable benchmark for scaling Hurricane Helene's damage estimates despite differences in terrain. OSBM also assumed that IA applications and inspections to date, with a modest reduction in assumed average damage per inspection, represent an adequate sample for projecting total damage. The model assumes that the ratio between FEMA IA payouts and total structural damage for Florence recipients will hold for Helene. Experience from hurricanes Matthew, Katrina, Harvey, Superstorm Sandy, and Florence suggests construction costs are 8-20% higher in the aftermath of an event due to a shortage of available construction services or an increase in the cost of raw material or labor. The top-down approach indirectly incorporates additional construction costs, conservatively estimated to be 15% for this report.

For the bottom-up approach, damaged buildings were identified based on SAR locations as well as modeled flood or landslide status of a location. The value of the damaged buildings was computed using affected parcels' improved value with a multiplicative factor of 100%, 55%, 20% and 10% assigned to destroyed, major, minor, and affected buildings, respectively. The damage value of a parcel falling under the DEM Inundation Layer but not identified among the SAR site assessments were assumed to be 10% of

developed by Wisconsin Emergency Management.²²

- **Business Disruption:** County impact category and assumptions for disruptions in each category are below. Disruption time-duration assumptions are based on power outages, road closures, and state park facility and school closures, along with re-opening timelines where available. The business-disruption levels reflect estimates of business revenues permanently lost due to the storm. Many businesses will compensate for reduced production and revenues during and immediately after the storm with higher production and sales (e.g., through overtime) and some may be able to mitigate lost sales over longer time periods by shifting operations (e.g., through increasing online sales).

[illegible][illegible]

²² <https://www.wistatedocuments.org/digital/api/collection/p267601coll4/id/1662/download>

Critical	\$3,642	\$2,979	\$6,621	\$2,758	\$9,379
High	\$1,235	\$783	\$2,018	\$121	\$2,139
Moderate	\$1,543	\$1,413	\$2,957	\$21	\$2,979
Low	\$400	\$403	\$803	\$0	\$803
Minimal	\$9	\$16	\$25	\$0	\$25
Total	\$6,380	\$5,595	\$12,425	\$2,900	\$15,325

5. Primary Data Sources

- NC Division of Emergency Management for search and rescue structure damage, preliminary inundation geography, and power outages, along with poweroutage.us
- NC Department of Environmental Quality for landslide incident geospatial data
- Department of Transportation for road closures
- NC OneMap for parcel data from NC counties
- U.S. Bureau of Economic Analysis for county-level employee compensation
- IMPLAN for estimates of county-level economic indicators, multipliers, and inter-industry linkages
- FEMA for individual assistance statistics for current and previous disasters and building-footprint occupancy types
- NC Department of Insurance for historical insurance claims related to Hurricane Florence
- CoreLogic and Moody's Analytics for comparative damage estimates
- VisitNC for quarterly data on tourism spending in western NC for 2023

6. Potential Sources of Non-State Funding

Federal

Small Business Administration (SBA) Loans – \$314 million

- *Rebuilding Damaged Businesses - \$189 million*

North Carolina expects disaster-affected businesses to be approved for \$189 million in Small Business Administration (SBA) Physical Damage Loans to help repair and rebuild facilities and assets damaged by the hurricane. The expected amount assumes that, as with Hurricane Florence, these loans will address only 6.5% of the \$2.9 billion in total estimated business property damage.

Although more than 2,500 many businesses damaged by Hurricane Helene have applied for SBA Physical Damage as of December 11 Loans, SBA only disbursed \$344,000 in loans to 11 borrowers due to exhausted funds. SBA funding and requires additional funding from Congress to disburse loan approved eligible borrow SBA reports that 473

businesses with total loans of more than \$51 million are in the queue for loan approval once Congress authorizes additional funding. These loans will allow business owners to begin restoration efforts on their properties, including buildings, equipment, and inventory, ensuring that local businesses can reopen and support the region's economic recovery.

- *Sustaining Struggling Small Businesses - \$125 million*

North Carolina expects disaster-affected businesses to be approved for \$125 million in Economic Injury Disaster Loans (EIDL). These loans support businesses facing operational disruptions and cash flow challenges during the recovery period. These funds will help cover essential expenses such as payroll, rent, utilities, and other operating costs until normal business conditions resume, particularly for businesses that have experienced substantial economic losses. As with Physical Damage Loans, Congress must authorize additional funding before SBA can disburse EIDL loans to eligible borrowers. As of December 11, SBA has disbursed \$185,000 in EIDL loans to 13 borrowers but reports having 442 loans in the approval queue with total loans of more than \$20 million

US Department of Commerce, Economic Development Administration (EDA) Funding – \$115 million

- *Building Business District Resilience - \$75 million*

North Carolina requested \$75 million through the Economic Development Administration's (EDA) Economic Adjustment Assistance (EAA) program to support rebuilding and enhancing resilience in heavily impacted business districts across western North Carolina. As part of this request and North Carolina's other funding requests through EDA, North Carolina asked Congress to appropriate supplemental disaster-recovery funding to EDA.

These funds will be allocated to infrastructure repairs, retrofitting existing commercial facilities, and creating climate-resilient features in business zones that were devastated by Hurricane Helene. This will include strengthened structures and supporting business infrastructure, shared business hubs, and utility resilience investments to help these communities withstand future disasters.

- *Supporting Regional Economic Development and Recovery - Competitive funding*

North Carolina requested additional funding through EDA to expand capacity for the Distressed Area Recompete Pilot Program (Recompete) to provide local governments and organizations with competitive funding to support economic development activity. A Recompete expansion, if modified to target areas with a disaster declaration, could cover at least the 13 counties in North Carolina that sustained significant damage from Hurricane Helene and already qualify for Recompete under its pilot program eligibility criteria. North Carolina could be competitive for up to \$40 million in total awards. Note, potential awards from competitive funding are not included in the table with the estimates at the beginning of this section.

- *Direct Small Business Recovery Loan Program - \$30 million*

To support small businesses facing severe financial impacts from the hurricane, North Carolina requested \$30 million from EDA to capitalize a revolving loan fund (RLF). This loan fund will offer low-interest, flexible loans tailored to address the urgent financial needs of small and midsize businesses that experienced property damage or economic disruption.

Eligible lenders offering revolving loans through the RLF will support small businesses in repairing facilities, replacing assets, and restoring operations, particularly in tourism, agriculture, and retail. The fund will also provide working capital loans for payroll, inventory, and emergency supplies, helping businesses manage financial obligations and sustain operations during recovery.

- *Workforce Training and Economic Diversification Initiatives - \$10 million*

To address workforce displacement and support economic diversification in western North Carolina, North Carolina requested a \$10 million from EDA for investment in targeted workforce development programs. This funding will support training initiatives to equip displaced workers with skills for high-demand, resilient sectors, emphasizing disaster-resilient job training and workforce diversification efforts.

National Institute of Standards and Technology (NIST) - Competitive funding

Assess Manufacturing Disaster Impact – North Carolina’s Manufacturing Extension Partnership Center (NCMEP) would use \$1 million in competitive grant funding through NIST’s MEP Disaster Assessment Program to determine the impact of Hurricane Helene on small- and medium-sized manufacturers in North Carolina counties subject to FEMA disaster declaration. Assessments conducted also include assistance with disaster recovery resources for affected manufacturers and the development of plans to mitigate future disaster risk. Note, potential awards from competitive funding are not included in the table with the estimates at the beginning of this section.

Federal Emergency Management Agency (FEMA) – \$130 million

- *Public Assistance to Private Nonprofits - \$130 million*

Structural damage to private nonprofit entities is eligible for coverage under FEMA PA. Based on national statistics, OSBM estimates that 5% of establishments with structural damage are private nonprofits and that \$130 million, or 90%, in losses will be covered by FEMA. The state would need to provide matching funds of \$15 million. The needed state matching funds are included in the total state matching fund required that is in the Government and Recovery Operations section.

- *Mitigating Flood Risk (see Housing section for total)*

Many of the structures damaged by Hurricane Helene’s floodwaters are owned by non-profit organizations. North Carolina requested funding from FEMA for the Hazard Mitigation Grant Program (HMGP) to ensure non-profit structures being repaired or rebuilt using Public Assistance funds are built to withstand future floods. North Carolina expects to utilize \$18 million of total formula-based HMGP funding for eligible private non-profit structures. More than 175 of the 362 applicants for Public Assistance as of December 2, 2024, are non-profit organizations, including volunteer fire departments, community centers, churches, shelters, private schools, and others. See

the Housing section of this report for more information about the total expected HMGP amount.

US Department of Labor (DOL) – \$94 million

- *Disaster Unemployment Assistance - \$44 million*

FEMA and the U.S. Department of Labor provide payments to cover income losses resulting from disaster-related unemployment or inability to work. The Division of Employment Security (DES) estimates that up to 50,000 workers could claim up to 14 weeks of DUA benefits, which would result in an estimated \$175 million in payments. Given the rise in unemployment insurance claims in North Carolina immediately following Hurricane Helene and the projected duration of business disruptions, OSBM estimates 25% utilization of the DES maximum, or \$44 million paid from the DUA program.

- *Disaster-Affected Workforce Training and Support - \$50 million*

The US Department of Labor (DOL) has already granted \$10 million to North Carolina to temporarily expand the service capacity of dislocated worker training and employment programs at the state and local levels.

However, due to the severe impact of Hurricane Helene, additional funding is urgently needed. Based on past funding precedents, including \$19 million and \$15 million in multiple rounds for Hurricanes Florence and Matthew, North Carolina requested an additional \$40 million from DOL to fully meet the current needs of our dislocated workforce, bringing the total allocation to \$50 million.

Department of the Treasury

- *Tax Relief for Small Businesses Suffering Disaster-Caused Losses*

Thousands of small businesses and farms in the Hurricane Helene disaster declaration area have suffered significant property and revenue losses due to the disaster. North Carolina requested that Congress allow these businesses and farms to fully deduct Helene-caused losses on their federal income tax returns for tax years 2024 through 2026, rather than having losses limited to 80% of taxable income, and carry back those losses to the two most recent tax years. Congress has previously extended carryback allowances for businesses affected by disasters and temporarily suspended the 80% limit on net operating loss deductions, including in the Fair Disaster Tax Relief Act of 2008 and the 2020 CARES Act. Providing this tax relief will help sustain these small businesses and farms until they are able to build back to normal operations.

- *Expand Credit Availability for Small Businesses*

North Carolina requested authorization from the Treasury Department to retain funds provided for the Rapid Recovery Loan Program under the 2020 CARES Act to repurpose for disaster lending and grants to small businesses affected by Hurricane Helene.

Department of Housing and Urban Development (HUD) – \$950 million

Economic Revitalization – North Carolina requested \$950 million from Congress for economic revitalization through a supplemental investment in HUD’s CDBG-DR program to provide

relief to the nearly 500,000 business establishments in the Helene disaster-declaration counties, especially the more than 50,000 businesses in the fifteen hardest-hit counties that suffered through extended power outages, little or no access to potable water, and the loss of visitors during one of the busiest times for tourism in the region.

North Carolina's CDBG-DR allocation should include \$300 million for a Small Business Disaster Loan program modeled after Louisiana's CDBG-DR-funded program to promote economic recovery from Hurricanes Laura, Delta, and Zeta in 2020. The loan program would partner with local community development financial institutions and provide partially forgivable loans to hard-hit small businesses, including farm businesses, for working capital and essential business-related structures and equipment.

The supplemental CDBG-DR allocation should also include \$650 million for business infrastructure rebuilding and resiliency. Many of the businesses flooded by Hurricane Helene would remain vulnerable to future flooding without significant investments in hardening business structures and raising them out of harm's way. Projects would target commercial districts and be designed and implemented in partnership with local governments and councils of government, local business organizations, and resident stakeholders. Out of the \$650 million, OSBM anticipates the state will use \$325 million for rebuilding and \$325 million for resiliency efforts.

Private

- *Private Business Disruption Insurance - \$108 million*

Business-disruption insurance is expected to cover 1.7% of the direct economic losses, somewhat lower than coverage levels during Hurricane Florence. As of November 8, 2024, insurers reported 1,032 claims for business-interruption insurance covering over \$97 million in losses. For Hurricane Florence, total claims for business-interruption insurance more than doubled from the second round of insurer reporting to the final report, and final paid losses equaled 54% of reported losses. Assuming reported business-interruption claims will also roughly double between the second and final insurer reports and assuming paid losses as a share of total claims will be 54% as for Florence, paid losses will be roughly \$108 million.

- *National (NFIP) and Private Flood Insurance - \$200 million*

OSBM expects NFIP and private flood insurance to cover \$200 million in flood damage. Final insurance claims data for Hurricane Florence suggest that flooding accounted for less than half of damage to business and nonprofit structures and equipment. Due to lower windspeeds in North Carolina from Helene, OSBM assumes that flooding losses will account for a greater share of total damage (two-thirds). Based on FEMA IA data as of December 2, only 5.2% of homes with FEMA-verified flood damage had any flood insurance coverage. This analysis assumes commercial coverage rates would be double the rate for homeowners due to higher insurance compliance rates, resulting in an estimated 10.4% insurance coverage for flood damage to commercial structures.

- *Private Insurance for Other Hazard Damage - \$786 million*

Commercial property and automotive insurance would cover damage not incurred by flooding. For Hurricane Florence, OSBM estimates that commercial property insurance covered 80% of non-flood damage. Based on IA data as of December 2, home, homeowner insurance rates are modestly lower among homeowners affected by Hurricane Helene (71%) compared to homeowners affected by Hurricane Florence (78%). Assuming commercial property insurance coverage is also 7 percentage points lower for businesses affected by Hurricane Helene (73% versus 80% for Hurricane Florence), OSBM anticipates private insurance will cover \$700 million in damage to real property, inventory, and equipment and \$86 million in automotive damage.

- *Private Commercial Loans - \$232 million*

In addition to federal loans to businesses through the SBA, some businesses—particularly larger businesses—will obtain loans from private commercial banks to finance needed repairs to damaged buildings or replace destroyed buildings and equipment. A recent paper estimated that households cover 8% of disaster repairs using formal loans from private lenders.²³ Assuming businesses cover the same share would result in an estimated \$232 million in private loans to cover disaster repairs not covered by insurance or other sources.

Other

- *Nonprofit Organizations - \$14 million*

Various nonprofit entities and community-development institutions have stepped up to provide subsidized loans and technical assistance to hurricane-affected businesses and replace lost income for eligible workers in specific industries. The largest-known investment by a nonprofit in Helene business recovery is the Dogwood Health Trust's \$10 million investment in the western North Carolina Small Business Initiative (WNCsBI), led by Appalachian Community Capital. Another group, Transylvania Tomorrow, aims to raise \$500,000 for business aid in Transylvania County. OSBM assumes that at least seven other counties have initiatives similar to Transylvania Tomorrow with an average investment of \$500,000 per initiative.

- *Enhanced Unemployment Insurance Benefits - \$75 million*

Enhanced benefits following Hurricane Helene include a \$250 increase in weekly payments for workers through the duration of the disaster declaration. The Division of Employment Security (DES) estimates that full expanded state benefits to 50,000 workers for 12 weeks will cost \$150 million at most.²⁴ Given the rise in unemployment insurance claims in North Carolina immediately following Hurricane Helene and the

²³ Collier, Benjamin L. and Ellis, Cameron M. (2024). A Demand Curve for Disaster Recovery Loans. *Econometrica*. 92 (3) pp. 713-748. DOI: 10.3982/ECTA20417.

²⁴ NC Governor's Office Press Release. "Governor Cooper Issues Executive Order Increasing Unemployment Payments for North Carolinians in the Wake of Hurricane Helene." <https://governor.nc.gov/news/press-releases/2024/10/16/governor-cooper-issues-executive-order-increasing-unemployment-payments-north-carolinians-wake>

projected duration of business disruptions, OSBM estimates 50% utilization of the DES maximum, or \$75 million paid from the Unemployment Insurance Trust Fund.

Policy Changes

Small Business Administration (SBA)

- *Duplication of Benefits* - North Carolina also requests legislation to ensure that, like in the Disaster Recovery and Reform Act of 2018 (DRRA), SBA loans are not considered a duplication of benefits when an individual is seeking support from CDBG-DR. DRRA temporarily amended section 312 of the Stafford Act such that, for qualifying disasters (i.e., disasters declared between January 1, 2016 and December 31, 2021), an SBA loan was not a prohibited duplication of benefits so long as all federal assistance was used toward losses resulting from a declared major disaster; this amendment sunset in October 2023.

Department of Treasury (DOT)

- *Tax Relief for Small Businesses and Farmers Suffering Disaster-Caused Losses* - North Carolina requests that Congress allow the thousands of small businesses and farms impacted by the storm to fully deduct Helene-caused losses on their federal income tax returns for tax years 2024 through 2026, rather than having losses limited to 80% of taxable income, and carry back those losses to the two most recent tax years. Congress has previously extended carryback allowances for businesses affected by disasters and temporarily suspended the 80% limit on net operating loss deductions, including in the Fair Disaster Tax Relief Act of 2008 and the 2020 CARES Act. Providing this tax relief will help sustain small businesses and farms until they are able to build back to normal operations. The state is additionally requesting that the IRS allow farmers in the Hurricane Helene disaster declaration area to carry back net operating losses from tree and bush damage for 10 years. This tax relief specific to farmers is needed to address multi-year income losses. Timber, fruit and nursery trees and bushes, and Christmas trees can take 10 years or more to reach full production or salable maturity.
- *Expand Credit Availability for Small Businesses* - North Carolina requests authorization from the Department of Treasury to retain funds provided for the Rapid Recovery Loan Program under the 2020 CARES Act. The state would repurpose these funds for disaster lending and grants to small businesses affected by Hurricane Helene

7. State Funding Recommendations as of October 23, 2024 – \$649.6 million

The recommendations below combine grants and low-cost loans to support businesses impacted by Hurricane Helene, along with grants to local governments and other entities to rebuild commercial infrastructure and provide technical assistance. Research has shown that both grants and loans play critical roles in helping businesses recover from disaster.

Combining both grants and loans often proves more effective than relying only on one strategy. Grants are especially important early on, when businesses are vulnerable to cash-flow problems related to factors such as destroyed infrastructure and supply chains, disaster-induced-demand changes, and workforce challenges (e.g. employees who are themselves disaster victims). As one

recent study noted, "[e]ven small amounts of faster funding can help businesses re-open more quickly and reduce their interruption losses."²⁵ Government recovery loans, covering longer time periods, can further help businesses retain employees, increase revenue, and avoid delinquency or bankruptcy, while also inducing more private investments in those businesses.²⁶

Other recent research indicates that states and local governments that have moved quickly to support disaster recovery efforts, including investing in promoting business recovery, experienced more rapid economic recoveries than areas that acted more slowly.²⁷

Sustaining Businesses by Replacing Lost Revenue

Helene Business Recovery Grants – \$475 million

Provides funds to the Department of Revenue (NCDOR) to award grants to businesses in the counties hardest hit by Hurricane Helene.

Phase 1: Immediate Recovery Needs – \$150 million

In Phase 1 of the Helene Business Recovery Grant program, businesses are eligible for a grant equal to the lesser of \$50,000 or 25% of taxable sales based on sales tax returns filed with NCDOR covering sales from October and November of 2023. For businesses that do not list taxable sales on their sales tax return, the grant amount will be equal to the lesser of \$50,000 or 4% of gross receipts as reported on 2022 federal tax schedules.

Businesses eligible for Phase 1 are those with at least \$8,000 in taxable sales in October and November of 2023 or \$37,500 in 2022 gross receipts and that are registered in counties with valid FEMA IA applications equal to 10% or more of certified 2023 county populations as of October 24, 2024. The minimum qualifying grant amount is \$1,500.

An estimated 23,000 employers and more than 24,000 non-employer businesses would potentially be eligible for Phase 1 grants in the thirteen counties projected to have IA applications numbering more than 10% of the county population. However, based on participation rates in the COVID-19 Business Recovery Grant program and other state and federal programs assisting businesses, OSBM expects fewer than 25,000 businesses to receive Phase 1 BRG grants. Businesses must apply for grants, and they will be awarded on a first-come, first-served basis until funds are exhausted.

Eligibility for Phase 1 grants is broader for farmers and includes farming operations in the 37 western declared disaster counties that experienced the most significant rainfall, flooding, and landslides during Hurricane Helene. Information and costs associated with grants for farmers outside of the thirteen counties that have valid FEMA IA applications equal to 10% or more of the population can be found in the Agriculture section of the report.

²⁵ Chang SE, Brown C, Handmer J, Helgeson J, Kajitani Y, Keating A, Noy I, Watson M, Derakhshan S, Kim J, Roa-Henriquez A. Business recovery from disasters: Lessons from natural hazards and the COVID-19 pandemic. *Int J Disaster Risk Reduct.* 2022 Oct 1;80:103191. doi: 10.1016/j.ijdrr.2022.103191. Epub 2022 Jul 21. PMID: 35880115; PMCID: PMC9300585.

²⁶ Collier, Benjamin and Howell, Sabrina T and Rendell, Lea, After the Storm: How Emergency Liquidity Helps Small Businesses Following Natural Disasters (April 4, 2024). Available at SSRN: <https://ssrn.com/abstract=4784537> or <http://dx.doi.org/10.2139/ssrn.4784537>

²⁷ Mysore, Mihir, Tim Ward, Tom Dohrmann and David Bibo. "Bounce Back Better: Four Keys to Disaster Resilience in U.S. Communities." Edited by Kayyem, Juliette and Nate Bruggeman. October 1, 2024

Phase 2: Sustaining Business Recovery – \$325 million

In Phase 2 of the Helene Business Recovery Grant program, businesses that can demonstrate a loss of gross revenues of 20% or more based on gross receipts in October-December 2023 versus the same period in 2024 are eligible for a grant equal to the lesser of \$75,000 or 25% of the reduction in gross receipts in the final three months of 2024 compared to the final three months of 2023. Businesses must have a reduction in gross revenues in the qualifying period of at least \$6,000 to qualify (equal to a minimum grant of \$1,500) to be eligible for a Phase 2 grant.

Rather than being eligible for Phase 2 of the Business Recovery Grant program, farmers in the 39 declared disaster counties will be eligible for a grant program operated by the Department of Agricultural and Consumer Services (DACS) covering a portion of verified uninsured losses to crops, livestock, aquaculture, and infrastructure, less any amounts received as part of Phase 1 of the Helene Business Recovery Grants. Please see the Agriculture section for more information.

Businesses registered in all counties eligible for FEMA IA are eligible. There are more than 100,000 employers and more than 115,000 non-employer businesses potentially eligible for Phase 2 grants, but only a fraction will experience a large enough decline in sales to be eligible, particularly outside of the areas hardest hit by Hurricane Helene. Businesses must apply for grants, and they will be awarded on a first-come, first-served basis until funds are exhausted.

Helping Businesses Rebuild and Recover

Local Infrastructure Grants – \$70 million

Resilient Main Street Communities Fund – \$50 million

Provides funds to the Department of Commerce’s Rural Economic Development Division (REDD) to award grants in federally declared disaster counties to support rebuilding damaged local government and business infrastructure in downtowns and other business districts affected by Hurricane Helene. Eligible projects must include measures to ensure rebuilt infrastructure is more resilient to future flooding events and other natural disasters. Individual grant awards may not exceed \$2.5 million.

Rural Recovery Resource Fund – \$20 million

Provides REDD with funds to award grants similar to the Resilient Main Street Communities Fund but targets rural areas and small towns affected by Hurricane Helene. Projects including measures to ensure rebuilt infrastructure is more resilient to future flooding events and other natural disasters will receive priority. Individual grant awards may not exceed \$1 million.

ReToolWNC – \$15 million

Provides funds to the Department of Administration’s Office of Historically Underutilized Businesses (DOA-HUB) to award grants of up to \$25,000 to certified Historically Underutilized Businesses and Disadvantaged Businesses Entities. Eligible businesses must have 50 employees or fewer and gross revenues less than \$2.5 million. DOA-HUB will administer this program in partnership with the Carolina Small Business Development Fund and The Institute.

Golden LEAF MountainBizWorks – \$50 million

Provides funds to Golden LEAF to make bridge loans to small businesses affected by Hurricane Helene. These loans will sustain businesses that suffered damage and/or revenue losses while they await longer-term loans from the Small Business Administration or other lenders. Golden LEAF will partner with MountainBizWorks, a nonprofit lender based in Asheville. Repaid capital will support additional lending to small businesses in need.

Carolina Small Business Development Fund – \$6 million

Provides funds to the Carolina Small Business Development Fund (CSBDF) to provide disaster relief and recovery services to small businesses affected by Hurricane Helene. The funding would support grants, disaster recovery business coaching, and development and distribution of a disaster relief toolkit tailored to small businesses.

State Match for FEMA PA – \$13.6 million

OSBM estimates that eligible nonprofits will receive a total allocation of \$135.6 million from FEMA PA toward the costs of addressing damage to nonprofit structures and equipment. This allocation will result in a 10% state share of \$13.6 million to match the estimated \$122 million in federal funds.

NC Community Colleges Small Business Center & Apprenticeship NC

See Education section.

Bringing Tourists Back to western North Carolina – \$20 million

Revitalizing western North Carolina's Tourism Economy

Provides \$20 million in funds to the Economic Development Partnership of North Carolina's (EDPNC) VisitNC division to support and revitalize western North Carolina's tourism economy. This allocation includes funding for a 12-month targeted media campaign aimed at encouraging both in-state and out-of-state tourists to return to the region. EDPNC will also distribute funds to local tourism offices to support their efforts and to develop a coordinated market strategy to attract visitors back to western North Carolina. Remaining funds will be dedicated to developing programs and campaigns designed to attract new businesses to the region.

8. Special Provision Recommendations as of October 23, 2024

None

9. State Funding Provided in S.L. 2024-51 – \$56 million

Small Business Recovery Bridge Loans – \$50 million

Allocates funds to the Department of Commerce for the Golden LEAF Foundation to contract with authorized lenders to administer loans to small businesses in counties with a federal disaster declaration due to Hurricane Helene.

Visit NC Tourism Promotion – \$5 million

Allocates funds, in a smaller amount than what Governor Cooper proposed, to the Department of Commerce for its contract with the Economic Development Partnership of NC (EDPNC) to promote western NC tourism, including a targeted media campaign aimed at encouraging both in-state and out-of-state tourists to return to the region. Visit NC will work with local businesses in its promotion of western NC tourism.

EDPNC Business Loss Assessment – \$1 million

Allocates funds to Commerce for its contract with EDPNC for EDPNC to conduct a business loss assessment in counties with a federal disaster declaration due to Hurricane Helene.

10. Revised State Match Funding Requirement

State Match for FEMA Public Assistance Funds - \$14.5M

Based on OSBM's total estimate of \$145 million in PA funding for repairs to nonprofit organizations' structures and equipment, OSBM anticipates a total state match of \$14.5 million, which is \$0.9 million more than expected in the preliminary Hurricane Helene Damage and Needs Assessment.



Housing

Addresses physical damage to residential structures and cost of housing assistance

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Residential*	\$12,700	-	\$12,700	\$4,771	\$2,650	\$20	\$5,259
Transitional Sheltering	\$11	-	\$11	\$11	-	-	-
Public Assistance	\$143	-	\$143	\$128	-	-	\$15
Other Needs Assistance**	\$600	-	\$600	\$450	-	-	\$150
Sub-Total	\$13,454	-	\$13,454	\$5,360	\$2,650	\$20	\$5,424
Strengthening & mitigation	\$1,926	-	\$1,926	\$1,419	-	-	\$507
Total	\$15,380	-	\$15,380	\$6,779	\$2,650	\$20	\$5,931

* Includes Housing Assistance from the Federal Emergency Management Agency.

** Includes assistance to repair or replace vehicles and other personal property.

1. Summary

The need for housing assistance and recovery is estimated to be \$15.4 billion. The total estimate includes \$12.7 billion due to residential structure damage but will change as FEMA conducts further on-the-ground assessments.

- An estimated 274,900 households will apply for individual assistance.
- Approximately 73,700 homes are expected to be damaged. Single-family homes, manufactured homes, and duplexes account for the majority of affected residential structures.
- Displaced residents will need transitional and short-term housing, personal property replacement, and other assistance.
- Public buildings, such as public housing authorities and other government programs related to housing, may have also suffered damage greater than local capacity can quickly cover.

The direct damage and needs include:

- \$12.7 billion in residential damage;
- \$10.8 million in transitional sheltering;
- \$142.6 million in public assistance;

- \$600 million in other assistance for households; and,
- \$1.9 billion in resilience efforts during recovery.

Of the overall estimated need, \$9.4.6 billion is expected to be covered by private and federal sources of funding, resulting in an unmet housing impact of about \$5.6 billion.

2. **Scope**

The scope for housing estimates includes:

- Residential housing: single-family, multi-family, rental residences, public housing, and supportive housing (includes subsidized affordable housing);
- Transitional sheltering;
- Housing for individuals with disabilities, individuals experiencing homelessness, and individuals with severe mental illness; and,
- Individual and public assistance (IA and PA, respectively) payments, with additional non-housing related assistance, such Other Needs Assistance (ONA) and other FEMA programs, separated out.

These estimates do not include losses from private, non-residential buildings or government buildings. These items are covered in other sections of the Damage and Needs Assessment.

3. **Methodology**

OSBM relied primarily on Individual Assistance claims data and housing data from the US Census Bureau's American Community Survey (ACS).

The estimates include damage to housing structures, registered motor vehicles, personal property, and buildable land.

- *Residential Damage*: OSBM forecasted the total damage to residential structures using FEMA IA data through December 2, and scaling to project the total damage based on comparisons to Florence claims through first three months and total claims. OSBM estimates \$12.7 billion in residential damage, including both single- and multi-family housing.
- *FEMA Assistance*: OSBM analyzed FEMA IA data published on December 2. The deadline to apply for FEMA IA is January 7, so OSBM projected the number based on the currently known number of applications.
 - *FEMA IA*: To estimate impacted households, OSBM reviewed individual assistance claims presently submitted and projected the number of total applications received based on this data. OSBM estimates between 25,000 and 30,000 households receiving housing assistance through IA.
 - *FEMA ONA*: FEMA publishes daily data on approved ONA funds, which cover immediate housing and life needs, vehicles, essential household items, other personal property, and disaster-related funeral or child-care costs, with the other

IA data. OSBM estimates 147,000 households will receive ONA, projecting from that daily data.

- *FEMA PA*: FEMA will reimburse housing-related expenditures through PA related to emergency protective measures and public housing facilities. This projection includes public housing authorities' units and government programs that house certain populations, like Transitions to Community Living. Currently available PA data only includes approved payments for a small percentage of applicants. OSBM scaled PA assistance from Hurricane Florence based on comparisons in storm damage to estimate FEMA PA for Hurricane Helene recovery.
- *SBA Loans*: The federal residential funding also includes disaster loans for homeowners and renters through SBA. OSBM projected the final recipients, 13,900 households, and total loan amount based on an average anticipated loan of \$74,100 by scaling the number of approved applicants and average loan from Hurricane Florence. The scaling factor was calculated by first projecting the Hurricane Helene FEMA IA home-damage inspection data to estimate the total number of inspection-verified damaged homes and the average damage per home. OSBM compared this estimate to the Hurricane Florence IA home-damage numbers and averages to determine the scaling factor.
- *Private insurance*: OSBM used insurance coverage levels from IA data and Hurricane Florence to project the residential damage that private insurance would cover. This analysis divided potential claims into those with flood damage and all other claims. The initial IA data shows that 5.2% of those with verified flood damage had flood insurance, and OSBM applied the percentage of damage that insurance covered following Hurricane Florence for all other claims. OSBM then reviewed preliminary Department of Insurance (DOI) and National Flood Insurance Program (NFIP) data to determine average loan amounts for those two categories. OSBM then scaled IA applications to account for the fact that insurance claims exceeded IA applications. OSBM estimates that private insurance will approve \$2.65 billion in residential claims.
- *Transitional sheltering*: This estimate includes both FEMA PA and HUD- Rapid Unsheltered Survivor Housing program (RUSH) program needs.
 - FEMA PA will reimburse 100% of transitional sheltering costs in designated counties for the first six months following Hurricane Helene. At its peak on October 4th, counties in western NC opened 22 shelters serving 1,162 occupants. The need for transitional sheltering continues to drop. OSBM estimated total costs of sheltering based on the number of occupants in disaster shelters. Using an American Red Cross estimate of cost per occupant, OSBM estimates a transitional sheltering cost of \$10.8 million over the first six months of recovery, which FEMA will fully cover, to serve roughly 16,905 displaced residents in shelters.
 - HUD's RUSH program provided North Carolina with \$3 million in October 2024; the state has requested an additional \$7 million from this program.

- This estimate does not include participation in FEMA’s Transitional Sheltering Assistance, an IA program that helps victims displaced from and unable to live in their pre-disaster residence.
- *Resilience* – See Assumptions. OSBM included 15%, \$1.9 billion, of residential and public assistance needs (capital costs) for strengthening and mitigation.

This methodology does not specifically include several key considerations that many stakeholders have brought to OSBM’s attention. These key considerations inform both the damage analysis and the funding needs required for western NC to recover from Helene:

- *Vulnerable Individuals and Families:*
 - *People experiencing homelessness:* Approximately 4,600 individuals in disaster-declared areas were unhoused as of 2022. Individuals experiencing homelessness are often more at-risk and vulnerable during hurricanes due to limited resources and community connections.
 - *People with disabilities:* 12.8% of individuals in western North Carolina identify as having a disability. Individuals with disabilities may not have the flexibility to relocate and may be more impacted by disaster related challenges.
 - *Aging population:* In North Carolina, 17.5% of the population is 65 or older. While across all declared counties, this same statistic holds, 32 of the 39 declared counties have a percentage aged 65+ above this statewide average, ranging up to 33%. Excluding Mecklenburg, Union, Cabarrus, Watauga, and Iredell – the only counties with less than 17% of the population aged 65+, the average increases to 20.6%. Older individuals are more likely to be on a fixed income and experience additional disaster related challenges.
- *Unique Housing Characteristics:* Certain characteristics of the housing supply in western North Carolina create challenges for hurricane recovery and rehousing displaced individuals, such as:
 - *Seasonal Housing:* In the 39 declared counties, seasonal housing represents approximately 10% of the total housing stock, with a range of less than 1% in many of the piedmont counties to nearly 45% in Avery County. Statewide, seasonal housing is only 3.9% of the housing stock.
 - *Vacant Units:* In the 39 declared counties, 7.3% of total housing units are designated as vacant-other in American Community Survey data. Often, housing units designated as ‘vacant-other’ are indicated as such due to condition, foreclosure or other legal reason, or for personal/ family reasons and cannot easily or quickly be reincorporated into the occupied housing stock. Statewide, vacant-other units are only 4.6% of total housing units.
 - *Uninsured/ Underinsured:* Based on American Community Survey 1-year estimates for homeowner insurance costs, over 13% of homeowners in North Carolina are uninsured or underinsured. County data is only available for counties with a population greater than 65,000, providing data for 44 counties, 20 of which are in the disaster areas. These counties have a slightly higher rate of un/under insurance compared to the 24 non-disaster area counties (13.1% and

12.5%). Individuals who are uninsured or underinsured will be more reliant on FEMA and state programming.

- *Flood insurance*: Of the Individual Assistance applications submitted, only 5.2% of households have flood insurance. This will create an increased gap in flood-related damage.
- *Building Codes*: North Carolina's building codes lag behind updated versions, still relying on 2015 standards. This deficiency costs North Carolina federal grants, such as FEMA's Building Resilient Infrastructure and Communities program, that reward states for updating their building codes. Since 2023, North Carolina has lost roughly \$70 million in federal funding due to this outdated policy, hindering projects across the state that would protect residents against storms like Hurricane Helene. These obsolete codes also result in communities facing avoidable damage. FEMA studied the ICC codes' impacts and found that the US has saved \$1.6 billion in average annualized losses by adopting and enforcing the most recent building codes.
- *Affordable housing*: In disaster-declared counties 40.8% of households earn less than 80% of the area median income, so affordable housing is a key issue for this population. Already 55.4% of low-income households experience cost-burdened housing. Public housing authorities, whose eligible damage FEMA would reimburse, serve 2% of residents in this region.
- *Land Use Challenges to Rebuilding*: Western North Carolina faces unique geographic challenges as recovery efforts move forward. Because of the land features described below, these communities have fewer available parcels of land on which to rebuild or construct new housing.
 - *Protected Lands*: Relative to the rest of the state, counties in western North Carolina have a larger percentage of protected land. Considering only state and federal natural areas, parks, and forests, 19.6% of land area in declared counties is protected; this is a conservative estimate since it excludes locally protected lands and privately held easements. In five counties, Clay, Macon, Transylvania, Swain, and Graham, over 50% of land area is federal or state protected. The abundance of protected land, along with topography, limits the supply of buildable land.
 - *Steep Slopes*: The mountainous terrain of western NC limits land to safely construct housing, and both state and local governments have established parameters for certain elevations and slopes to ensure resilient development. For example, G.S. 113-209 prevents counties or cities from constructing buildings on ridges with an elevation of at least 3,000 feet and that are at least 500 feet above the elevation of the adjacent valley floor.
 - *Landslides*: According to the US Geological Survey, Hurricane Helene caused a total of 1,171 landslides in the Appalachian Mountains. Land along their path not only loses structures already in place but also risks losing the ability to develop on it later. As western NC counties that suffered landslides recover, they face a smaller area to redevelop because of those damage.

- *Local Zoning for Mobile Homes:* Per the US Census Bureau, disaster-impacted areas had over 200,000 mobile homes before Hurricane Helene. The US Census Bureau American Community Survey defines mobile homes as mobile dwelling structures and towable recreational vehicles. Mobile homes have weaker structural integrity and are more susceptible to damage from storms. In addition, stakeholders raised concerns that due to local zoning ordinances that restrict where mobile homes may be located, some units may need to be replaced with single-family residences. These single-family residences will have a higher cost than what FEMA would reimburse through IA, as FEMA typically only replaces like with like.
- *Buyouts:* Stakeholders raised that these challenges in land development will lead many residential structures to not meet industry standards for septic, setbacks, and slope. As a result, survivors facing these obstacles to build may pursue buyouts more than following previous storms.

4. Assumptions

- *Residential damage and needs* – OSBM used FEMA IA data available as of December 2. Since the deadline to apply for IA is January 7, OSBM projected total IA amount based on program enrollment following Hurricane Florence and adjusted the estimate for inflation. These projections do not include flood inundation or landslide layers that map specific damage to certain structures.
- *Construction cost* – The assessment for property damage conservatively assumes construction costs will increase by 15% due to the storm. Experience from hurricanes Matthew, Katrina, Harvey, Superstorm Sandy, and Florence suggests construction costs are 8-20% higher in the aftermath of an event due to a shortage of available construction services or an increase in the cost of raw material or labor. In addition, Hurricane Helene construction costs will likely to be driven up by the continued impact of the pandemic recovery, more difficult terrain, and Hurricane Milton.
- *Resiliency* – Recovery efforts should account for additional costs and needs to rebuild more resilient communities to mitigate future damage. OSBM included 15% of capital costs for resiliency needs to account for this approach.

5. Primary Data Sources

- FEMA Individual Assistance Claims through December 2, 2024
- Preliminary DOI and NFIP claim payment data
- American Community Survey one-year and five-year county estimates
- Conversations with state agencies and stakeholders involved in housing

6. Potential Sources of Non-State Funding

Federal

OSBM estimates the following federal programs would contribute a total of \$6.78 billion in federal assistance toward residential damage.

FEMA IA and PA – \$734 million

- *Individual Assistance - \$605 million*

North Carolina expects to receive \$605 million from FEMA for individual assistance, temporary shelter, and other household assistance programs, resulting in a state match need of \$150 million due to the varying program match requirements. FEMA ONA requires a 25% state share, while the state share for other programs that support individuals and households during recovery varies. IA housing assistance (\$155 million) does not require a state match. FEMA has not published data on the following programs that NCEM included in its estimate of FEMA IA state match:

- Transitional Sheltering Assistance;
- Mass Care/Emergency Assistance;
- Disaster Case Management;
- Crisis Counseling Assistance and Training Program;
- Disaster Legal Services;
- Disaster Unemployment Assistance (see Economy section for more information); and,
- Voluntary Agency Coordination.

- *Public Assistance for damage - \$128 million*

North Carolina also expects to receive an estimated \$128.3 million from FEMA for PA toward to address damage to public housing authority units and other housing-related government programs. This allocation will result in a 10% state share of \$14.2 million. OSBM projected this estimate by scaling North Carolina's amount for this purpose from Hurricane Florence for damage and inflation.

- *Public Assistance for transitional sheltering - \$0.8 million*

North Carolina also will receive PA funding, estimated at roughly \$845,000, to support transitional sheltering to house displaced storm victims.

Small Business Administration (SBA) – \$1 billion

SBA distributes low-interest disaster loans for homeowners and renters to repair or replace their primary residence or personal property. OSBM currently estimates NC residents will receive \$1.03 billion in SBA disaster loans. North Carolina requested from the federal government that SBA loans are not considered a duplication of benefits when an individual applies for CDBG-DR funding.

US Department of Housing and Urban Development (HUD) – \$10 million

HUD runs the Emergency Solutions Grant (ESG) program to provide grants to local governments and non-profit organizations to shelter and re-house residents at risk of or facing

homelessness. HUD has already announced \$3 million from ESG to RUSH program for North Carolina, and North Carolina seeks to receive the maximum allocation, \$10 million, as soon as possible. North Carolina has used its initial allocation of RUSH funds to deploy multi-agency shelter transition (MAST) teams which work to with individuals in temporary shelters to find stable housing. The MAST teams have already enrolled 65 households in Buncombe County alone in the Back@Home program. Though FEMA PA will reimburse 100% of local sheltering for the first six months, RUSH will allow NC to support sheltering residents beyond that timeframe.

FEMA Hazard Mitigation Grant Program (HMGP) – \$1.4 billion

FEMA has estimated federal HMGP funding for North Carolina at \$1.18 billion, exclusive of management costs, in a letter sent to NC Division of Emergency Management on November 5. This aid will result in a state match need of \$394.1 million for a total of \$1.6 billion for recovery efforts that incorporate resilience to mitigate future damage. FEMA's federal share estimate includes \$236.5 million to administer HMGP. As a state with an enhanced mitigation plan, North Carolina qualifies to receive a higher percentage through HMGP. Because FEMA determines HMGP funding based on total damage, the state's outdated building codes do not affect HMGP allocations (unlike BRIC grants). NCEM receives the state's FEMA HMGP funds and has historically applied them to elevations, acquisitions, and generators. While this report lists the HMGP allocation under housing, these funds may support recovery efforts in other areas, such as agriculture, education, government, transportation, and utilities.

Federal – Contingent on Special Appropriation:

Department of Housing and Urban Development - \$3.5 billion

- *Community Development Block Grants-Disaster Recovery (CDBG-DR) –\$3.4 billion*

CDBG-DR is likely to play an essential role in addressing critical recovery needs not met by other federal programs. North Carolina requested \$3.4 billion in CDBG-DR grants to support housing repair, affordable housing construction, rental assistance, local redevelopment capacity, and mitigation activities. This estimate is based on scaling the state's housing CDBG-DR request from Florence and is comparable in scale to funding other states received for Superstorm Sandy.

North Carolina also requested that HUD issue a Federal Register notice for CDBG-DR within 90 days. This would ensure that funding can flow to North Carolina faster than it has for other storms, when the notice came out 12-24 months later.

- *Emergency Housing Voucher (EHV) Program –\$75 million*

North Carolina requested an appropriation of \$75 million for Emergency Housing Vouchers (EHVs) and program administration. The original EHV program was created in the American Rescue Plan Act of 2021. EHV-Helene vouchers will be used to assist individuals and families who are homeless; at-risk of homelessness; fleeing domestic, dating, or sexual violence, human trafficking or stalking; or have a high risk of housing instability due to Hurricane Helene, and, like housing choice vouchers, could be ported to non-Helene disaster counties. Because EHV funds do not expire, households will benefit from them for as long as they need to secure stable housing. Investing in renter

assistance and homelessness prevention will help the region not only avoid homelessness but also prevent out-migration from the impacted counties. The disaster-declared region has over 390,000 low-income households that are considered cost-burdened, and this number is expected to grow due to the economic and physical impacts of Hurricane Helene.

- *HOME Investment Partnerships Program (HOME) – \$20 million*

North Carolina requested \$20 million for the HOME program to increase single-family housing supply for low- and moderate-income (LMI) households, increasing the affordable housing supply in disaster-declared counties. This focus on single-family homes for LMI households will ensure that individuals and families not eligible for CDBG-DR funding still have housing options in their communities without becoming cost-burdened. In the fourth quarter of 2023, the National Association of Home Builders found that only 37.7% of all homes nationally are affordable to households earning AMI. The NC Housing Finance Agency (HFA) currently uses HOME funds for the Community Partners Loan Pool, Self-Help Loan Pool, and Essential Single-family Rehabilitation Program. HFA has found these programs to be particularly effective in reaching residents that other first-time homebuyer programs do not traditionally serve, which will improve their recovery from Hurricane Helene.

US Department of Treasury: Low Income Housing Tax Credit (LIHTC) – \$16.5 million

The LIHTC program incentivizes the construction or rehabilitation of affordable rentals for low-income individuals. The 2025 LIHTC allocation is set at \$3 per capita, and North Carolina has already prioritized new construction projects in storm-impacted counties in its eligibility criteria. North Carolina requested a special disaster credit increase of 50%, or to \$4.50 per capita, which would be an increase of \$16.5 million. The state would utilize these additional funds for projects in disaster-declared counties. Congress has previously granted more LIHTC credit to disaster impacted areas to expand the area housing supply. Previous appropriations also included programmatic flexibility, such as tax-exempt bond authority and relaxed low-income requirements.

Department of Energy: Weatherization Readiness Fund (WRF) – \$75 million

North Carolina expects \$75 million in WRF and Weatherization Assistance Program (WAP) support. WRF funds are needed for necessary repairs, cleanup, and remediation needs for homes on the WAP deferral list due to their condition, while WAP funds are needed to support weatherization upgrades. Over 4,300 homes in western NC are currently on this deferral list due to disqualifying structural issues. Once a readiness job is complete, full weatherization activities begin and are typically completed within a year.

Federal – Competitive Funding:

FEMA Flood Mitigation Assistance (FMA) Grants - competitive funding

FEMA also administers FMA grants, which focus on reducing or eliminating the risk of repetitive flood damage to buildings and structures that NFIP insures and the corresponding communities. For the FY 2022-23 grant cycle, North Carolina had 12 projects receive \$23.4 million to protect against flooding and tropical cyclones. With a larger appropriation to the

program, North Carolina would be able to receive more funding in future cycles to support western North Carolina communities mitigate damage in future flooding events in housing and other sectors, such as government. Because FMA grants are competitive, the summary table of damage and needs does not include FMA grants.

Federal Policy Changes:

- *Build America, Buy America (BABA) Requirements:* North Carolina requested that CDBG-DR and RUSH expenditures be exempt from BABA legislation. While North Carolina recognizes the value of the BABA requirements in supporting key US industries, the increased cost, complexity, and time needed to comply is likely to slow critical aspects of Helene recovery. Extending this exemption to other federal disaster funding sources would further expedite recovery.
- *Emergency Rental Assistance (ERA 2):* North Carolina requested that the federal government the broadening of eligibility of ERA 2 funding to include rental assistance for natural disaster victims, including those who were homeowners but are displaced from their homes.
- *State and Local Fiscal Recovery Funds (SLFRF):* North Carolina also requested the extension of deadlines in the American Rescue Plan Act for the obligation and expenditure of SLFRF by one year (currently deadlines are 12/31/24 for obligation and 12/31/26 for expenditure).

Department of Homeland Security – Federal Emergency Management Agency

- *Disaster Management Cost Modernization Act:* The Stafford Act outlines federal response and governs the administration of FEMA programs. The Disaster Management Cost Modernization Act (S 3071 and HR 7671) would amend the Stafford Act to allow states to utilize management costs across all open disasters. The current language prevents states from managing workloads efficiently by tying personnel costs to specific disasters and creates administrative burdens in parceling costs between programs. The Disaster Management Cost Modernization Act would consolidate management functions, which incentivizes the rapid close-out of disasters and promotes capacity building at both the state and local levels.
- *FEMA Reimbursement Practices:* The state requested Congress to pass a bill to change FEMA reimbursement practices to ensure reimbursements for State Active-Duty costs, including domestic disaster response, incurred by a State's National Guard be returned to that particular National Guard, and not to the General Fund of the U.S. Treasury.

Private

OSBM estimates that private insurance will approve \$2.65 billion in residential claims. See details in the Methodology above.

7. State Funding Recommendation as of October 23, 2024 – \$650 million

Recovery

DPS NCEM State Match for FEMA IA – \$150 million

Provides state matching funds for the FEMA IA program, which supports Hurricane Helene victims with short- to medium-term housing and temporary emergency repairs to damaged homes. FEMA also provides assistance for other needs, such as: medical and dental assistance, childcare, repair or replacement of clothing and household items, moving and storage, and other critical needs. This funding includes support for two specialists and \$35 million for the projected state match for ONA, which is 25% of approved assistance.

DPS NCEM State Match for FEMA PA – \$10 million

Provides state matching funds for the FEMA PA program, which distributes grants to state and local governments to support permanent and emergency work to respond to and recover from major disasters. Housing-related PA eligible expenses include work to address damage to public housing authorities and other government programs that house residents. This funding is a requirement to access the full federal allocation of \$91 million for a total of \$101 million.

Rental, Mortgage, and Utility Assistance – \$25 million

Individuals impacted by the disaster, whether displaced from their homes or their livelihoods affected, often must still pay current rental leases or mortgages while their damaged properties or places of employment are repaired. This program would provide direct assistance to individuals in disaster-declared counties whose have been displaced or livelihoods affected who are unable to afford rental, mortgage, or utility costs due to Hurricane Helene.

Rebuilding Existing Housing Stock

Homeowner Recovery Programs – \$325 million

Expedites the state's response to Hurricane Helene by starting a CBDG-DR compliant program and providing funds for activities that are not eligible for federal reimbursement as soon as possible. Based on IA claims to date, OSBM estimates that between 121,000 and 132,000 homes have been damaged due to Helene. After both Hurricane Matthew and Florence, it took nearly two years before the state began receiving CDBG-DR funding; yet, recovery needs to start immediately.

Based on current ReBuild spending and understanding that it will take time to stand up a program in the western part of the state, OSBM estimates that \$325 million will provide sufficient bridge funding to support the homeowner and renter program and begin a CDBG-DR compliant homeowner recovery program.

- *\$300 million for CDBG Compliant Homeowner Recovery Program:* Establishes a CBDG-DR compliant program that can begin the rebuilding process prior to the appropriation of federal CDBG-DR funds. This program will help the state to avoid the delay between demand for rebuilding and the availability of federal funds. Projects would include reconstruction and rehabilitations of homes as well as buyouts, particularly for those who cannot wait for the federal recovery programs because they are living in temporary housing or housing that presents urgent safety or health risk.

Based on the state's experience with the Florence ReBuild program, OSBM estimates that up to over 5,100 homes may ultimately be rebuilt through this program, requiring more than \$1.1 billion for this program. Assuming the program takes six months to begin rebuilding homes and ramps up to completing 100 homes per month by the end of two years, when CDBG-DR funds should be available, OSBM estimates that this funding can help more than 1,200 homes be completed quickly.

- *\$25 million for Unmet Needs for Homeowners and Renters:* Provides funding to help homeowners and renters remain in their communities by supporting minor repairs that can be complete immediately, cover needs that are not FEMA eligible, and fill gaps in FEMA funding. While the need for this funding is known based on past disaster experience, OSBM does not have an estimate of the number of households impacted by Helene in need of such funding at this time, and this request is based on agency recommendations.
 - *Homeowner Repairs and Rehabilitation.* Gets individuals and families back into safe homes as quickly as possible by helping owners who are not financially able to hire contractors to make permanent repairs to their homes that sustained minor to moderate damage. The objectives of this program are to make homes safe for occupancy and prevent further damage while state and federal long-term disaster recovery programs are set up and/or delays in the applications process. A similar program was successfully used in the Earthquake and Tropical Storm Fred recoveries. Eligible homeowners include those who own homes damaged by Helene but reside outside of the federally declared counties.
 - *Rental Property Repair and Rehabilitation:* Focuses on repairing or rehabilitating multi-unit rental properties in the most impacted counties with the goal of getting housing units back in service as quickly as possible. Doing so will reduce the number of individuals and families living in temporary housing and help reduce area depopulation. In addition, because impacted counties have a limited supply of multi-unit rental properties, funding may be used to repair single-family rental units. Rental units damaged by Helene that are outside of the federally declared counties are also eligible for these funds.

Local Government Capacity – \$5 million

Provides funds to OSBM for grants for regional councils of government to support planning and permitting assistance and building/trade inspectors. This will ensure repaired and rebuilt housing meets local requirements. Local governments, especially those in the most critically impacted areas, will need additional capacity to manage the housing recovery from Hurricane Helene. This funding supports staff who can serve multiple counties and prevent backlogs in inspections and ordinance changes and exceptions that slow the rebuilding process.

Historic Tax Credit Bonus – \$1 million

Increases the income tax credit to promote rehabilitation of historic buildings and structures in impacted areas and expands eligibility to include smaller projects.

Assistance for Vulnerable Individuals and Families

Disaster Legal Services – \$1.5 million

Provides funds to OSBM for a grant to NC Legal Aid to provide legal services to disaster victims. Legal support for disaster-impacted individuals will prevent and mitigate fraud/scams early in the recovery process and help victims resolve probate, title, and easement issues, helping avoid delays in the long-term recovery process.

Transitions to Community Living – \$2 million

Provides DHHS with funds to support the Transitions to Community Living program for moving expenses, replacing essential furnishing, and accessibility equipment. This will be partially covered by PA; this portion reflects the state share.

Back @ Home – Helene – \$20 million

Expands current programming in impacted areas in western North Carolina. Back @ Home provides housing stabilization services and financial assistance for individuals in rural communities experiencing homelessness to help transition them to permanent supportive housing. This funding would also support these services in urban counties not in the program's current service area.

Resilience**Affordable Housing – \$50 million**

Provides funds to HFA to create housing development incentives for high-quality, resilient, affordable housing options in the affected communities. Funds may also be used to repair damaged properties as well as emergency, homeless, and domestic violence shelters impacted by Hurricane Helene.

State Acquisition and Relocation Fund (SARF) – \$50 million

Provides funding for SARF, an existing program with a primary focus to buy out flood-damaged homes and encourage individuals with homes in the 100-year floodplain to move outside of floodplains. Due to the housing characteristics and land use challenges in the disaster impacted counties (see 3. Methodology above section), the state expects an unprecedented need for buyouts.

Currently, the SARF can assist with the following:

- Home acquisition and buyouts that minimize future flood damage;
- Financial assistance in the form of interest buy-down grants;
- Gap assistance grants for federal programs; and,
- Flood insurance assistance.

Temporary Weatherization Program Expansion – \$10 million

Provides funds (up to \$10,000) to DEQ to provide weatherization services to homeowners impacted by Hurricane Helene. Weatherization helps to reduce utility bills and energy costs and increases home safety. Funds may also address weatherization needs that increase home safety but may not be covered by federal programs.

8. Special Provision Recommendation as of October 23, 2024

- **Update Building Codes.** Amends GS 143-138 to direct the North Carolina Building Code and Residential Code Councils to adopt the most recent building codes from the International Code Council (ICC).
- **Historic Tax Credit Bonus.** Amends GS 105-129.35 to increase the historic tax credit and suspends or reduces the substantial rehab test to allow smaller projects in disasters counties to qualify for historic tax credits.

9. State Funding Provided in SL 2024-51, SL 2024-53, and SL 2024-57

The General Assembly appropriated the following items to date.

Rental and Utility Assistance – \$10 million

Allocates \$10 million to the Department of Health and Human Services (DHHS), Division of Social Services (DSS) to county departments of social services in counties with a federal disaster declaration. County social services departments are directed to use \$9 million to provide energy assistance to households and \$1 million to provide rental assistance to households who have suffered hardship due to Hurricane Helene and are facing a housing crisis, such as imminent risk of eviction.

This funding does not help with mortgage costs for individuals in disaster-declared counties whose have been displaced or livelihoods affected due to Hurricane Helene.

Weatherization Assistance – \$10 million

Allocates funds to DEQ to supplement existing federal funds for weatherization services in counties with a federal disaster declaration due to Hurricane Helene. This funding aligns with Governor Cooper’s recommendation.

10. Revised State Match Funding Requirement

DPS NCEM State Match for FEMA IA – \$150 million

Provides state matching funds for the FEMA IA program, which supports Hurricane Helene victims with short- to medium-term housing and temporary emergency repairs to damaged homes. FEMA also provides assistance for other needs, such as: medical and dental assistance, childcare, repair or replacement of clothing and household items, moving and storage, and other critical needs. This funding includes support for two specialists and \$35 million for the projected state match for ONA, which is 25% of approved assistance.

FEMA HMGP State Match – \$394 million

Provides state match funds for HMGP grants that support housing acquisitions, elevations, and reconstruction activities to mitigate homes from future risk of loss of life and property. FEMA estimates that North Carolina will qualify for \$1.8 billion in HMGP. These funds will also support recovery efforts in other sectors, such as agriculture, education, transportation, and utilities.

State Match for FEMA PA – \$14 million

Provides state matching funds for the FEMA PA program, which distributes grants to state and local governments to support permanent and emergency work to respond to and recover from major disasters. Housing-related PA eligible expenses include work to address damage to public housing authorities and other government programs that house residents. This funding is a requirement to access the projected full federal allocation of \$128 million for a new total of \$143 million. This adjusts the estimated state federal match needed from the initial DNA report by \$4.1 million.



Utilities and Natural Resources

Addresses the physical damage and cleanup of energy, water, waste clean-up, telecommunications, dams, levees, dikes, and mines infrastructure

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded As of 12/12/24	Unfunded
Electricity Providers	\$1,003	-	\$1,003	\$79	\$914	-	\$9
Natural Resources	\$100	-	\$100	\$50	-	-	\$50
Gas	\$41	-	\$41	-	\$41	-	-
Dams, dikes, levees, mines	\$205	-	\$205	\$180	-	-	\$25
Water, sewage, stormwater	\$3,691	-	\$3,691	\$3,477	\$100	\$100	\$14
Hazardous waste, water treatment	\$128	-	\$128	\$58	-	\$22	\$48
Telecom and internet	\$100	-	\$100	-	\$100	-	-
Sub-total	\$5,267	-	\$5,267	\$3,844	\$1,155	\$122	\$146
Strengthening & mitigation	\$1,695	-	\$1,695	\$1,040	-	\$71	\$584
Total	\$6,962	-	\$6,962	\$4,884	\$1,155	\$193	\$730

1. Summary

The electrical, gas, water, sewer, waste, and telecom infrastructure of western North Carolina services about three million residents and 500,000 businesses. The unique geography of this area often requires that pipes, wires, transmission and pumping stations, and related equipment span terrains that are uniquely susceptible to natural disaster and especially difficult to repair or rebuild (e.g., equipment traversing destroyed bridges or alongside high slopes, infrastructure that spans long distances to service low population density areas).

The damage and needs total impact is currently estimated to be nearly \$7 billion. This is based on reports of damage from the NC Department of Environmental Quality (DEQ), NC Department of Natural and Cultural Resources, municipal owned electrical membership

organizations, electrical co-operatives, private electricity and gas providers, and the Federal Communications Commission (FCC).

The direct damage and needs estimate is comprised of:

- \$1 billion in damage to the electrical wiring and electrical infrastructure facilities of 25 municipal owned systems, seven co-operative owned electrical systems, and Duke Energy Carolinas and Duke Energy Progress (collectively referred to in this report as Duke Energy) in a region serving nearly two million households
- \$100 million in damage to local parks, and erosion to riparian buffers and trail networks across the state
- \$41 million in damage to gas lines impacting 400 customers and 10 retail propane locations that were severely damaged or destroyed resulting in the loss of 5,000 propane tanks
- \$205 million in damage to 29 public and private high hazard dams and 13 mining sites
- \$3.7 billion in damage to 163 water and sewer systems and hundreds of miles of impacted distribution pipes across more than 24 impacted towns in affected counties
- \$128 million in damage at up to 400 facilities maintaining hazardous waste as well as 50 million cubic yards of debris including 10 million cubic yards of curbside vegetative and construction / demolition waste needing to be recycled or disposed of in landfills
- \$100 million in damage to telecommunications and internet infrastructure including submerged substations, thousands of downed utility poles, and downed transmission towers, covering a region with over 70 independent telecommunications and internet providers
- \$1.7 billion in funding to make infrastructure and technology upgrades to secure a more resilient western North Carolina

As of December 3, 2024, 523 customers remain without power across western North Carolina, a remarkable recovery from the peak of 900,000 homes and businesses left in the dark in the immediate aftermath of the storm. However, challenges persist. Yancey County remains under a boil water advisory as it awaits bacteria test results to clear the advisory. Back in early October, 91 systems were under similar advisories, with 45 still pending results. To ensure access to clean water, emergency services continue to deliver potable water by truck to four hospitals, 11 adult care homes, and 12 family care homes.

The storm's impact on water and sewer infrastructure remains significant. While four wastewater treatment plants are partially operational or relying on backup power, one plant is without power, and three are closed due to extensive damage. Notably, the wastewater treatment plant in the Town of Marshall is now partially operational. In total, 163 water and sewer systems were damaged, with 88 wastewater systems and 75 drinking water systems still impacted, alongside hundreds of miles of damaged distribution pipes.

Debris removal is progressing, with 108 active Temporary Debris Storage and Reduction Sites across 20 counties. A staggering 10,445,000 cubic yards of debris have been cleared from 27 counties, including 13,513 cubic yards of debris from Lake Lure's waterways by the U.S. Army Corps of Engineers, out of an estimated 22,000 cubic yards. At the same time, over 1,100

hazardous material incident locations have been identified, with 1,580 hazardous material containers (over 25 gallons) removed and remediated. Yet, some containers remain inaccessible due to location and access challenges, requiring additional time and planning for removal.

Though communications infrastructure has largely been restored, significant rebuilding efforts are still needed in many areas, with industry providers estimating total costs for reconstruction at \$100 million.

The financial toll of the disaster remains staggering, with nearly \$7 billion in total damage and needs. OSBM estimates that the federal government and private sector will cover \$6 billion of this total, leaving \$730 million still unfunded, even after considering the state's investments to date.

2. Scope

Scope for utilities estimates include:

- Electricity – Duke Energy, cooperatives, municipalities
- Gas – Enbridge Gas, Southeast Propane Alliance
- Dams, dikes, levees
- Water, sewage, stormwater
- Hazardous waste, waste management
- Telecom and internet
- Natural resources
- Resiliency efforts

3. Methodology

- *Electricity Providers:* North Carolina electrical cooperatives, community-owned electric systems membership organizations, and Duke Energy provided OSBM with damage assessments, which amount to about \$1 billion. This estimate does not include total costs to replace temporary repairs done to quickly restore power to customers with permanent infrastructure. As one example, a substation on Swannanoa River Road powering customers in Biltmore Village was decimated by debris and will have to be rebuilt over the next three to four months. Duke Energy installed a critical, but temporary, substation to power nearly 7,000 customers in the area. These types of necessary temporary patches are expensive and ubiquitous across a storm-impacted region where 900,000 homes and businesses suffered power outages. Duke Energy will finance the repair costs by issuing storm bonds to cover over \$900 million in expenses, while cooperative- and municipal-providers will likely cover 90% of their damage costs through FEMA Public Assistance. Estimates will likely be refined as providers continue to conduct assessments.

- Natural Resources: From leaf-peeping to trout fishing to hiking, tourism and outdoor recreation are vital components of the western North Carolina economy. According to Visit NC's 2023 Visitor Spending Report for the western and northwestern prosperity zones, which include the most critically impacted counties, visitors spend more than \$7.5 billion and tourism accounts for over 50,000 jobs in these regions. Western tourism and outdoor recreation are dependent on the abundance of conserved land and unspoiled natural resources. Approximately 19.6% of land area in declared counties is state and federal natural areas, parks, and forests, a conservative estimate that excludes locally protected lands and privately held easements. In addition to their importance to the local economy, protected lands are also important to resiliency as they help to mitigate flooding, reduce erosion, and enhance resilience.

OSBM has received requests totaling \$100 million from both state agencies and local governments for funds to repair and rebuild local park facilities and greenway systems and to restore and protect wetlands, streams, riparian buffers and natural habitat areas damaged by the storm.

- Gas: Information was provided to OSBM by major gas providers in western North Carolina as well as a propane industry trade association with a presence in North Carolina, South Carolina, and Georgia. These contributors provided estimates amounting to \$41 million, due to damage to gas transport systems and significant losses of propane tank inventory as a result of flooding. The cost to repair this damage will be covered by private insurance or by the vendors themselves.
- Dams, Dikes, Levees, and Mines: Ensuring the structural integrity of dams, dikes, levees, and mines is critical to reducing the risk of life, property loss, and surface and groundwater contamination that could result from breaches and failures. DEQ has 119 permitted sites across 67 companies that are within the 27 counties in the major disaster declaration. Through December 6, 29 public and private high hazard dams and 13 mining sites have been identified with damage due to Hurricane Helene. DEQ has found 56 dams overtopped and of those 10 have visibly identifiable damage, 75 dams will need to be removed, and assessments are still being made on how many will require replacement. For example, a private engineering company assessed that the 100-year-old Lake Lure Dam performed as intended, was not compromised, and remains serviceable; however, the dam was damaged, and its access road was washed out in several sections. Field investigations and designs to replace the dam are underway, but the impact of the catastrophic flooding to surrounding access roads requires a significant acceleration of the replacement timeline. This example is indicative of the types of damage assessed across the region. DEQ estimates \$200 million in need for repairs for private and public dams.
- Water & Sewage: DEQ's Division of Water Resources and DEM have compiled operational status data directly from water system owners, together with benchmark costs for repair or replacement of these systems. A total of 163 water and sewer systems were damaged as well as hundreds of miles of distribution pipes. In total, 88 wastewater systems and 75 drinking water systems were impacted. In Mitchell County towns have systems that were so devastated by Helene that some systems will require total replacement. DEQ in coordination with DHHS estimates 19,619 wells are located

within flooded areas, with 87,000 wells within 100 meters of flooded areas. In the disaster region, 70% of the population uses septic which is higher than the statewide average of 50%. DEQ estimates 30,000 septic systems will need to be repaired or replaced at a cost of \$500 million. Many households currently on septic systems may not be able to replace the system and will need to be connected to sewer systems or alternative waste systems.

- *Stormwater*: DEQ's stormwater damage estimates are based on over 1,500 active stormwater permits in the disaster region as well as the UNC Environmental Finance Center's total damage estimate which together identify \$250 million dollars in unfunded stormwater needs. This report assumes \$150 million of this damage impacts publicly owned systems, leaving the remaining \$100 million of needed repairs to be covered by private owners. DEQ anticipates this unmet need for existing stormwater systems will be exacerbated by Hurricane Helene.
- *Hazardous Waste*: Average costs of soil and groundwater assessments and remediation vary by incident size, scope, and location. Using existing GIS resources, DEQ identified up to 400 facilities in a 500-year floodplain that likely experienced moderate to significant flood damage including underground storage tanks, oil pollution, hazardous waste and abandoned containers. DEQ estimates \$22 million in damage for Underground Storage Tanks. There are currently over 1,100 potential hazardous material incident locations that have been reported.
- *Waste Management*: There are 162 landfills in the impacted region. Twenty-five recycling centers are damaged, and DEQ estimates over \$20 million in impacts to local government collection and processing infrastructure. Damage includes losses of trucks, shredders, grinders, balers, industrial forklifts, skid steers, industrial scales, scale houses, processing equipment, warehouses, dumpsters, trailers, and residential trash and recycling collection carts. The Buncombe Transfer Station temporarily closed due to storm damage to its monitoring wells, perimeter access road, and property damage at their closed landfill.

To estimate the need for storage of waste, DEQ calculated the per-acreage cost of storage as \$800,000/acre. DEQ estimates that 15 million cubic yards of debris material, often in debris fields beyond local government responsibility, will need to be recycled or disposed of in landfills at cost of \$100 million. Each five-acre landfill footprint could hold 288,000 cubic yards of compacted waste. To dispose of all this material, they estimate a total of 19 five-acre landfill cells will be needed to handle the increased volume of waste from Helene. Damage related to stream debris removal and stabilization can be found in the Agriculture Section of this document.

- *Telecom and Internet*: In partnership with DIT, OSBM requested damage assessment information from over 70 major telecommunications and internet providers servicing the 39 disaster declared counties. As of December 5, 20 businesses responded with damage estimates. Those that could provide data reported \$70 million in damage. OSBM summed these direct damage reports with cell site transport repair estimates calculated by leveraging benchmarks provided by DIT. This estimate assigned a repair cost associated with an average length of a damaged cable segment for a particular outage duration window. This cost was then multiplied by the number of NC-based,

post-storm transport outages repaired by Day 1, Day 5, and Day 11, as reported by the Federal Communications Commission to obtain the total damage estimate of \$100 million. As providers finalize their assessments, more accurate data will become available on total damage to telecommunication and internet infrastructure.

- *Resiliency Efforts:* The recovery investments afford an opportune time to efficiently introduce building, infrastructure, and technology upgrades that will ensure that future storms do not cause the same level of destruction, better safeguarding both public safety and economic stability. Four categories of resiliency efforts have been identified: Water Infrastructure Resiliency & Interconnections Fund (\$500 million), Stormwater Systems Resiliency (\$60 million), and Dams Repairs & Overtopping Study (\$760 million), and Natural Resource Stewardship (\$375 million).

Providing resiliency funding for water systems to interconnect to neighboring water systems provides communities with a backup option should a water system go offline for an extended period of time. Due to the terrain in western North Carolina, interconnections that are more common in the rest of the state have not been created in impacted region. DEQ estimates a need of \$500 million for interconnections between water and wastewater systems to join two water sources or systems allowing water to be transferred between them.

Bolstering stormwater and dam resilience will curb against future catastrophic flooding. Before Hurricane Helene there was already a high need for repair and upgrades to dams and stormwater systems across the region. DEQ estimates a need of \$60 million for storm water measures for further resiliency such as wet ponds, bioretention cells, infiltration systems, storm water wetlands, sand filters, and permeable pavement. DEQ estimates an additional need of \$760 million to assess and repair high-hazard dams that pose a substantial threat to the health, safety, and welfare of downstream residents and businesses. The renovations for resiliency measures previously made on the North Fork Dam stopped even more catastrophic damage from impacting communities, and additional dams across western North Carolina need to implement similar resiliency measures.

DEQ estimates a total of \$375 million needed to increase natural resource resiliency. Part of this is a need of \$15 million for flood mitigation projects to prepare for future storms through the Natural Infrastructure Flood Mitigation Program within the Division of Mitigation Services and an additional \$20 million to protect water quality, wildlife habitat, and provide open space through DEQ's Stewardship Program. DEQ also identified \$40 million in mapping needs, as Hurricane Helene caused over 2,000 landslides in western North Carolina, with 260 of them damaging multiple homes or posing an imminent threat to residents. Last, DEQ requires an estimated \$300 million for future-flood resiliency projects in eight river basins, including Hiwassee, Little Tennessee, Savannah, French Broad, Broad River, Catawba, Watauga, and New River, Yadkin Pee-Dee.

4. Assumptions

All estimates provided on damage as of December 5, 2024, unless otherwise indicated. For-profit organizations represented will not be eligible for direct state or federal assistance through existing programs.

5. Primary Data Sources

- City of Asheville
- Department of Environmental Quality (DEQ)
- Department of Information Technology
- ElectriCities of North Carolina
- North Carolina Electrical Cooperatives Association
- Duke Energy
- Enbridge Gas
- Southeast Propane Alliance
- Federal Communications Commission

6. Potential Sources of Non-State Funding

Direct Appropriations

Department of Housing and Urban Development (HUD) - Community Development Block Grant Disaster Recovery (CDBG-DR) – \$850 million

The state requested \$850 million in CDBG-DR funding for construction and planning projects to improve water and stormwater infrastructure resiliency projects. These projects will repair, replace, and elevate water infrastructure systems and are logged under “Strengthening and Mitigation” in this section’s estimates table.

FEMA – \$3.52 billion

- Public Assistance – \$3.52 billion
The state estimates receiving \$3.52 billion in FEMA Public Assistance (PA) funding for utility and dam related damage as well as debris disposal based on a 90/10 state match.
- Hazard Mitigation Grant Program
DEQ anticipates leveraging funding from the Hazard Mitigation Grant Program (HMGP) to repair high-hazard dams that pose a substantial threat to the health, safety, and welfare of downstream residents and businesses. See the Housing section of this report for more information about the total expected HMGP amount.

US Department of Agriculture (USDA) – \$25 million

The state requested \$25 million through USDA’s Rural Water and Waste Disposal Program to address critical sewage and solid waste disposal needs in impacted areas.

Environmental Protection Agency – \$270 million

- *Clean Drinking Water State Revolving Fund - \$250 million*

The state has requested an additional \$250 million from the EPA through the Clean and Drinking Water State Revolving Funds for DEQ's revolving loan programs to ensure repairs to local government infrastructure are adequately funded and emergency loans are available for necessary cash flow for immediate solutions. The funding will be used for existing programs, technical assistance, loans, and grants to repair or replace water or sewer system.

- *Resource Conservation and Recovery Act - \$20 million*

The state requested \$20 million in Resource Conservation and Recovery Act (RCRA) compliant funding from the EPA. Funding will be used to support projects related to waste removal, remediation, emergency infrastructure repair, orphaned tanks, and underground storage tanks. DEQ also plans to use funding for resilient materials to be used for repairing or replacing infrastructure in solid waste or recycling facilities. This expected funding is logged under "Strengthening and Mitigation" in this section's estimates table.

Department of Interior DOI – \$90 million

- *National Park Service - \$50 million*

The state requested \$50 million from DOI's National Park Service (NPS) to fund the NC Land and Water Fund (NCLWF) in the North Carolina Department of Natural and Cultural Resources for conservation and restoration of the state's storm-damaged streams, parks, and trails. With these funds, the state will provide grants to nonprofits and government entities for restoration projects for wetlands, streams, wildlife habitats, fisheries, and riparian buffers, projects that improve water quality, increase natural flood protection, and reduce erosion. North Carolina will also use the funding for projects to restore outdoor recreational opportunities, such as reestablishing trail networks in western North Carolina.

- *US Geologic Survey - \$40 million*

The state requested \$40 million from DOI's USGS for DEQ to improve landslide hazard mapping, assessments, planning, and communication to reduce losses. This need is logged under "Strengthening and Mitigation" in this section's estimates table.

Supplemental Appropriation

North Carolina requested that Congress provide additional funds to the US Army Corps of Engineers (USACE), and that USACE prioritize funding for western North Carolina. Note, although captured in this section's estimates table, these requested funds will not flow directly to the state.

US Army Corps of Engineers – \$130 million

North Carolina requested that the USACE prioritize funding for western North Carolina for flood control, water resources, levees, hazardous waste clean-up, dams, ecosystem restoration, debris management, and the restoration of outdoor recreation (e.g., trails, fishing, boating).

Of these requested funds, the state would allocate \$50 million to support the DEQ's efforts to assess dams, remove unneeded dams, reconstruct critical dams, and provide technical assistance to dam owners and operators. DEQ would prioritize the repair of dams that pose a substantial threat to the health, safety, and welfare of downstream residents and businesses.

The state also requested \$50 million to support flood risk management capabilities including funding for programs that can be of immediate assistance in ensuring the USACE has ample resources to carry out recovery and mitigation.

Lastly, the state requested \$30 million of USACE funds to support debris management efforts across western North Carolina. USACE removal operations are active in multiple locations, including Lake Lure, Asheville, and greater Buncombe County. Key priorities include clearing right-of-way debris, developing alternative disposal strategies to address potential landfill capacity issues, assessing waterway debris to define the removal scope.

Total expected funding is logged under "Strengthening and Mitigation" in this section's estimates table.

Discretionary Funding

The state anticipates applying for the following competitive grant programs to further meet Helene needs. Discretionary funding is prospective and not included in the anticipated federal totals listed in this section's table.

FEMA National Dam Safety

The state anticipates applying for \$1 million from FEMA's National Dam Safety Assistance Grant Program and \$10 million in discretionary funding from the High Hazard Potential Dams Grant Program for DEQ to prevent damage in future disasters. The state will use the funding for repairs to high hazard dams that pose a substantial threat to the health, safety, and welfare of downstream residents and businesses. DEQ will also conduct a dam overtopping study to fill data gaps and provide technical assistance to dam owners.

Environmental Protection Agency

- *Water Infrastructure Finance and Innovation Act*

The state intends to apply for \$250 million in discretionary funding from EPA through the Water Infrastructure Finance and Innovation Act to address critical water infrastructure projects across impacted regions.

- *State and Tribal Assistance Grants*

The state intends to apply for \$85 million from EPA's State and Tribal Assistance Grant account for DEQ to support river and stream restoration.

- *Section 319*

The state will apply for \$35 million in discretionary funding through EPA's Section 319 programs, which address nonpoint source pollution, to support the implementation of gray water systems. Gray water systems provide climate resilience and community support by providing resources in disaster impacted areas and prepare for future storms.

- *EPA Drinking Water Programs*

North Carolina anticipates submitting an application for an additional \$100 million in discretionary funding through the drinking water grant programs including: EPA's Midsize and Large Drinking Water System Infrastructure Resilience and Sustainability Program, the Drinking Water System Infrastructure Resilience and Sustainability Program for smaller communities, and the Emerging Contaminants in Small or Disadvantaged Communities Grant. The state will use these funds to repair failing public water systems, resolve documented low pressure in existing systems, the treatment of contaminated water, and to support connections between systems.

- *Brownfields and Land Revitalization Program*

The state intends to apply for \$2 million in brownfields assessment and multipurpose discretionary grants from EPA's Brownfields and Land Revitalization Program. DEQ will use these funds to bolster the assessment of brownfield properties in areas damaged by Hurricane Helene.

US Department of Energy: Clean Energy Financing Program

The state anticipates applying for \$1 billion in loan credits for North Carolina's State Energy Office from the U.S. Department of Energy's Clean Energy Financing Program to establish a State Energy Financing Institution (SEFI) and fund microgrids for communication infrastructure. Once established, the SEFI will enable North Carolina to leverage significant investments from DOE's Loan Program Office, providing financing support or credit enhancements for eligible clean energy projects. This investment will fund a loan program to help communication providers install microgrids with solar and storage, allowing communications infrastructure, such as cell phone towers, to remain operational when the electric grid goes down.

Private Funding

OSBM projects that private businesses will bear a staggering \$1.2 billion in damage, drawing from multiple funding sources. Duke Energy, for instance, will shoulder the heavy burden of restoring its infrastructure, financing the repair costs by issuing storm bonds to cover over \$900 million in expenses. These funds will go towards replacing nearly 2,000 transformers, more than 12,000 power poles, and other critical infrastructure devastated by the storm. In western North Carolina, gas providers will rely on a combination of insurance and their internal pipeline integrity mechanisms to manage their \$41 million in repair costs. Private stormwater system owners are expected to handle \$100 million in damage through private insurance claims wherever possible, minimizing public burden. Meanwhile, uninsured private stormwater system-owners, including Homeowner Associations, will either absorb the repair costs or pass them along to their customers in the form of higher fees over time. Similarly, telecommunication providers facing damage will likely absorb an estimated \$100 million in repair costs upfront, then shift those expenses to consumers through rate hikes where feasible.

Federal Policy Changes:

Department of Energy

The state requested that Congress adjust the governing statute for the U.S. Department of Energy's Clean Energy Financing Program, Title 17 of the Energy Policy Act of 2005. The state requested that the U.S. Secretary of Energy be given discretion to forgive all or a portion of these loans to address potential hardships for businesses and to prioritize funding to North Carolina.

Environmental Protection Agency

The state requested that Congress adjust the governing statute for EPA's Water Infrastructure Finance and Innovation program, 33 USC Chapter 52: Water Infrastructure Finance and Innovation. The state requested that the loans provided to the state from the Water Infrastructure Finance and Innovation Act be forgivable to alleviate hardships across local governments in the region. The state also requested that Congress adjust the Resource Conservation and Recovery Act (RCRA) to provide flexibility in the eligible uses of EPA funds to include necessary repairs in Helene-impacted counties. Last, the state requested that Congress amend the following EPA programs to waive state match requirements:

- Midsize and Large Drinking Water System Infrastructure Resilience and Sustainability Program, 42 USC § 300j–19g.
- Drinking Water System Infrastructure Resilience and Sustainability Program for smaller communities, 42 USC Chapter 6A, Subchapter XII: Safety of Public Water Systems.
- Emerging Contaminants in Small or Disadvantaged Communities Grant, PL 117–58 Sec. 50101.

FEMA

The state requested that Congress adjust the governing statute for FEMA's National Dam Safety Program, 33 USC 467f. The state requested that Congress direct FEMA to consider the scale of damage in western North Carolina and increase the state's allocation to benefit dams directly impacted by Hurricane Helene.

Department of Interior

The state requested that Congress amend the National Park Service's Land and Water Conservation Fund, PL 88-578 to waive the state match requirements.

7. State Funding Recommendations as of October 23, 2024 – \$577.8 million

FEMA Matching Funds – \$288.6 million

Provides state matching funds for FEMA public assistance funds for utility related damage and debris disposal based on a 90/10 state match. Based on estimates, the state expected to receive a total of \$2.8 billion in public assistance funds. These funds could potentially include repairing electrical power grids and water and sewer systems operated by governmental and non-profit utilities.

Bernard Allen Emergency Drinking Water Fund – \$5 million

Provides funds to DEQ for the Bernard Allen Memorial Emergency Drinking Water Fund in the Department of Environmental Quality to increase the state's response to water supply contamination and provide low-income households with a safe drinking water supply. The fund has three authorized uses: 1) pay for notice to persons whose wells were at risk from groundwater contamination; 2) pay for the costs of testing private wells; and 3) provide an alternate drinking water supply to well owners affected by the contamination.

Restoring Local Parks – \$50 million

Provides additional funding to the Department of Natural and Cultural Resources (DNCR) for the Parks and Recreation Trust Fund (PARTF) for grants supporting local governments to restore local parks. Projects may include repairing or rebuilding local park facilities, greenway systems, or natural habitat areas damaged by Hurricane Helene. Grants will not require a match from the local government.

Funding for state park repairs can be found in the Government and Recovery Operations section.

WNC Sustainable Energy Disaster Grant Program – \$2 million

Provides the Office of Science & Technology in the Department of Commerce with funds to invest in micro-grants to western North Carolina based sustainable energy businesses impacted by Hurricane Helene. Funds may be used for projects to purchase new supplies, equipment, or relocation costs not covered by insurance or federal disaster funds. There are 270 sustainable energy businesses in the region with 137 located in Buncombe Co.

Utility Bill Assistance

Funding for household assistance with utility bills can be found in the Housing section.

Resiliency

FEMA Hazard Mitigation Matching Funds – TBD

Provides the state match for FEMA hazard mitigation funds to be used for natural resource-related projects.

Water Infrastructure Resiliency & Interconnections Fund – \$100 million

Supplements federal funds for DEQ to provide support for existing programs, technical assistance, loans, and grants to repair or replace water or sewer systems. Of these funds, \$25 million is for the existing State Wastewater and Drinking Water fund, to be used for failing public water systems, resolve documented low pressure in an existing system, the treatment of contaminated water, and support connections between systems or cover a public need. One million dollars will go to the existing western North Carolina Recreational Water Quality Program, a successful pilot, to rapidly assess and communicate water safety information in the French Broad River Basin. These funds may also be used for costs associated with elevating water or sewer infrastructure located in the Hurricane.

Stormwater – \$10 million

Supplements federal funding for DEQ's Local Assistance for Stormwater Infrastructure Investments (LASII) program for cities, counties, regional councils of government and nonprofit partners for construction and planning projects that will improve or create infrastructure for controlling stormwater quantity and quality. These funds may also be used for costs to address

WNC's portion of unmet stormwater needs over the next 10-15 years as outlined by the UNC Environmental Finance Center assessment.

Grid Resilience & Hardening – \$4.2 million

Provides the required state match for DEQ's State Energy Office to draw down \$26 million from the Infrastructure Investment and Jobs Act's (IIJA) Grid Resilience State and Tribal Formula Grants program, designed to strengthen America's power grid against wildfires, extreme weather, and other natural disasters. This represents three years of federal funding to expand the state's work on grid resiliency to better support rebuilding western North Carolina. Projects could potentially include transmission and distribution systems, investing in smart efficient technologies to make the electric grid more resilient, and analysis of substations including how to size substations to accommodate additional EV fast-charging infrastructure.

Mapping and Modeling – \$45 million

Provides funds to DEQ to continue monitoring landslide hazards areas and to update the western North Carolina landslide mapping project and the Blueprint project to include current geodata from Helene disaster counties to better inform local government planning, and state permitting. Funds may also be used for projects to identify potential geo-engineering solutions for use to protect critical infrastructure, study the creation of a landslide warning and notification system in North Carolina, and expand DEQ's landslide work with NCSU meteorology and geology departments. Of these funds, \$5 million is provided for to the Department of Public Safety's Division of Emergency Management for floodplain mapping revisions in western North Carolina. Revisions include new imagery and processing to capture changes in the region, incorporate new high-water marks, and to begin adjusting flood maps for the region.

Flood Abatement and Water Quality Protection Measures – \$50 million

Provides funding to DNCR's for the NC Land and Water Fund (NCLWF) for conservation and restoration of the state's streams, parks, and trails damaged by Hurricane Helene. Funding may be used to provide grants to nonprofits and government agencies for projects for restoring wetlands, streams, and riparian buffers to increase natural flood protection and reduce erosion in the disaster area. These projects will help the region restore water quality in important wetlands, streams, wildlife habitats, and fisheries. Funding may also be used for projects resulting in the restoration of outdoor recreational opportunities including but not limited to restoring trail networks in western North Carolina.

Dams – \$10 million

Provides DEQ a 35% required state match for FEMA's High Hazard Potential Dams (HHPD) Grants Program to access up to \$28.5 million over several years of federal funds for the rehabilitation of dams that fail to meet minimum dam safety standards and pose risk to life and property. Funds may be used for project scoping, engineering and design as well as construction projects. This further supports other federal funds DEQ will seek to establish a high hazard dam reserve for the repair of dams that pose a substantial threat to the health, safety and welfare of downstream residents and businesses.

Microgrids – \$10 million

Provides \$10 million in state matching funds to DEQ's State Energy Office to leverage up to \$1 billion in guaranteed low interest loans from the US Department of Energy's Loan Program

Office (LPO). DEQ, in consultation with the Department of Commerce, will establish a State Energy Financing Institution (SEFI) program to fund microgrids for communications infrastructure. SEFIs enable states to leverage significant federal investment from the LPO, providing financing support or credit enhancements for eligible energy projects. This program would help communications providers install solar and storage microgrids that would allow communications infrastructure, such as cell phone towers, to remain operational when the electric grid goes down.

Brownfields – \$3 million

Provides additional funding to DEQ’s Division of Waste Management to bolster the assessment and cleanup of contaminated brownfield properties in areas damaged by Hurricane Helene. The storm created a large set of abandoned and damaged brownfields properties. The Brownfields Community Network has 12 local government members in the storm-damaged areas. Funding would also be used to conduct outreach to include other local governments in need with sites eligible to enter the Brownfields Program for redevelopment.

8. Special Provision Recommendations as of October 23, 2024

Department of Information Technology

Broadband Infrastructure Repair and Replacement: Allows DIT’s Broadband Infrastructure Office (BIO) to leverage \$90 million in appropriated “Stop-Gap” funds to repair or replace broadband infrastructure damaged or destroyed by Helene. Recommended changes in the law also enables the BIO to shift additional funds between ARPA-funded broadband infrastructure programs, freeing up appropriated funds to be invested in infrastructure based on greatest needs (e.g., destroyed towers, downed poles, severed cable, etc.) in disaster-impacted counties.

Department of Environmental Quality

Disaster Recovery Act Wastewater Reserve Amendment: DEQ requests a technical correction to change the infrastructure funding provision definition in Section 10.1.(a) of S.L. 2024-51 to refer to the Wastewater Reserve instead of the Clean Water Reserve.

Federal Source Fund Transfer Amendment: Updates Section 10.1.(b)(1) of S.L. 2024-51 to authorize DEQ to transfer funds between accounts that do not originate from federal sources in the Water Infrastructure Fund.

Waive DWI Fees for Emergency Loans: Amends G.S. 159G-24 to authorize the DEQ Secretary to waive fees for emergency loans from the Wastewater Reserve and Drinking Water Reserve during a State of Emergency.

Allow Mines to be Used as Temporary Disaster Debris Sites: Amends G.S. 74-52 to allow the DEQ to authorize Mine Permittees to deviate from their permitting regulations in direct response to a State of Emergency, and for up to one year following the State of Emergency.

Expand Uses of the Dam Safety Emergency Fund in States of Emergency: Amends G.S. 143-215.32A(c) to allow DEQ’s Dam Safety Emergency Fund to be used for dam repairs, removals, and breaches during a State of Emergency or a pending disaster. This will allow the Fund to be more effective in responding to dam safety needs during an emergency.

Provide Direct Reimbursement for Leaking Underground Storage Tank Cleanups: Amends G.S. 215.94E(e5) to authorize DEQ to directly reimburse contractors or third parties who are cleaning up or remediating a leaking underground storage tank. DEQ anticipates that some owner/operators of underground storage tanks may be negatively impacted by Helene, and requests general authority to pay contracted authorities (rather than strictly owner/operators under current statute) in order to expedite payments to companies that engage in cleanup/remediation activities.

Department of Natural & Cultural Resources

America 250 NC Grants Extension: Allows DNCR’s previously allocated funds for Americas 250 to not revert in the 39 counties impacted by Helene until June 30, 2027, to recognize that those counties will have difficulty using the funds by the original deadline.

9. State Funding Provided in S.L. 2024-51 and S.L. 2024-53

The General Assembly appropriated the following items to date:

Unobligated Clean Water and Drinking Water Fund - \$59 million

This funding is logged under “Strengthening and Mitigation” in this section’s estimates table alongside other water infrastructure investments.

Emergency Loans for Water/Wastewater Infrastructure Repair – \$100 million

Allocates funds to DEQ to provide emergency bridge loans to local government units in counties with a federal disaster declaration for water and wastewater infrastructure repairs. This provision is similar to what Governor Cooper recommended in October, except it provides loans, not grants, to local governments if there are no other reasonably available funding sources. All loans mature within six years.

Technical Assistance for Assessments and Design – \$7 million

Allocates funds to DEQ to provide technical assistance to local government units in counties with a federal disaster declaration for assessment and design of water and wastewater infrastructure repair, including the feasibility of regionalization. This funding is logged under “Strengthening and Mitigation” in this section’s estimates table.

Underground Storage Tank Repair – \$22 million

Allocates funds to DEQ to provide emergency bridge loans for testing and repair of underground storage tank infrastructure in counties with a federal disaster declaration due to Hurricane Helene.

NCEM Floodplain Mapping – \$5 million

Allocates funds to NCEM for floodplain mapping in counties with a federal disaster declaration due to Hurricane Helene. This funding will be used to revise existing floodplain maps according to new data and imagery which will capture changes in the region such as new high-water marks. This funding is logged under “Strengthening and Mitigation” in this section’s estimates table.

10. Revised State Match Funding Requirement

FEMA Matching Funds – \$384.7 million

Provides state matching funds for FEMA Public Assistance (PA) funding for utility and dam related damage estimated at \$3.8 billion which require a 90/10 state match. FEMA will also cover \$64 million in debris removal with no state match requirements. In total, the state is expected to receive \$3.5 billion in public assistance funds for utilities and natural resources, requiring an increased state match from the initial DNA report by \$96 million.



Transportation

Addresses the physical damage and state revenue implications of the transportation infrastructure damage inflicted by Hurricane Helene

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Emergency Repairs	\$425	-	\$425	\$300	-	\$125	-
Public Roads and Bridges	\$6,000	-	\$6,000	\$5,400	-	-	\$600
Public Transportation	\$5	-	\$5	\$5	-	-	-
Rail & Rolling Stock	\$345	-	\$345	\$135	\$173	-	\$38
Airports	\$2	-	\$2	\$2	-	-	-
Non-system (Municipal) roads and Bridges	\$1,725	-	\$1,725	\$1,550	-	-	\$175
Private Roads and Bridges	\$460	-	\$460	\$460	-	-	-
State Revenue Impact	-	\$100	\$100	-	-	-	\$100
Sub-total	\$8,962	\$100	\$9,062	\$7,852	\$173	\$125	\$913
Strengthening & mitigation	\$1,280	-	\$1,280	\$71	\$22	-	\$1,187
Total	\$10,242	\$100	\$10,342	\$7,923	\$195	\$125	\$2,100

1. Summary

Hurricane Helene has severely impacted approximately 5,000 miles of state-maintained roads across the affected area in western North Carolina, including several major national interstates and arterial routes that serve as critical transportation corridors. The North Carolina Department of Transportation (NCDOT) has found damage to 674 bridges and 712 culverts. Western North Carolina has 25% more public bridges than the state average, with the percentage of private bridges likely even higher due to the terrain and population density.

The terrain in this region is especially challenging, as it is mountainous with an elevation on average two to three times that of the Piedmont, which complicates road and bridge repairs. Western North Carolina also includes a significant number of privately maintained roads and bridges, with municipal and private roads making up 48% of all roads in the region compared to

41% for North Carolina as a whole. This higher proportion of non-state-maintained infrastructure adds further complexity to recovery efforts.

The following outlines the methodology used to estimate transportation needs resulting from Hurricane Helene. Estimates are based on data provided by government agencies, damage models, and historical data and trends. The total transportation impact is estimated at \$10.3 billion, the vast majority of which is anticipated to be covered by federal funding sources. Of this total need, the NCDOT highway and bridge system is projected to require \$6 billion in repairs and replacements.

Once major repair and replacement projects are underway, NCDOT will require substantial cash flow support while awaiting federal reimbursements. The Department's existing cash reserves are already committed to routine operations and ongoing programs, making additional financial resources essential to ensure long-term sustainability and the continued functionality of vital infrastructure.

2. Scope

Structures in scope for transportation estimates include:

- Public roads, bridges, tunnels, and sidewalks maintained by the State
- Municipal roads, bridges, tunnels, and sidewalks
- Private roads, bridges, and culverts
- Public transit, including bus systems
- Rail and rolling stock
- Ports and airports

3. Methodology

- *Emergency Repairs* – Staff at the Office of State Budget and Management extrapolated emergency and interim repair costs from those seen in previous hurricanes, in particular Hurricane Sandy, and updated them to 2024 dollars.
- *State Highways and Bridges* – NCDOT and contract staff began conducting a field assessment of damage when conditions became safe – they now have initial repair cost estimates for most sites. Staff document damage sites with pictures and damage information including location, size, and type of damage. Based on engineering and field experience, staff generate a cost estimate of damage. At this time, team members are refining estimates and will ultimately develop formal engineers' estimates which will replace the initial field assessments. In reaching the total cost estimate, OSBM has applied a cost inflation factor of 20% to NCDOT's initial cost appraisals to reflect prior experience of construction costs relative to estimates following major disasters.
- *Non-System (Municipal) Roads and Bridges* – Local Road and bridge damage was estimated by utilizing the NCDOT Route Characteristics dataset to determine the mileage of non-system roads in the effected counties. OSBM estimated total repair and

replacement costs for roads using experts' estimated cost benchmarks, together with county damage severity classifications. The non-system road damage is estimated to be \$1.38 billion, and bridge damage at \$345 million.

- *Private Roads and Bridges* – The Office of State Budget and Management's (OSBM) Disaster Recovery section has extrapolated data from previous storms, such as Tropical Storm Fred, to estimate the impact on private infrastructure in counties affected by Hurricane Helene. OSBM used this to estimate the potential number of affected private roads and bridges across counties hit by Hurricane Helene and scaled up the impact based on Emergency Management advice on the severity of the damage relative to previous events. Private roads make up almost half of all roads in the region – more than 7,000 private roads, bridges and culverts have been damaged. While FEMA has already approved funding for over 3,000 minor repairs, significant support will be needed for larger repair and replacement projects. The unique nature of the mountainous terrain in western North Carolina presents additional challenges requiring specialized approaches to road and bridge repair.
- *Airports* – NCDOT's Aviation Division has spoken to all affected airports. The Hickory Airport reported destruction of one building that was under construction when the storm hit (80% complete), for which they had received state funds, causing damage estimated at \$0.5 million. Avery and Lincolnton Airports expect increased costs for existing projects of \$1 million and \$0.5 million respectively, while the cost of minor flood damage across other affected airports is estimated at \$0.2 million. Other airports reported minimal damage. To improve resiliency, the Aviation Division has asked for \$3 million to fund generators and/or microgrid planning at the region's 22 general aviation airports to ensure power availability for fueling aircraft, which have been key to relief and damage assessment efforts; and \$0.8 million for two LiDAR drones to help better and more quickly assess the extent of damage to particular sites in the aftermath of major storms and hurricanes.
- *Public Transportation*: Early estimates from NCDOT's Integrated Mobility Division suggest limited damage from Hurricane Helene, affecting only a small number of counties. Public transportation in western North Carolina is primarily comprised of rural, on-demand systems and infrequent bus routes connecting small towns. Asheville Rides Transit (ART) is the region's only major public transportation system, operating several bus routes but serving a smaller area compared to other urban systems in the state.
- *Railroad Damage* – Based on updated damage reports from Norfolk Southern, CSX and short lines, we estimate the total cost as around \$345 million, made up of:
 - Norfolk Southern - \$70 million for the Newport, TN line to Asheville and \$60 million from Asheville to Old Fort, NC.
 - CSX – approximately \$200 million of costs.
 - Short lines – approximately \$15 million.
- *State Revenue Impact* –For this estimate, FY 2024-25 consensus revenue estimates for the state were used as a baseline.

- Motor Fuels Tax – Using miles driven from NC DOT traffic volume maps and assumed reduction in driving based on county severity, reduction in gasoline consumption was calculated for each county. The final reduction in motor fuels tax collection was estimated by combining expected gasoline costs and motor fuels tax rate to the state.
- Registration, DMV, and Other Fees – Reduction in fees was calculated based on county shares of vehicles and damage severity.
- *NCDOT Buildings* – Please refer to the Government and Recovery Operations section for information on damage to NCDOT buildings.

4. **Assumptions**

- *County Severity Classification*: Please refer to the Economy section
- *Road and Bridge costs*: Estimated cost benchmarks provided by industry experts
- *Construction costs*: The assessment for infrastructure damage conservatively assumes construction costs will be 15% higher than estimated due to a shortage of available construction services and/or an increase in the cost of raw material and labor driven by multiple concurrent disasters across the Southeast. Experience from hurricanes Matthew, Katrina, Harvey, and Florence, and Superstorm Sandy suggests similar shortages drove construction costs 8-20% higher in the aftermath of the event. In addition, Hurricane Helene construction costs are likely to be driven up by the continued impact of the pandemic recovery and more difficult terrain.
- *Damage Magnitude*: Proportional damage numbers, e.g., percent of roads damaged or destroyed, from county severity classification and inspection of locations with higher flooding, landslides, and road incidents.
- *Hazard Mitigation Costs*: OSBM estimated the cost using the below industry standards for cost as a percentage of repair and replacement costs.

Hazard Mitigation Option	Description	Cost as % of Repair/Replacement Estimates
Road and Embankment Stabilization	Stabilizing roads with geotextile fabric, revetments, and drainage improvements to prevent erosion and flooding	10% to 30%
Bridge Protection	Installing scour countermeasures, uplift tie-downs, and elevating bridges to prevent flood and erosion damage	15% to 30%
Slope Stabilization	Stabilizing slopes using bioengineering methods like planting vegetation or using riprap for erosion control	10% to 30%
Floodproofing and Levees	Installing flood barriers and levees and elevating roads to protect against flood risks	20% to 30%

5. Primary Data Sources

- NC DOT
- NC Emergency Management
- Federal Emergency Management Agency (FEMA)
- Industry experts' estimated cost benchmarks for transportation infrastructure

6. Potential Sources of Non-State Funding

Given the intense nature of this storm and the severe damage inflicted on the state's critical infrastructure, including key arteries for transporting goods across the country and to ports, North Carolina will need the federal government to provide most of the funding to repair and replace damaged and destroyed roads, bridges, and other transport infrastructure.

US Department of Transportation - \$7.39 billion

- *Federal Highways Administration (FHWA) - \$7.25 billion*

FHWA provides grants to eligible roads under federal legislation – NCDOT anticipates that a large majority of costs it incurs will be eligible under FHWA criteria, but actual FHWA funding will depend on additional federal appropriations, with supplemental funding potentially coming from FEMA. North Carolina has requested an increase in the typical disaster-related cost share from 80% to 90%, and is therefore expecting to receive \$5.40 billion for state-maintained eligible roads and bridges and \$1.55 billion for municipal roads and bridges.

The state requested 100% match and \$425 million total from FHWA's Emergency Relief (ER) program for resources NC DOT expended in the first 270 days of the storm hitting. The table at the top of this section offsets \$125 million of these costs with the funding the NCGA provided from NC DOT's Emergency Reserve. This funding is used to re-establish road access across western North Carolina. These costs include clearing roads of mud, trees, fallen power lines, and debris, as well as the creation of temporary bridges to provide essential access to towns, businesses, and homes cut-off by the storm. The state would also use the funding expected to defray costs related to emergency work to protect remaining facilities, including, for example, a \$8.5 million contract to stabilize the two westbound lanes of I-40 in Pigeon River Gorge.

- *Federal Railroad Administration (FRA) – \$135 million*

The state requested a \$135 million supplemental appropriation to cover half the cost estimate as of October 2024 of restoring critical railroad network infrastructure.

- *Federal Aviation Administration (FAA) – \$2.2 million*

North Carolina expects \$2.2 million to address damage to general aviation airports. These funds would be used to:

- Replace an under-construction hangar at Hickory Airport that was 80% complete before the storm (insurance has declined to pay) - \$500,000;

- Meet increased costs at Lincolnton Airport resulting from damage to an active utility project required as part of hangar construction - \$500,000;
 - Address damage such as airfield lighting, fencing, and road repairs at the Asheville airport and other small airports in the disaster-declared region - \$210,000; and
 - Meet additional costs at Avery Airport for its Terminal Program, an IJJA-funded project, resulting from Helene's impact on the availability of contractors and materials in western NC –\$1 million.
- *Federal Transit Authority (FTA) - \$5 million*

North Carolina expects \$5 million from the Federal Transit Authority to address damage sustained to transit vehicles. These funds would be used to replace vehicles destroyed by flood waters and repair vehicles damaged by storm winds.

FEMA - \$109 million

- *FEMA-Public Assistance (FEMA-PA) - \$109 million*
This provides grants to state, local, tribal, and territorial governments to assist with disaster response and recovery, including debris removal, emergency protective measures, and permanent restoration of facilities.
- *Hazard Mitigation Grants Program (HMGP)*
This provides funding to state, local, tribal, and territorial governments after a disaster declaration to protect eligible public or private property through mitigation measures to undamaged facilities (Public Assistance has provisions that allow for mitigation of damaged facilities).

Department of Housing and Urban Development (HUD), Community Development Block Grant – Disaster Recovery (CDBG-DR) - \$350 million

North Carolina expects to use HUD funding towards rebuilding private roads and bridges. HUD does not have a threshold that automatically triggers aid to affected areas. Congress would need to appropriate CDBG-DR funds for Hurricane Helene response before North Carolina can access them for disaster recovery efforts. Still, the state expects \$350 million from this source to cover the gap between FEMA PA funds and the total costs of restoring access to isolated homes.

US Army Corps of Engineers – \$71 million

- *Transportation Infrastructure Construction*
Currently, private roads are not eligible for assistance from the USACE Construction Account. The state expects to receive a supplemental appropriation of \$50 million and a temporary adjustment of the eligibility criteria to support private roads with significant public benefit or emergency access needs. This amount would fund major resilience projects on critical private roads, including the construction of floodwalls, elevated sections, and embankment reinforcement, which protect essential access routes in high-risk areas.

- *Continuing Authorities Program (CAP)*

North Carolina requested \$20 million in federal CAP funding to strengthen critical access routes and safeguard communities. CAP program eligibility would need to be amended to include private roads and bridges that serve critical public access and emergency needs. This expansion would allow essential localized resilience projects, such as slope stabilization and flood control, to protect private roads and reduce repeated hurricane-related damage.

- *Planning Assistance to States*

North Carolina expects \$1 million from the Planning Assistance to States program to support planning studies to assess long-term risks to private roads in high-risk areas, helping identify future resilience projects for critical access routes.

Competitive Federal Funding

Significant additional federal funding is available through IIJA, IRA, and other programs, on a competitive grant basis. With a finite set of funds to be competed for by states, local governments, and non-profit organizations, it is crucial to provide agencies and local governments with sufficient matching funds to ensure their applications are viable and can compete effectively for federal funds. Federal match funding is included in the Government and Recovery Operations section of this report.

Private Funding

The rail system is required by state law to receive 50% of their damage estimate as reimbursement from the Short Line Railroad. Private insurance may also meet some costs for damage to railroads and airports, although it is hard to estimate the amount at this time. The state expects private funds will cover \$195 million, which includes \$22 million for strengthening and mitigating.

Federal Policy Changes:

The state asked US DOT for the following policy changes:

- Provide flexibility in the rules around FHWA funding, so that it matches FEMA practice in reimbursing actual rather than initially-estimated costs.
- Establish a federally-supported bond issuance program to support highway reconstruction following major disasters by expanding the use of GARVEE bonds and providing FHWA with increased authorization limits. Congress expanded their use in the past to include public transit. These changes would help affected states to manage disaster cashflow needs while also enabling the federal government to spread the cost of reimbursement over 15 years.

7. State Funding Recommendations as of October 23, 2024 – \$54.8 million

State Match for Federal Funding for NCDOT Road and Bridge Repairs and Replacement

In the event that the federal government does not cover the full costs of repairing or replacing transportation infrastructure damaged or destroyed by Hurricane Helene, NCDOT will need state funding to fill the gap between costs and federal funding.

Public Transportation Affected by Hurricane Helene – \$5 million

Provides funding to NCDOT's Integrated Mobility Division for grants to local authorities to meet the costs of repairs or replacement of public transportation infrastructure and vehicles damaged or destroyed by Hurricane Helene.

Improving NCDOT Capacity to Assess Weather-Related Damage – \$0.8 million

Provides funding to NCDOT's Aviation Division to purchase LiDAR drones to improve NCDOT's capacity to rapidly assess damage to transportation infrastructure following severe weather events.

Local Match for Federal Funding for Municipal Road and Bridge Repairs and Replacement – TBD

Provides funds to NCDOT for grants to local authorities to meet local match requirements for federal funding to repair or replace municipal roads and bridges damaged or destroyed by Hurricane Helene. This assumes federal funding for 90% of the costs of repairs and replacement.

Private Road and Bridge Repairs and Replacement – \$46 million

Provides funds to enable federal and state government to partner to repair or replace private roads and bridges to a more resilient level that will better withstand future storm events. This is crucial for ensuring emergency vehicle access to protect life and safety, without endangering the lives of first responders, as well as facilitating access to rebuilt homes. Restoring these bridges is critical for many residents to gain access to their homes to either return or to begin the rebuilding process.

Building Smarter and Stronger Resilient Roads – TBD

Match funds will be required in future to help leverage federal grants for designing roads, bridges, pipes, and other transportation structures to better mitigate the effects of extreme weather events. This funding would leverage Hazard Mitigation Grants Program (HMGP), Infrastructure Investment and Jobs Act (IIJA), and other federal funds to reduce the risk of transportation system and local property damage in future storm events.

Improving Airport Resiliency – \$3 million

Provides \$3 million to NCDOT's Aviation Division for grants to the 22 general aviation airports across western North Carolina to fund the purchase of generators and/or planning for microgrid infrastructure. This will ensure the availability of power to pump fuel and meet other essential needs to provide aviation support during disaster recovery and emergency management operations.

8. Special Provision Recommendations as of October 23, 2024

Allowable uses for funding for private roads and bridges to include the ability to shore up nearby riverbanks or address other potential floods or other threats to the rebuilt or repaired structures.

The funds provided for repairs and replacements of private roads, bridges and culverts damaged or destroyed by Hurricane Helene may be used to pay for resilience and hazard mitigation scopes of work within a reasonable distance of the recovery project and essential for life safety or emergency services access. To the extent a private road or bridge was impacted by Tropical Storm Fred and Hurricane Helene, the road or bridge may be repaired or replaced using resources provided for either event.

Dual Impacted Recovery Projects

Notwithstanding any other provision of law, reallocates \$10 million of unused Tropical Storm Fred recovery funds to address an estimated 143 unfunded private road and bridge projects that were also impacted by Hurricane Helene. For this purpose, OSBM may reallocate funds originally appropriated for Tropical Storm Fred recovery from any of the following:

- (1) S.L. 2021-180
- (2) S.L. 2021-189
- (3) S.L. 2022-6
- (4) S.L. 2022-74
- (5) S.L. 2023-11.

9. State Funding Provided in S.L. 2024-51, S.L. 2024-53, SL 2024-55 and SB 382

Transportation Emergency Reserve - \$125 million

Of the funds appropriated to the Department of Transportation, the General Assembly directed \$125 million from the Transportation Emergency Reserve to be used for repair and reconstruction of transportation infrastructure in the affected area.

10. Revised State Match Funding Requirement

No state match required

FEMA-Public Assistance (FEMA-PA) - \$109 million This provides grants to state, local, tribal, and territorial governments to assist with disaster response and recovery, including debris removal, emergency protective measures, and permanent restoration of facilities.



Agriculture

Addresses physical damage and business disruption for agricultural enterprises

Estimates (\$M)							
	Damage and Needs			Investments			
Category	Direct	Indirect/ Induced	Total Impact	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Farm infrastructure damage	\$2,000	-	\$2,000	*	-	-	\$2,000
Crop losses	\$908	\$782	\$1,690	\$836	\$121	-	\$733
Stream debris removal and stabilization	\$431	-	\$431	\$337	-	\$25	\$69
Machinery and equipment damage	\$160	-	\$160	*	-	-	\$160
Forestry losses and forest land restoration	\$214	-	\$214	\$151	-	-	\$63
Agricultural land restoration	\$126	-	\$126	\$72	-	\$2	\$52
Wildfire risk response	\$63	-	\$63	\$44	-	-	\$19
Aquaculture losses	\$1.0	-	\$1.0	\$0.8	-	-	\$0.3
Subtotal	\$3,903	\$782	\$4,685	\$1,441	\$121	\$27	\$3,096
Strengthening and mitigation	\$209	-	\$209	-	-	-	\$209
Total	\$4,112	\$782	\$4,894	\$1,441	\$121	\$27	\$3,305

* Estimate included in the Economy section of this document.

1. Summary

The estimated economic impact of Hurricane Helene on the agricultural community is \$4.9 billion. The *direct* damage and needs estimate is \$4.1 billion, comprising farm infrastructure, machinery, and equipment damage; crop, forestry, and trout farm losses; stream debris removal and stabilization needs, agricultural land restoration needs; wildfire risk response, and mitigation efforts. Livestock, dairy, and poultry producers experienced significant infrastructure damage but limited animal losses.

There is an estimated additional \$783 million in indirect and induced impacts from crop losses. In addition to these economic “ripple effects” from crop losses, the disruption of the peak tourism season in the region will have substantial, but unquantified, impacts on agricultural businesses. Agritourism and direct-to-consumer sales is a significant part of the agricultural economy in western North Carolina.

Federal funding requests, estimated insurance coverage, and state appropriations to date are expected to cover \$1.6 billion of the damage, leaving \$3.3 billion unfunded.

Agriculture Sector in western North Carolina

Agricultural production in the mountains tends to be predominantly small, diverse operations. As of 2022, USDA-NASS survey data indicates there were approximately 18,600 farms in the 37 western counties impacted by Hurricane Helene. Of the 39 FEMA designated counties, Lee and Nash are excluded from this analysis. These two counties suffered localized tornado damage, but initial reports suggest these counties did not experience significant crop losses from hurricane damage.

Agricultural production in the region is primarily specialty crops with limited federal crop insurance coverage. The Greenhouse, Nursery, and Floriculture sector is the largest sector of the farming community with annual revenues of over \$400 million. This diverse sector includes Christmas trees, sod, and ornamental plants used in landscaping and flowers such as Chrysanthemum and Poinsettias. Christmas trees alone account for about \$120 million in yearly sales. Vegetable farming is another large sector, important to many small local food producers, with over \$92 million in annual sales. This western region is also home to very large fresh produce farms. The region’s proximity to large population centers in the southeast and its cooler mountain climate allow it to grow cool season crops near large markets.

Nursery and vegetable produce operations were particularly devastated by Hurricane Helene. Many of these businesses are located in low-lying areas that suffered the worst flooding and swift water destruction. The majority of vegetable, nursery, and sod crops in these locations were lost. Initial estimates indicate that over 80% of plant nurseries were destroyed. Nursery inventory can take one to eight years to re-establish.

On higher ground, landslides destroyed Christmas trees. The region is also home to a large apple producing area. Most of the remaining apple harvest was lost. Fruit and Christmas trees that must be replaced take over five years to reach fruit bearing age or salable size.

Hay land, often in valleys, was destroyed along with stored hay in these areas. Cattle farmers now face chronic shortages of hay just as they are beginning the winter-feeding season.

Beyond the immediate production losses, for the agricultural community to recover, significant remediation efforts are needed to restore farmland and pasture and forestland from the effects of high winds, landslides, extreme erosion, sediment deposits, and stream redirection.

2. Scope

The scope for agriculture estimates includes:

- Farm infrastructure damage
- Machinery and equipment damage

- Crop losses
- Timber losses and forest land damage
- Trout farm losses
- Stream debris removal and stabilization
- Agricultural land restoration
- Wildfire risk response

3. **Methodology**

Farm Infrastructure, Machinery, and Equipment damage

USDA-NASS 2022 Census data notes 20,494 farms in the declared counties with a farmgate value of \$4 billion. The value of farms and buildings in these counties is \$12.9 billion, and machinery and equipment are valued at \$1.6 billion.

The Department of Agriculture and Consumer Services (DACS) is aware of significant impacts to farm infrastructure and equipment but has limited quantitative data currently. Based on preliminary on-ground reports, DACS estimates \$2 billion in farm infrastructure damage including aquaculture and livestock operation impacts.

To estimate machinery and equipment damage, this analysis assumes a 10% loss of the total equipment value in affected counties based on NASS survey data, amounting to \$160 million.

Crop Losses

The Department of Agriculture and Consumer Services (DACS) partnered with NC State University Extension economists and OSBM to derive a estimate of crop losses caused by Hurricane Helene across 37 western disaster-declared counties that experienced the most extreme rainfall and flooding. Two counties, Lee and Nash, were excluded from the analysis. These counties suffered localized tornado damage, but initial reports suggest these counties did not experience significant crop losses from hurricane damage.

The estimated direct production losses to the farm sector amount to \$908 million. Regional agronomists provided crop loss estimates by county based on their initial observations. In the case of Nurseries, Christmas Trees, and Sod, loss estimates are based on reports from regional agronomists, plant industry field staff, and producers in the affected counties. Additionally, the analysis accounted for multi-year losses, particularly for nurseries and tree crops, which require longer recovery times. The economic impact of these production losses was then calculated using the IMPLAN model based on the preliminary lost production estimates.

Commodity Loss by Crop and Livestock Type (Millions)			
Commodity	Direct Production Losses	Indirect/ Induced Economic Impact	Total Economic Impact
Nurseries, Christmas Trees, and Sod	\$526	\$440	\$966
Vegetables and Melons	\$132	\$124	\$257
Hay and Pasture	\$84	\$61	\$144
Corn and Other Grains	\$81	\$84	\$165

Apples and Other Fruit	\$48	\$41	\$89
Soybeans	\$18	\$14	\$32
Tobacco	\$9	\$8	\$18
Hemp and Cover Crops	\$8	\$8	\$16
Cotton	\$2	\$2	\$4
Subtotal all crops	\$908	\$782	\$1,690

When farm revenues are lost there is a ripple effect through the regional economy, through lost jobs, lost activity in agriculture support industries, and those that rely on farm products. The total estimated economic impact from these crop losses is \$1.7 billion.

Note that while this analysis includes Cherokee, Graham, Jackson, Haywood, and Swain counties, these loss estimates largely exclude agricultural production on tribal lands in the Qualla Boundary, as the Cherokee Nation is not required to report to the USDA.

Timber Losses and Timberland Damage

Aerial surveys indicate 822,000 acres of western North Carolina timberland received some level of damage valued at \$214 million (including private and public losses). Damage distribution between land ownership is approximately:

- 21% public (US Forest Service and other public ownerships)
- 78% private (private individuals, corporations, and other ownerships)
- 1% reserved lands (reserved areas such as park lands)

Approximately 643,000 acres of privately owned timberland in 17 counties received some level of damage during Hurricane Helene. Based on the aerial survey data and stumpage values, the state estimates total losses to these private timberland owners at \$167 million.

Aquaculture: Trout Farm Operations

Estimates provided by aquaculture producers in the region currently estimate fish losses of \$1 million and infrastructure damage of \$8 million. This estimate is derived from initial producer reports, and no site visits have been conducted at this time.

Stream Debris Removal and Stabilization

The scale of impact from Hurricane Helene on waterways, farmland, and conservation structures is unprecedented, as is the need for debris removal, waterway restoration, and stabilization measures. The depth and velocity of floodwaters and landslides caused significant damage and debris flows. In addition, oil tanks and other hazardous pollutants present in the debris pose a threat to water quality. Preliminary estimates for stream debris removal, streambank stabilization, and stream restoration needs amount to a total need of \$431 million. These estimates are based on experience from past storms, the greater intensity and severity of damage in western North Carolina's topography relative to coastal storms, and initial indications from federal agencies.

Agricultural Land Restoration

Hurricane Helene also caused significant damage to croplands, pastures, farm roads, ponds, and conservation structures totaling \$126 million in total need:

- *Cropland and pasture restoration, agricultural pond repair*: \$56 million is the estimate of funds needed to restore cropland and pastures and to repair damaged agricultural ponds for irrigation and water management. These estimates are based on land and pond repair costs during Hurricane Florence and the extent of the damage in western North Carolina. The USDA-Emergency Conservation Program caps funding for pond repairs at \$200 thousand, but repairs averaged more than double that cost during Florence.
- *Conservation structure repair and renovation* – \$15 million is the preliminary estimate of funds needed for best management practice repair and renovation. Examples of affected conservation structures include grass waterways and dairy waste storage pond repair.
- *Farm access road repair* – \$20 million is the need estimate to repair existing access roads used for agricultural operations, including roads to existing crop fields, pastures, and barns. Many more road miles need significant repair compared to past storms, due to the topography of western North Carolina and the severe erosion and structural damage caused by this storm.
- *Engineering and technical assistance support* – The scale and severity of the storm damage will result in significant repair work. Additional engineers and contracts are needed to provide design and project implementation oversight. The estimated need is \$35 million.

Wildfire Risk Response

The storm added an estimated 6.8 million tons of fuels to the fire environment. Timber and debris are ignitable fuels on the forest floor that increase wildfire risk. It is likely that western North Carolina will experience more intense fire seasons – both in scale and severity – due to the downed timber and debris accumulation caused by Hurricane Helene.

Risk mitigation and response efforts are needed in anticipation of more severe fire seasons. The need estimate of \$63 million is composed of additional NC Forest Service overtime, expanded contract personnel needs, and equipment repairs; cooperative efforts to support volunteer fire departments; and mitigation efforts such as prescribed burns to reduce fuels. The expected resources and staff time required for larger scale fires are based on previous actual expenditures during past severe fire seasons.

Strengthening and Mitigation

Significant investments are needed to promote sustainable agricultural practices, land use changes, and farmer supports that are responsive to the unique threats farmers face from increased rainfall, droughts, and more frequent extreme weather events. This analysis conservatively assumes \$209 million – calculated as 15% of the direct production loss estimates as of October 2024 – represents a meaningful first step toward resilient farm systems that protect natural resources and build stronger communities.

Unquantified Impacts - Agritourism

Agritourism plays a crucial role in the economic and cultural landscape of western North Carolina, where many farms and agricultural businesses rely on seasonal tourism to sustain their operations. Voluntary programs such as the NC Agritourism Network Association, Got to Be NC,

and Visit NC Farms App list 1,063 operations, though this does not capture all agritourism businesses in the affected area.

Key agritourism activities in the impacted region include but are not limited to: Christmas tree farms, pumpkin patches, U-pick operations (apples, strawberries, blueberries, grapes), wineries, wedding venues, cideries, breweries, distilleries, farm stores, bed and breakfasts, and horseback riding.

The fall season is an especially vital period for agritourism, drawing visitors for activities such as pumpkin patches, apple picking, choose-and-cut Christmas trees, and many other fall activities. Limited visitors to the area will impact these operations.

The impacts of reduced tourism in the region are not limited to the fall. Agritourism businesses, like farms that rely on direct-to-consumer sales, are expected to experience longer-term challenges. With the region's recovery from damage and disruptions still uncertain, it is likely that tourism return will be gradual. If tourism remains low, farmers who primarily sell their products directly to consumers may have to sell to wholesale markets (if possible) at lower prices.

Unquantified Impacts - Livestock Losses

In addition to crop production and aquaculture, there are also a large number of small beef cattle operations, dairies, equine farms, and small ruminant operations in western North Carolina, as well as honey producers. Livestock, dairy, and poultry producers experienced significant infrastructure damage (captured above) but limited animal losses.

4. Assumptions

- Farm machinery and equipment losses: Assumes a 10% loss of the total equipment value in affected counties based on NASS survey data.
- Crop loss percentages: Regional agronomists provided estimates of crop loss percentages by crop and county, along with initial plant industry reports.
- Crop insurance coverage: Agricultural production in the region is primarily specialty crops with limited federal crop insurance coverage. Assumptions about crop insurance coverage levels by crop type were provided by the NC Board of Agriculture members. On average across all crop types, 13% of the direct crop production losses are expected to be covered by crop insurance, due to the crop mix in the region that is predominantly vegetables, fruits, nursery, and other specialty crops. This estimate will be revised as claims data becomes available.
- Crop loss duration: The hurricane's impact is assumed to extend over multiple years for all crop types. While most field crops are expected to face an additional year of loss due to field damage, nurseries and tree crops that require replanting will have longer recovery periods, up to 5 years.
- Stream and agricultural land restoration: This analysis assumes physical impacts and associated needs are scaled based on the more severe effects of flooding, erosion, and landslides due to the region's topography. Also considers past experience with USDA disaster program funding availability and eligibility.

- Strengthening and mitigation: Conservatively assumes 15% of direct production losses (estimated as of October 2024) represents the investment needs for adopting more sustainable agricultural practices.

5. **Primary Data Sources**

- Regional agronomists estimates and industry reports of crop loss percentages
- Industry reports of infrastructure damage.
- DACS analysis of:
 - USDA-Farm Services Agency crop land field boundaries 2024 and cropland
 - Geospatial rainfall, inundation, landslide, and search and rescue reports provided by NCEM
- USDA NASS 2022 Census of Agriculture
- IMPLAN model industry output values

6. **Potential Sources of Non-State Funding**

Federal Funding

US Department of Agriculture (USDA) – \$1.44 billion

- *Disaster Block Grant for Crop and Timber Loss Relief (\$946 million)*
North Carolina requested a total of \$1.15 billion supplemental appropriation in the form of a block grant for losses of crops, trees, bushes, and vines to address multiple agricultural disaster events occurring in calendar year 2024. Of the requested amount, \$836 million was for Hurricane Helene crop losses and \$110 million for Helene private, non-industrial timber value losses. The remainder of \$201 million was for other declared disasters. See the Other Disasters section of this report for more details on 2024 crop losses related to PTC-8, Tropical Storm Debby, and other declared agricultural disasters. Consistent with past appropriations following severe disasters, North Carolina requested supplemental funds to cover two-thirds of the estimated uninsured or underinsured crop losses.
- *National Resource Conservation Service (NRCS) (\$337 million)*
 - Emergency Watershed Protection (EWP) Program – North Carolina expects a supplemental appropriation of \$337 million dollars to NRCS' EWP program for eligible stream debris removal, streambank stabilization, stream restoration, drainage facility repair, and related measures to mitigate risks from flooding and soil erosion. Additionally, North Carolina requested the following NRCS related policy changes:
 - Increase the EWP federal cost share to 90% from 75% for projects in the affected counties and the federal cost share for EWP technical and

administrative costs (including engineering) to 75% from 15% for projects that require engineering in the affected counties;

- Provide sufficient and immediate funding for the NRCS Conservation Technical Assistance account so that the state can complete necessary assessments; and
- Expand eligible stream debris removal projects to a distance equal to the greater of the next public road crossing or 2,000 feet upstream of bridges, utility infrastructure, and other at-risk structures. Due to the topography and hydrology of the western North Carolina mountain region, debris will travel significantly farther downstream than in coastal flooding events.

- *Farm Service Agency (FSA) (\$93 million)*

- Emergency Conservation Program (ECP) (\$72 million) - North Carolina requested a supplemental appropriation of \$72 million to the FSA's ECP to restore farmland to productivity and repair flood-mitigating conservation projects. The extreme force of the floodwaters in the narrow mountain valleys washed away fields, farm roads, and structures. It also caused severe and widespread erosion and sediment and debris deposits, resulting in a scale of the need that exceeds previous storms in the flat coastal plain. North Carolina also requested that the federal government:
 - Increase the ECP federal assistance cost share to 90% from 75% for projects in disaster-declared counties and to expand the ECP eligible practices to include repair of farm access roads;
 - Authorize FSA to increase the \$500,000 per person cap on payments when projects include farm pond repairs given that these repairs typically cost \$500,000 back in 2018 and
 - Waive the FEMA requirement for a No Rise Certification for floodways and floodplains in the case of cropland restoration projects and streambank stabilization, which is unnecessary and causes delays in farmland rehabilitation in advance of critical replanting seasons. This requirement affects conservation projects conducted through the USDA- Natural Resources Conservation Service, USDA-Farm Service Agency, and local soil and water conservation districts.
- Emergency Forest Restoration (EFRP) Program (\$20 million) - North Carolina requested supplemental appropriations of \$20 million to FSA's EFRP for payments to nonindustrial private forest landowners for restoration activities such as removing downed trees, site preparation, replanting, and repairing forest roads, fire breaks, and fencing.
- Other FSA Crop and Animal Loss Assistance (\$0.8 million) - Beyond the programs noted above, FSA also offers a variety of additional disaster assistance programs directly to eligible producers to address crop and animal losses including but not limited to the following:
 - Noninsured Crop Disaster Assistance Program (NAP)

- Livestock Forage Disaster Program (LFP)
- Livestock Indemnity Program (LIP)
- Emergency Assistance for Livestock Honeybees, and Farm-Raised Fish Program (ELAP)

Based on preliminary estimates of damage and losses to trout farm operations, this analysis projects aquaculture operations may receive \$0.8 million in assistance from ELAP.

Additional federal assistance may be provided to crop and livestock operations through these programs, but it is not possible to estimate potential federal funding support until losses and eligible applications are known.

- *Forest Service (USFS) – \$65 million*

North Carolina requested a supplemental appropriation of \$65 million to the USFS's State, Private, and Tribal Forest (SPTF) organization for wildfire risk response and for technical and financial assistance to private forest owners and state agencies to recover and protect forest lands. North Carolina's allocation would be for activities under the authority of the following SPTF cooperative programs: State Fire Assistance, Forest Health Protection, Urban and Community Forestry, Forest Stewardship, Forest Inventory and Analysis, and Volunteer Fire Assistance.

North Carolina requested a full waiver of state match requirements for SPTF programs.

HUD Community Development Block Grant Disaster Recovery (CDBG-DR)

Economic Revitalization – See the Economy section of this report for more details about requested small business loan funding. Farmers would also be eligible for these loans.

Small Business Administration

Physical Damage and EIDL Loans Policy Changes – See the Economy section of this report for more details about requested SBA loan funding and loan forgiveness policy changes. Farmers would be eligible for these loans.

Federal Policy Changes

FEMA

- Extend Stream Debris Removal Distance – Due to the topography and hydrology of the western North Carolina mountain region, debris travels significantly farther downstream than in coastal flooding events. North Carolina requested that FEMA expand the extent of eligible stream debris removal projects to a distance equal to the greater of the next public road crossing or 2,000 feet upstream of bridges, utility infrastructure, and other at-risk structures.

- Reduce Burden and Delays for Cropland Restoration – North Carolina requested that FEMA waive the requirement for a No Rise Certification for floodways and floodplains in the case of cropland restoration projects and streambank stabilization. This certification is unnecessary for these types of restoration activities and causes delays in farmland rehabilitation in advance of critical replanting seasons. This requirement affects conservation projects conducted through the USDA- Natural Resources Conservation Service, USDA-Farm Service Agency, and local soil and water conservation districts.

USDA

- Replanting Assistance for Nursery Operations – FSA’s Tree Assistance Program (TAP) provides financial cost-share assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate trees, bushes, and vines that produce a commercial crop and that are lost by natural disasters. North Carolina requested that Congress authorize FSA to expand TAP eligibility to container-grown nursery products, including those trees, bushes, and vines where the plant itself is the commercial product (e.g., ornamental bushes), rather than its fruit or vegetable crop. North Carolina also requested that Congress direct FSA to modify mortality rate be reduced to 5% (currently 15%) for the TAP program to make the program more closely align with industry needs.

The greenhouse, nursery, and floriculture sector is the largest sector of the western North Carolina farming community. Many of the plant nurseries are located in the fertile creek and river bottoms that experienced the most devastating impact from deep and high-velocity floodwaters. Initial estimates indicate that over 80% of plant nurseries were destroyed and losses in this sector are approximately \$800 million. These nurseries had inventories of plants and trees ranging from 1-8 or more years of age.

- Expand Access to Low-Interest Emergency Farm Loans – FSA’s Emergency Farm Loans offer crucial financial support to farmers impacted by natural disasters. These low-interest loans can be used to restore or replace essential property, cover production costs, pay essential family living expenses, and refinance certain debts. However, applicants seeking loans over \$100,000 must demonstrate that they are unable to obtain credit from other sources. North Carolina requested that Congress direct FSA waive the requirement that applicants in disaster-declared counties must first be denied credit from one or more commercial lending institutions, and thereby expand access to these low-interest emergency loans. Some affected farmers may be able to access credit through other institutions, but at significantly higher interest rates.

Department of the Treasury

Tax Relief for Small Businesses and Farmers Suffering Disaster-Caused Losses – See the Economy section of this report for more details about requested tax relief. Small businesses, including farmers, would be eligible for this tax relief. Timber producers would also be able to carry back net operating losses for 20 years, and Christmas tree and fruit tree producers for 10 years.

7. State Funding Recommendations as of October 23, 2024 – \$422 million

Helene Business Recovery Grants: Expanded Farmer Eligibility – \$25 million

Provides an additional \$25 million to the Department of Revenue to award grants to businesses in the counties hardest hit by Hurricane Helene. Extends eligibility for Phase 1 of the Helene Business Recovery Grants – *Immediate Recovery Needs* beyond the thirteen counties projected to have valid FEMA IA applications numbering more than 10% of county population to include farmers in all the 37 western declared disaster counties that experienced the most significant rainfall, flooding, and landslides during Hurricane Helene. USDA-NASS data indicates there were approximately 18,600 farms in the affected area in 2022.

See the Economy section of this report for details about program eligibility and grant awards.

Helene Agricultural Disaster Farmer Recovery Program – \$225 million

Provides funds to the Department of Agriculture and Consumer Services for grants to farmers in the 39 declared disaster counties for verified uninsured losses to crops, livestock, aquaculture, and infrastructure, less any amounts received as part of Phase 1 of the Helene Business Recovery Grants. Payments to eligible farmers will be calculated and scaled based on available funding and verified losses. Agricultural production in the mountains tends to be predominantly small, diverse operations. Because of the amount of specialty crop production in the region, it is estimated that as little as 5 to 10% of crop losses are protected by insurance to assist with financial recovery.

Stream Debris Removal and Stabilization – \$90 million

Provides funds to the Soil & Water Division of the Department of Agriculture and Consumer Services for stream debris removal, streambank stabilization, and sediment removal. Due to the mountain region's topography, the depth and velocity of the floodwaters, and number of landslides, the scope and scale of the need for stream debris removal, streambank stabilization, sediment removal, and stream restoration is unprecedented.

Agricultural Infrastructure and Land Restoration – \$25 million

Provides funds to the Soil & Water Division of the Department of Agriculture and Consumer Services for repair and restoration of croplands, pastures, best management practices, farm access roads, and agricultural ponds. Includes funds for engineering and technical assistance support to provide design and project implementation oversight. Croplands, farm roads, ponds, and conservation structures all suffered significant damage in western North Carolina due to severe erosion and land destabilization caused by Hurricane Helene.

Other Federal Disaster Program Match Funds – \$20 million

Sets aside additional funds to the Department of Agriculture and Consumer Services to provide matching funds for FEMA or other USDA disaster assistance programs. These funds may be used for required FEMA matches or optionally for the nonfederal share of USDA assistance programs. Funds are reserved in the State Emergency Response and Disaster Relief Fund and appropriated to the Department of Agriculture on an as-needed basis based on FEMA or USDA awards.

Wildfire Risk and Response – \$12 million

Provides funds to the Department of Agriculture and Consumer Services for departmental on-call and overtime, for contracted wildfire personnel and equipment, and for firefighting equipment and aircraft repairs. It is likely that western North Carolina will experience more intense fire seasons – both in scale and severity – due to the downed timber and debris accumulation caused by Hurricane Helene.

Agricultural Development and Farmland Preservation Trust Fund (ADFP) – \$25 million

Provides funds to the Department of Agriculture and Consumer Services to protect working farms and forests and to support farmland preservation efforts in affected counties through agricultural conservation easements, farmland preservation plans, and agricultural development projects. 36,000 acres of working lands have been preserved through the ADFP since 2006.

8. Special Provision Recommendations as of October 23, 2024

Funding Flexibility

Funds provided to the Soil & Water Division of the Department of Agriculture and Consumer Services may have flexibility to adjust funding allocations among the purposes of stream debris removal, streambank restoration, sediment removal, agricultural infrastructure, and land restoration to best serve local needs and maximize federal funding with prior approval by the Department of Agriculture and Consumer Services and the Office of State Budget and Management.

9. State Funding Provided in S.L. 2024-57 - \$27 million

The General Assembly appropriated the following items to date:

Funds for Soil and Water Conservation - \$2 million

Allocates funds to the Department of Agriculture and Consumer Services for the provision of technical support to soil and water conservation districts in the affected area, including the creation of time-limited positions.

Stream Debris Removal Funds - \$25 million

Allocates funds to the Department of Agriculture and Consumer Services for purposes in the affected area authorized under the Streamflow Rehabilitation Assistance Program created by Article 6 of Chapter 139 of the General Statutes. The Department shall not expend funds appropriated by this section on any activities that will be, or likely will be, covered by federal funds.

10. Revised State Match Funding Requirement

There is not state match requirement needed.



Government and Recovery Operations

Addresses the damage to government properties and lost tax/fee revenue

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Match Funds/Cash Flow	-	\$2,257	\$2,257	\$1,750	-	\$488	\$19
Local Gov. Buildings*	\$1,261	-	\$1,261	\$522	\$681	-	\$58
State Gov. Buildings	\$164	-	\$164	\$89	\$65	\$5	\$5
State attractions	\$87	-	\$87	\$47	\$35	-	\$5
State Tax Revenue Loss	-	\$125	\$125	-	-	-	\$125
State Fee Revenue Loss	-	\$8	\$8	-	-	-	\$8
State Lottery Revenue Loss	-	\$2	\$2	-	-	-	\$2
Local Tax Revenue Loss	-	\$172	\$172	-	-	-	\$172
Local Fee Revenue Loss	-	\$121	\$121	-	-	-	\$121
Sub-total	\$1,512	\$2,685	\$4,197	\$2,408	\$781	\$493	\$515
Strengthening & mitigation	\$214	-	\$214	-	-	-	\$214
Total	\$1,726	\$2,685	\$4,411	\$2,408	\$781	\$493	\$729

1. Summary

Estimates for total direct and indirect impact are estimated to be \$4.4 billion, \$3.2 billion of which the state expects to be covered by federal, private and state sources, leaving an unfunded government property and revenue need of \$700 million. OSBM currently estimates a state tax and fee revenue loss of \$135 million and a local tax and fee revenue loss of \$293 million.

The 39 counties eligible for individual assistance under FEMA contain over 2,500 state owned buildings, belonging to 20 state agencies and universities, with a total insured building value of \$8.7 billion. In addition, these counties contain over 300,000 acres of state-owned land. After an initial assessment of the damage wrought by Hurricane Helene agencies and universities, including state attractions, reported damage totaling \$224 million. The amount and kind of damage that state agencies reported varied widely from property to property but included

significant flooding damage to buildings, trees falling on buildings, roads and trails being washed away in the floods, and many other types of damage. Five counties (Ashe, Buncombe, Rutherford, Transylvania, and Watauga) suffered over \$10 million in damage to state owned property. In total, damage to state property was reported in 29 counties as a result of Hurricane Helene.

Western North Carolina contains more than a dozen state parks that attract visitors from around the state and country, with 13 parks closed through at least October 31 due to Hurricane Helene. The impacted counties are also home to eight of North Carolina's 12 state forests.

The 39 counties eligible for individual assistance under FEMA contain 198 individual municipalities that provide local government services alongside county governments, including public safety and emergency response and recreation and cultural services including parks and libraries. Local governments rely primarily on own-source revenue and transfers from the state and federal governments. Local governments collect most tax revenue through property taxes, sales taxes, and utility fees. County and municipal governments will be major players in the recovery effort as they work to return operations to normal.

This region also represents a sizeable subset of North Carolina's state tax base, comprising 45% of 2021 state taxable income per the most recent available data.

2. Scope

Structures in scope for the state and local government property estimates include:

- Local government facilities: excluding public utilities, Community Colleges, and public K-12 educational facilities
- State government buildings for state agencies and the University of North Carolina
- State attractions for the Department of Natural and Cultural Resources and state forests for the Department of Agriculture and Consumer Services

Incomplete Responses: All Agencies, Universities, and local governments are continuing to evaluate properties for damage and for the extent of the damage.

3. Methodology

- *Local Buildings:* An estimate for local building, facility, and property damage was built using non-taxed property value in the storm-damaged counties; data supplied by the North Carolina Department of Revenue. To calculate the expected federal and private funding we used the ratio of coverage that was provided by the Department of Insurance for Hurricane Florence.
- *State Buildings:* State agencies and universities sent in their responses to the state facility survey directly to OSBM. One exception to this is the Wildlife Resources Commission. A value of \$5 million was used for WRC based on initial feedback on damage sustained to their facilities. To calculate the expected federal and private funding we used the ratio of coverage that was provided by the Department of Insurance for Hurricane Florence.

- *Resiliency*: 15% of the facility damage estimate will be needed to make capital sites more resilient.
- *State and Local Tax Revenue Losses*: State tax revenue losses are based on estimated personal and business income decreases resulting from economic disruption following Helene (*See Economy section for detailed methodology on economic disruption*). Local tax revenue losses are based on estimated taxable property losses from storm-related damage and the average effective combined property tax rate for counties and municipalities. Local occupancy tax losses are expected to be high due to loss of peak fall season visitation (estimated at 35% of visits) with additional reductions to continue through winter and spring. In addition, some state and federal funds are allocated to local governments at least partially on a per capita basis (such as Powell Bill funds and community art program grants). Economic losses could exacerbate population from the direct impact of the storm and lead to additional losses in revenue from federal and state formula driven programs
- *State Fee Revenue*: State fee revenue loss estimates are based on state agency survey responses.
- *State Lottery Revenue Loss*: The NC Education Lottery analyzed retail activity in western North Carolina following Helene and forecast on-going sales losses to estimate net lottery revenue loss.
- *Local Fee Revenue*: Local governments provide a variety of services that are supported from fees. These fees range from water and sewer, transportation and parking, ambulatory services, to parks and recreation. To understand the scope of the loss, this analysis used the Department of State Treasurer's Financial Reports and Analysis Tool. Each county and municipality impacted by Helene was summarized to show the current state from FY 2023 (latest year of report).
- *Cash Flow Needs*: The significant impact of the storm requires a proportionate response and recovery action. Local governments and the state need substantial amounts of funding to cash flow these operations.

4. **Assumptions**

- *State Government Buildings*: State agencies and the University of North Carolina were sent a survey to provide a preliminary damage estimate.
- *Local Buildings*: The assumption is that the loss in the impacted counties was similar to the loss the state experienced (3.99% of insured building value). Information obtained for this analysis was very broad and relied on total non-taxable property value in the effected counties from Department of Revenue. The estimate contained here should be considered a high estimate while more information on damaged local government facilities is gathered.
- *Construction Cost*: The estimate for property damage conservatively assumes construction costs will be 15% higher than estimated. Experience from hurricanes Matthew, Katrina, Harvey, Superstorm Sandy, and Florence suggests construction costs were 8-20% higher in the aftermath of these events due to a shortage of available

construction services or an increase in the cost of raw material or labor. In addition, Hurricane Helene construction costs are likely to be driven up by the continued impact of the pandemic recovery, more difficult terrain, and Hurricane Milton.

- *Local Occupancy Tax Revenue:* Local occupancy tax revenue is expected to face a 35% reduction in revenue due to loss of the peak fall season. Additional reductions in winter are expected due to closures. Data from VisitNC for statewide overnight stays per season was also used in this analysis.
- *Local Fee Revenue:* For high-impact areas, there was an assumption of 1 month of lost revenue followed by 2 months of collections at 50%. It was assumed that there was no loss of revenue for fees and utilities in the low-impact areas.

5. Primary Data Sources

- *State Property Database:* The Department of Administration maintains a database for all property (land and buildings), assigned to a state agency or UNC campus that includes size, use, and insured building value.
- *State Facility Survey:* OSBM surveyed all state entities with a facility or land in the hurricane impacted area.
- *Department of State Treasurer:* State and Local Financial Division: Financial Reports Analysis Tool. The Division maintains financial and operational information for local governments.
- *Local Buildings:* North Carolina League of Municipalities and North Carolina Association of County Commissioners aggregate insured building value by Helene-impacted pool participants.
- *Department of Revenue:* State Individual Income Tax Calculation by County (Table C1) and Municipal Valuations, Levies, and Tax Rates (LG54).

6. Potential Sources of Non-State Funding

Private Funding

A primary source of funding for event specific losses is expected to be private insurance held by governments. An estimated \$781 million may be available for state and local property damage from private insurance, based on current estimates.

Federal Funding

FEMA - \$2.4 billion

- *Public Assistance (PA) – \$658 million*

The state expects that the federal government will also provide a significant amount of funding in the form of FEMA PA for the \$1.5 billion damage to local and state public

buildings and property. The state anticipates FEMA will cover 90% of the remaining \$731 million damage not covered by private insurance. The remaining \$73 million will need to be covered through a state match.

Damage and needs beyond physical damage could be eligible for additional federal funding but estimates are currently not available.

- *Community Disaster Loan (CDL) Program - \$1.75 billion*
A category of Special Community Disaster Loans, structured similarly to those created following Hurricane Katrina, could be made available to aid local governments in continuing vital municipal operations including police and fire protection, revenue collection, trash collection, hazard insurance, and public facility maintenance. North Carolina requested an increase in FEMA funding to remove the \$5 million cap and accelerate the impact of the Community Disaster Loan (CDL) program, similar to the federal government's changes to the program the aftermath of Hurricane Katrina. These changes would allow Helene affected local governments to access low or no interest loans of up to 50% of their operating revenue. Additionally, the state requested that FEMA disburse CDL funding within 90 days and keep the cancellation clause so that loans can be forgiven if the local governments can show lost revenues and/or unreimbursable disaster-related expenses over a two-to-four-year time horizon.

7. State Funding Recommendation as of October 23, 2024 – \$594 Million

Match Funds and Cashflow Needs \$250 million

Provides an additional \$250 million to the Department of Public Safety, Division of Emergency Management to provide the state match for federal disaster assistance programs and to provide cash flow assistance while awaiting reimbursement of federal funding. This funding is in addition to the \$250 million appropriated in S.L. 2024-51. As of October 18, 2024, DEM has already obligated \$300 million in storm-related expenses, excluding personnel expenses and procurement card purchases.

Repair and Renovations of State Facilities \$102 million

Provides \$102 million to OSBM for renovation of state facilities and UNC system facilities.

Continuing Operations and Staffing: \$73 Million

Provides funds to provide continuing operations support and temporary program increases at various state agencies, including the Administrative Office of the Courts, Departments of Adult Correction, Agriculture and Consumer Services, Military and Veteran's Affairs, Environmental Quality, Public Safety, and Office of the State Fire Marshal. Also provides funding to replace damaged equipment. Federal funding will be pursued to the full extent practicable (\$60 million).

Provides funds to replace lost revenue at attractions and facilities at the Departments of Natural and Cultural Resources and Agriculture and Consumer Services (\$8.4 million).

Creates the Hurricane Helene Data Resource Hub hosted at a public university in western North Carolina to monitor the recovery effort. Activities of the Hub will be to map movements in population, understand the trajectory of economic activity, estimate available housing, and track where financial resources have been allocated in order to provide a regional picture of recovery and highlight areas of unmet need. The Hub will help provide businesses, nonprofits, and local

governments the information they need to make decisions about the design and allocation of current and future recovery efforts. (\$1.0 million per year for five years).

The General Assembly has appropriated \$7 million in continuing operations currently, accounted for in the preliminary damage and need estimate table within “Match Flow and Cash Flow,” for the State Board of Elections and to the Office of State Budget and Management for elections work and grants to support local governments.

Grant Programs: \$169 Million

Provides funds to the Department of Natural and Cultural Resources for grants to local organizations for arts, historic preservation, libraries, and science museums (\$44 million).

Provides \$50 million to local governments for needs that are outside of the parameters of FEMA Public Assistance funds. The funds will be used for activities related to debris clean-up and public infrastructure repairs.

Provides funds from the Federal Infrastructure Match Reserve to the Office of State Budget and Management’s State Technical Assistance and Match Program (STAMP) to assist in drawing down funds from federal grants available under the Infrastructure Investment and Jobs Act, the Chips and Science Act of 2022, and the Inflation Reduction Act of 2022 that may be directed toward impacted areas. Given the unique nature of this storm and the need to rebuild resiliently and with new technologies, North Carolina should increase our efforts and capacity to draw down as much federal funding as possible (\$75 million).

Recovery Organizational Structure

This disaster is like nothing we have seen in North Carolina and the response will need to take a new approach. Building on lessons learned from the pandemic, prior hurricanes, and Tropical Storm Fred, we know that a central state office that coordinates the efforts of others while also ensuring accountability is a more nimble and tactical approach than trying to roll all functions into one organization or in contrast, allowing each organization to go it alone. Many organizations, state agencies, and local governments will be involved in this recovery, and they each should focus on their areas of strength while collaborating and making recovery as seamless as possible for the people in the mountains.

A western-based state recovery office, guided by input from an advisory board, should be established to improve coordination, increase transparency, and ensure accountability to North Carolinians. As part of state government, this office will have convening power and established relationships that can assist with reducing bureaucracy and red tape.

Similar to the Pandemic Recovery Office, this state office will convene local governments and other stakeholders, oversee fund distribution, and ensure accurate reporting to state and federal agencies, including transparent and public data dashboards on recovery metrics, as determined by the advisory board.

8. Special Provision Recommendation as of October 23, 2024

- **Remove Revolving Loan Fund language:** S.L. 2024-51, section 6.1.(a) authorized the creation of a revolving loan fund program for local governments. If a grant program is created, this language is no longer needed. Additionally, the federal community disaster

loan program covers many of these needs, particularly if Congress expands the program as they did during Hurricane Katrina.

- **Reversion Language:** Strike sentence “Funds received by a State agency from the Helene Fund that are not expended, made subject to an encumbrance, or disbursed to another entity at the end of each fiscal year shall revert to the Helene Fund” from S.L. 2024-51, section 4.1.(c) and replace with “Funds received by a State agency from the Helene Fund will remain available until the project is complete. The Recovery Office shall review projects on a regular cycle and require reversion of funds as projects are complete. The Office shall reallocate funds among existing projects as needed to complete projects.”
- **Applicable Area:** Strike requirement in Sec. 4.1(b)(1) of S.L. 2024-51 that limits the Hurricane Helene Disaster Recovery Fund to federally-declared disaster counties and replace with “counties impacted by Hurricane Helene.”

In prior hurricane recovery efforts limiting state funds has led to inequities for families and businesses that are just outside the federally-declared counties but their county overall did not experience enough damage to be eligible for federal assistance.

- **Landslide Training:** Modify G.S. 166a, Article 6 to include the technical rescue skills necessary for response to hazards, such as landslides, into existing training and certification programs for state search and rescue teams. This would assist first responders with necessary training to respond to areas at greater risk of landslides.

9. Funding Provided in S.L. 2024-51, S.L. 2024-53, and SB 382

S.L. 2024-51

Technical Assistance to Local Governments - \$2 million

Allocates funds to the Office of State Budget and Management to provide grants provide grants to the North Carolina League of Municipalities, the North Carolina Association of County Commissioners, and the North Carolina Association of Regional Councils of Governments to provide technical assistance with local recovery funds.

State Board of Elections- \$5 million

Allocates funds to the State Board of Elections for items such as technology and internet connectivity; printing and communications; temporary staff; and mobile voting units and related supplies and equipment.

State Match for Federal Disaster Assistance Programs – \$250 million

Provides \$250 million in state matching funds for federal disaster assistance programs for state and local governments. Requires DEM and OSBM to work together to establish a revolving loan fund to assist state and local agencies waiting for federal reimbursement.

S.L. 2024-53

State and Local Government Unmet Needs - \$50 million

Allocates \$50 million to NCEM for state agencies and units of local government for unmet needs not covered by insurance or available federal aid. While this amount is similar to Governor Cooper's recommendation, the difference is that this appropriation is for loans, and not for grants as the Governor's recommended.

Increased Technical Assistance to Local Governments - \$5.5 million

Allocates additional funding to OSBM to provide grants to the NC League of Municipalities, the NC Association of County Commissioners, and the NC Association of Regional Councils of Governments to provide technical assistance with federal financial aid applications and support planning and permitting assistance.

UNC Capital Recovery Funds - \$5 million

Allocates funding to the UNC Board of Governors for repair and renovation of capital facilities in counties with a federal disaster declaration.

Local Government Cash Flow Loans - \$100 million

Allocates funds to the Department of State Treasurer to administer a cash flow loan program to support local governments.

Line of Duty Death Benefit - \$0.5 million

Allocates funds to the Department of State Treasurer to pay line of duty death benefits to the dependents of public safety employees in counties with a Helene federal disaster declaration.

State Match - \$75 million

Provides an additional \$75 million for state match for federal disaster assistance programs. The two bills passed as of December 12 provide a total of \$325 million for state match for federal assistance programs. These funds will draw down an estimated \$2.9 billion in federal receipts, assuming a 90/10 federal match rate. While \$325 million is sufficient to meet immediate match needs, the NCGA will need to appropriate additional funds to meet expected federal match requirements across all disaster assistance programs. Section 10 below provides an updated estimate of state match requirements.

S.L. 2024-57

S.L. 2024-57 transfers \$227 million from the Savings Reserve to the Helene Funds but only appropriates \$2 million out of that transfer for Soil and Water Conservation (this amount is captured in the Agriculture section of this document). Since the session law does not appropriate the remaining \$225 million of these funds, this amount is not included in the summary table above.

10. Adjustments to Required State Match

State Match for FEMA Public Assistance Funds - \$73 million

The estimate for the state share of FEMA funding for Government and Recovery Operations is based on the 10% state share of FEMA Public Assistance funding for local government facility and property damage in the disaster-affected counties.



Education

Addresses the repair cost and revenue implications of damage to educational facilities.

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Public K-12 Schools – Operational	\$15	\$46	\$61	\$29	-	\$31	\$1
Public K-12 Schools – Capital	\$573	-	\$573	\$196	\$256	\$50	\$71
Community College – Operational	-	\$59	\$59	\$30	-	\$17	\$12
Community College – Capital	\$62	-	\$62	\$26	\$34	-	\$2
UNC System – Operational	\$14	\$43	\$57	\$18	-	\$30	\$9
NCICU – Operational & Capital	\$33	\$17	\$50	\$16	-*	\$4	\$30
Sub-Total	\$697	\$165	\$862	\$315	\$290	\$131	\$125
Strengthening & mitigation	\$70	-	\$70	-	-	-	\$70
Total	\$767	\$165	\$932	\$315	\$290	\$131	\$195

* Only the NCICU damage and needs not covered by private insurance were shared with OSBM and shown here.

1. Summary

Over 1,100 public K-12 schools, 23 community colleges, and seven UNC institutions are located within the 39 North Carolina counties and the Qualla Boundary most affected by Hurricane Helene. Reporting shows that several schools were destroyed and many suffered damage, but road and water systems destruction in surrounding areas had a larger impact on school closures.

Still, the breadth of the storm caused enough damage that eleven K-12 school districts closed for 10 or more days, and 82 public schools across six local education agencies (LEAs), two community colleges, and one UNC institution closed for 20 or more days.^{28, 29} The preliminary economic impact across the education sector is estimated at \$932 million, not including university capital. This estimate will change as insurance claims data becomes available. Of the

²⁸ OSBM does not have reliable data on charter school closures due to Hurricane Helene.

²⁹ UNC Asheville resumed classes online on October 28 and will remain online for the remainder of the fall semester.

overall estimated impact, we expect \$737 million to be covered by Federal, Private, and State funding sources, resulting in an unmet education impact of \$195 million.

2. **Scope**

Sectors in scope for education estimates include:

- Public universities (damage to university facilities is not included here; it is included with state buildings data in the Government Property and Revenue section)
- Public K-12 schools and Charter schools
- Community colleges, including lost revenue and facilities (locally-owned)
- Independent colleges and universities

For reference, the table below shows the number of educational institutions by sector located in the 39 counties and Qualla Boundary that qualify for FEMA public assistance. For postsecondary schools, the table shows the number of students from FEMA-designated counties who are enrolled at institutions across the state.

Type of School	Number of Institutions in FEMA Counties	Number of Students from FEMA Counties
K-12 Schools (46 LEAs + Cherokee Central School)	1,023	571,255
Charter Schools	83	59,335
Community Colleges	23	224,342
UNC Institutions	7	73,854
Independent Colleges & Universities	23	11,521

3. **Methodology**

K12 Public Schools

- *Operational Impacts (direct)*
 - *School Technology Needs* – DPI estimates that impacted schools suffered \$10 million in losses to information technology equipment that will not be covered by insurance.
 - *School Nutrition Programs* – Impacted schools suffered losses of food and equipment used to provide meals under the School Nutrition programs. The Department of Public Instruction (DPI) reported initial assessments of losses of \$5 million as of October 24, 2024. This figure has not yet changed, but it may rise as program officials continue to assess the damage.
- *Operational Impacts (indirect)*

- *Estimated Lost Revenue* – DPI lost revenue from school meals not served and reimbursed by the federal government under the school nutrition programs. The Department estimated this loss to be \$16 million as of October 2, 2024, based on inflation-adjusted October 2023 salaries and benefits for school nutrition staff in the impacted counties. The NC General Assembly appropriated \$16 million for this purpose from the Hurricane Helene Disaster Recovery Fund in S.L. 2024-51, which the Governor signed into law on October 10, 2024.
- *Summer Learning Programs* – DPI estimates that summer learning programs in impacted counties will cost roughly \$25 million. This will aid in learning recovery in districts having missed 15+ instructional days, with the assumption that 60% of eligible students will participate. This figure may rise as program officials assess student needs.
- *Mental Health Supports* – DPI estimates that providing mental health services in impacted counties will cost roughly \$5 million. This includes School Instructional Support Personnel for up to 12 months for mental health support among students and teachers. This figure may rise as program officials assess student needs.
- *The North Carolina Education Lottery (NCEL)* – NCEL compared lost sales from daily games during a 14-day window surrounding Hurricane Helene with the average activity from comparable 14-day windows from the previous two months to assess the initial impact of the storm. NCEL estimates a net loss in revenue to education of \$2 million resulting from the storm; however, there are sufficient funds in the Lottery Reserve to offset this revenue loss for FY 2024-25. Total estimated loss of lottery revenue of \$2 million is included in the Government Property and Revenue section, so it is not included in the education section.
- *Capital Impacts (direct)* –As of December 6, 2024, the NC Public School Insurance Fund (PSIF), which insures 23 of the 46 LEAs located in FEMA-Public Assistance-eligible-designated counties, was canvassing public schools to estimate damage, but did not have comprehensive data on insurance claims. Instead, damage to public school facilities was estimated here by applying a damage factor to all PSIF-insured K-12 facilities in impacted counties. This factor tried to isolate K-12 building damage from other area impacts such as road and water system damage by weighting based on (1) storm severity in the county and (2) the number of days that schools in the county were closed. Using this PSIF data, average per-school damage was calculated for critical, high, and medium damage counties and then applied to non-PSIF counties to estimate the total K-12 capital damage across all Local Education Agencies (LEAs) in FEMA-designated counties. An additional \$500,000 was added to include a damage estimate provided by the North Carolina School for the Deaf, a K-12 boarding school which enrolls 69 students from across the state. An additional factor was added to account for flooding and water intrusion-caused damage to paved surfaces, walkways, sidewalks, playgrounds, and athletic fields not captured in methodology described above. Based on this modeling, our estimate of damage to public school facilities and grounds is \$573.3 million. Of this amount, \$100 million may be ineligible and is excluded from calculations of expected private insurance and FEMA Public Assistance reimbursement.

Insurance and FEMA's Public Assistance Program will cover many of the costs, but the state and local share will be significant.

Community Colleges

- *Operating Impacts (indirect)*
 - *Estimated Receipt Shortfall and Operating Losses* – The NC Community College System Office (NCCCS) developed estimates of potential lost tuition revenue (\$4.2 million) and operating losses (\$2.8 million) based on the severity of hurricane damage in FEMA-designated counties. The System used the length of college closures as a proxy for impact. Colleges with the longest closures were assigned a larger damage factor to estimate the amount of lost tuition revenue and refunds per full-time equivalent student.
 - *Student Supports* – Additional student supports to impacted students are estimated at \$25.8 million. These supports include expanding mental health services (\$2.5 million) and providing scholarship grants (\$23.3 million) to help students maintain enrollment by covering education-related expenses. These figures may change as program officials assess student needs.
 - *Workforce Development* – NCCCS requested \$26 million for workforce development needs related to Hurricane Helene, \$20 million to support disaster grants for accelerated training across disaster-affected regions, \$4 million for Small Business Center & Technical Support, and \$2 million to expand ApprenticeshipNC to address disaster-induced workforce challenges.
- *Capital Impacts (direct)* – Damage to facilities and equipment at community colleges was estimated by applying a damage factor to all facilities at colleges covered by the Public School Insurance Fund (PSIF) in impacted counties. This factor was weighted based on (1) storm severity in the county and (2) the length of college closure to isolate building damage from other area impacts such as road and water system damage. Using this PSIF data, average damage estimates per college were calculated for critical, high, and medium damage counties and then applied to non-PSIF counties to estimate the total capital damage across all community colleges in FEMA-designated counties. Based on this modeling, estimates of damage to NCCCS facilities and equipment are \$62.1 million. These estimates are subject to revision as damage assessments and insurance filings proceed. NCCCS is conducting a statewide survey of all colleges regarding damage to facilities and equipment and storm clean-up costs. This survey, combined with claims data submitted to the PSIF, will be used to produce more complete estimates of facility damage in coming weeks. Insurance and FEMA's Public Assistance Program will cover many of the costs, but the state and local share will be significant.

UNC System

The UNC System Office surveyed constituent institutions in October 2024 regarding operating impacts and lost fee revenue due to storm-related disruption.

- *Operating Impacts (direct)* –The System Office received 18 survey responses,³⁰ including six of the seven institutions located in disaster-declared counties, that reported an estimated loss of \$14.3 million related to debris removal, emergency protective measures, damaged supplies, and business interruptions. Of that, \$6.6 million was at Appalachian State University and \$5.7 million was at UNC-Asheville. Updated figures reported in December 2024 did not change materially from earlier estimates.
- *Operating Impacts (indirect)*
 - *Estimated Revenue Losses* – Six institutions,³¹ including 3 of the 7 institutions located in disaster-declared counties, reported an estimated revenue loss of \$19.0 million. The estimated lost revenues primarily consisted of fee, housing, dining, and event receipts. Of that, \$5.3 million was at Appalachian State University and \$11.9 million was at UNC-Asheville.
 - *Student Supports*– Additional student supports to impacted students are estimated at \$24.3 million. These supports include expanding mental health services (\$2.5 million) and providing scholarship grants (\$21.8 million) to help students impacted by Hurricane Helene. These figures may change as university officials assess student needs.
- *Capital Impacts (direct)* – Damage to UNC facilities are reported separately in the Government Property and Revenue section.

NC Independent Colleges and Universities

- In October 2024, the NC Independent Colleges and Universities association requested \$20 million for (1) a grant program to assist students from FEMA designated counties and (2) direct aid to affected institutions for campus restoration projects, other hurricane-related costs, and operating losses.
- In November 2024, the association provided additional information about the damage and needs at impacted institutions. NCICU provided an updated estimate of approximately \$50 million in unmet capital needs, direct costs, and indirect costs for eight campuses.

4. Assumptions

Facilities

- *FEMA Funding*: Public Assistance will cover 90% of the costs to replace and repair school buildings and contents above what insurance pays in the Helene disaster-designated counties.

³⁰ Arboretum, ASU, ECSU, ECU, FSU, NCAT, NCCU, NCSSM-Morganton, NCSU, PBS NC, UNCA, UNCC, UNC-CH (MAHEC), UNCG, UNCSA, UNCW, and WCU.

³¹ ASU, ECU, NCSU, UNCA, WCU and the Arboretum.

- Non-PSIF counties and institutions experienced roughly the same amount of damage as PSIF counties and institutions when controlling for county severity designation and school closure.
- *Construction cost:* The assessment for property damage conservatively assumes construction costs will increase by 15% due to the storm. Experience from hurricanes Matthew, Katrina, Harvey, Superstorm Sandy, and Florence suggests construction costs were 8-20% higher in the aftermath of the event due to a shortage of available construction services or an increase in the cost of raw material or labor. In addition, Hurricane Helene construction costs are likely to be driven up by the continued impact of the pandemic recovery, more difficult terrain, and Hurricane Milton.
- *Strengthening & Mitigation:* 15% of the facility damage estimate will be needed to make capital sites more resilient.

Operations

- *K-12:* FEMA Public Assistance will cover 90% of Category E building contents, including nutrition and technology equipment, in Helene disaster-designated counties.
- *UNC & NCICU:* We estimate that federal reimbursement will be 100% for all operating costs related to debris removal and emergency protective measures (categories A and B). We estimate that federal reimbursement will be 90% for FEMA categories C through E. We do not expect federal reimbursement for lost revenues.

Federal

- *Federal Funding:* The funding levels for federal programs (other than FEMA-PA) are based on amounts allocated to North Carolina for Hurricane Florence, scaled to account for population in Helene-affected areas and inflation. The numbers in the table do not reflect the full federal request for Hurricane Helene, which included additional programs and factored in other states' federal funding for previous storms.

5. Primary Data Sources

- Division of Emergency Management
- Department of Insurance
- Department of Public Instruction
- Individual K-12 institutions
- North Carolina Education Lottery
- NC Community College System Office
 - Additional information reported by individual colleges to the System Office through virtual conference meetings.
- UNC System Office

- Meetings were held to coordinate information and data procurement.
- Individual UNC and Community College system institutions
- NC Independent Colleges and Universities association
- Western Region Education Service Alliance

6. Potential Sources of Non-State Funding

Federal

Federal Emergency Management Agency - \$265 million

- *Public Assistance – \$265 million*

Based on OSBM's damage estimates above and FEMA's funding and match levels for Public Assistance, the state expects to receive \$265 million in Public Assistance with a state match of \$27 million for a total of \$292 million for Hurricane Helene K-12 and postsecondary recovery.

- *Hazard Mitigation Grant Program*

The state requested funding through the Hazard Mitigation Grant Program, which is awarded as a formula grant based on the estimated total federal assistance for a major disaster declaration. That request is included in the Housing section.

US Department of Housing and Urban Development (HUD) Community Development Block Grant Disaster Recovery (CDBG-DR) – \$26 million

North Carolina requested \$20 million to support disaster grants for accelerated training across disaster-affected regions. These grants would address recovery needs by helping eligible community colleges start and expand short-term training programs in critical workforce sectors.

In addition, the state requested \$4 million for Small Business Center & Technical Support to small businesses across affected regions. This funding would provide essential services and grants to small businesses, including assistance with insurance claims, disaster relief programs, rebuilding strategies, and other advisory services support.

The state also requested \$2 million to expand ApprenticeshipNC to address disaster-induced workforce challenges. The program works with local businesses to develop apprenticeship programs that address workforce needs, creating job opportunities and strengthening local economies.

US Department of Education - \$13 million

North Carolina's federal requests from the US Department of Education are based on amounts allocated per capita for Hurricanes Harvey, Irma, and Florence, scaled to account for population in Helene-affected areas and inflation. The state expects to receive about \$13 million of that request from the following Department of Education offices:

- *Office of Elementary School and Secondary Education (OESE)*

- *Temporary Emergency Impact Aid for Displaced Students* – The state requested Temporary Emergency Impact Aid for Displaced Students to provide funds to the North Carolina Department of Public Instruction (DPI) to assist with the cost of educating displaced students. DPI is currently assessing how many students were displaced and have enrolled in schools elsewhere.
- *Immediate Aid to Restart School Operations (RESTART)* – North Carolina requested funding through the Immediate Aid to Restart School Operations (RESTART) program to support public and nonpublic K-12 schools with restarting operations, re-enrolling students, and reopening in areas affected by the disaster. RESTART funding will help schools cover items such as replacing instructional materials, equipment, and information systems; recovering data; renting mobile educational units; and covering educator-related costs.
- *Assistance for Homeless Children and Youth Program* – The state would use funding from this program to support local educational agencies serving homeless children and youths displaced by Hurricane Helene. This funding would provide student transportation services and other supports that comply with the McKinney-Vento Homeless Assistance Act.
- *Project School Emergency Response to Violence (SERV)* – North Carolina requested Project School Emergency Response to Violence (SERV) funding for short-term education-related services following violent or traumatic disruptions to the learning environment. This funding would support overtime for teachers, counselors, law enforcement and security officers, emergency transportation and other costs to operate school at an alternative site, targeted mental health assessments, and temporary security measures.
- *Office of Post-Secondary Education (OPE)*
 - *Emergency Assistance to Institutions of Higher Education* – The state requested Emergency Assistance funding for institutions of higher education to help institutions in disaster-impacted counties expand student aid, support faculty and staff salaries, and assist homeless students.
 - *Defraying Cost of Enrolling Displaced Students in Higher Education Program* – North Carolina requested funding through the Defraying Costs of Enrolling Displaced Students in Higher Education program. These funds would help institutions of higher education defray unexpected expenses associated with enrolling displaced students from disaster-impacted institutions.

- *Federal Student Aid (FSA)*

North Carolina requested Federal Supplemental Education Opportunity Grants to provide awards of \$100 to \$4,000 to undergraduate students who demonstrate exceptional financial need resulting from the disaster. These grants would help students maintain enrollment at community colleges, UNC institutions, and private colleges and universities by assisting with tuition, fees, and other emergency expenses.

US Department of Commerce, Federal Communication Commission (FCC) – \$10 million

North Carolina requested \$10 million through the Emergency E-rate program to replace IT equipment that was damaged or lost because of Hurricane Helene. Following Hurricanes Harvey, Irma, and Maria, the Federal Communications Commission (FCC) made these additional funds available through order FCC 17-139 to help impacted schools and libraries restore services and replace equipment.

Private

- *FEMA National Flood Insurance Program* – Water damage would be covered based on the structures that have coverage through NFIP; estimates are still pending.
- *Private insurance* – A potential \$289.1 million may be available for property damage to K-12 schools and community colleges from private insurance, based on modeling. However, estimates are still pending that will show the total amount across educational sectors that could potentially be covered.

Other

Local Governments – Additional funds may be provided by counties and municipalities; however, estimates are still pending. Capital facilities for K-12 public schools and community colleges are largely owned and maintained by local governments.

7. State Funding Recommendation as of October 23, 2024 – \$282 million

Recommended funding addresses immediate cash-flow constraints and covers unmet needs.

State Match for FEMA Public Assistance Funds – \$27 million

Provides funding for the state share of FEMA funding for public assistance based on FEMA category match rates. Public assistance projects for educational operations and facilities could potentially include emergency protective measures and debris removal, infrastructure and equipment repair and replacement, cost-effective hazard mitigation to protect the facilities from future damage, and temporary facilities.

Flexible Emergency Funding for Operations – \$38 million

Provides \$38 million in flexible funding for public K-12 schools, community colleges, and UNC institutions.

- *UNC Institutions* – \$16 million
Offsets the unmet need for operating costs and revenue losses described above.
- *NC Community College System* – \$7 million
Offsets an anticipated \$4.2 million FY 2024-25 receipts shortfall from affected community colleges due to enrollment declines caused by Hurricane Helene. These funds will also provide \$2.8 million for refunds to students who do not return to school due to Hurricane Helene.

- *K-12* – \$12 million

Provides cash-flow for the replacement of lost or damaged food service equipment, food, and supplies and to replace lost and damaged technology not covered by insurance.

- *NC Independent Colleges and Universities* – \$3 million

Provides direct aid to affected institutions for campus restoration projects, other hurricane-related costs, and operating losses.

Capital Needs for K-12 and NCCCS – \$100 million

Allocates \$75 million to DPI and \$25 million to NCCCS to provide emergency funding to help schools repair facilities and grounds damaged by Hurricane Helene. Funds provide cash flow for schools awaiting reimbursements and cover uninsured, underinsured, or FEMA ineligible capital damage. Any expenditure for which reimbursement is eventually received shall be returned to the state.

Public School Insurance Fund Solvency – \$50 million

Provides \$50 million to the Public School Insurance Fund (PSIF) to address immediate pay-outs and cash-flow needs. Significant increases in reinsurance costs stem from inflation and higher reinsurance premiums in response to more frequent severe storms. It is anticipated that all these funds will be needed, but any portion not expended for Helene recovery shall not revert, but instead remain with the PSIF to maintain future solvency and to cash-flow future emergencies.

Student Support

- **Mental Health Services – \$10 million**

Provides funds for mental health support for students and staff in districts and higher education institutions impacted by Hurricane Helene. This may include leveraging existing staff to allow for short-term, temporary leave from unaffected districts, as well as contracting with mental health agencies to meet immediate needs. The personnel will provide crisis intervention, psychological first aid, and therapeutic support as students cope with trauma, anxiety, and academic challenges.

- *UNC System* – \$2.5 million
- *NC Community College System* – \$2.5 million
- *K-12* – \$5 million

- **K-12 Summer Learning Programs – \$25 million**

Provides funding for districts that miss 15+ instructional days to bolster proficiency rates on End of Grade and End of Course assessments. DPI estimates that 60% of students would participate in this program, similar to what was provided to respond to the COVID-19 pandemic.

- **Stay-in-School Student Assistance – \$26 million**

Assists students from disaster-declared counties who may have trouble maintaining enrollment due to disruptions to family income, ability to pay, and other negative storm-related impacts. Funds will assist affected students with paying for tuition, fees, and emergency expenses that impact a student's ability to remain enrolled. Each system will have flexibility to develop program guidelines and assess the need for applicants. The maximum award for each eligible recipient is \$2,500. Eligible recipients must be NC residents and either have a FEMA-designated county as their primary residence or be attending an eligible post-secondary education institution in a FEMA-designated county. Funds will be allocated as follows, with funding administered by community colleges and by the State Education Assistance Authority for UNC and independent colleges:

- *NC Community College System* – \$18.5 million
- *UNC System* – \$6.5 million
- *NC Independent Colleges and Universities* – \$1 million

Resiliency Efforts – \$6 million

Community colleges support statewide business development through economic development programs.

- *Small Business Center & Technical Support* – \$4 million

Supports seven additional Small Business Counselors to offer small businesses essential services, such as navigating insurance claims, disaster relief programs, and rebuilding strategies. These funds will also support legal, accounting, financial advisory services, and direct financial assistance to companies applying for state and/or federal small business programs.

- *ApprenticeshipNC Support* – \$2 million

Provides three Apprenticeship Consultants to bolster apprenticeship programs and meet disaster-induced workforce challenges, such as worker displacement and increased demand for skilled labor in rebuilding efforts. Apprenticeships create job opportunities for displaced workers and support the long-term economic resilience of the affected communities.

8. Special Provision Recommendation as of October 23, 2024

DPI

- **Additional School Calendar Flexibility:** Amends S.L. 2024-51, Sec. 8.1(a)(1)(ii) to allow the State Superintendent to approve up to an additional 10 days for counties that received excessive damage causing a delay in returning to school.
- **Charter School Enrollment:** Makes an exception to the lottery requirement in GS 115C-218.45 for charter schools in the impacted counties. Students would essentially be guaranteed re-enrollment once they move back.

NCCCS

- **Disaster Recovery Funds:** Includes non-revert language for appropriated recovery funds so NCCCS can address implementation issues beyond FY 2024-25. NCCCS experienced lingering issues following Hurricane Florence.

UNC System

- **UNC System Emergency Grants:** Establishes the UNC System Emergency Grant Program to provide emergency scholarship grants in an amount up to \$2,500 per student to eligible UNC system students who have suffered financial hardship due to the damage and destruction from Hurricane Helene. Eligible students either attended a UNC institution located in a FEMA-designated county or are residents of a FEMA designated county.

9. State Funding Provided in S.L. 2024-51 and S.L. 2024-53

S.L. 2024-51

School Nutrition Employee Compensation – \$16 million

Allocates funds to the Department of Public Instruction for the compensation of school nutrition employees in counties impacted by Hurricane Helene whose compensation would otherwise have been provided by school meal receipts as part of the National School Lunch Program or School Breakfast Program.

S.L. 2024-53

Capital Recovery Funds – Public School Facilities - \$50 million

Allocates funds to DPI for repair and renovation of facilities in counties with a federal disaster declaration due to Hurricane Helene for local school administrative units and lab schools. These funds are for unmet needs not covered by insurance or available federal aid.

Technology Funds for Public Schools - \$5 million

Allocates funds to DPI for replacement of school technology, particularly student and teacher devices, in counties with a federal disaster declaration due to Hurricane Helene.

School Nutrition Food, Supplies, and Equipment Loss - \$5 million

Allocates funds to DPI to be used to repair or replace food nutrition equipment, food, and food nutrition supplies in public school units participating in the National School Lunch Program or School Breakfast Program in counties with a federal disaster declaration due to Hurricane Helene.

Additional Mental Health Funds for Public Schools - \$5 million

Allocates funds for mental health services, including telehealth and contracted services, for students and staff in public school units impacted by Hurricane Helene.

Tuition Grants for Students Attending Impacted Community Colleges - \$5 million

Allocates funds to the Community College System Office to provide Spring 2025 grants to cover the cost of tuition and State registration fees for eligible students attending six community colleges designated most or medium impacted by Hurricane Helene.

Emergency Scholarship Grants for Postsecondary Students (NCCCS) - \$10.5 million

Allocates funds to the Community College System Office to assist students impacted by Hurricane Helene with paying for tuition, fees, and emergency expenses that impact a student's ability to remain enrolled.

Expanded Mental Health Support for Affected Community College Students - \$1.25 million

Allocates funds to the Community College System Office to expand mental health services for community college students and staff in counties with a federal disaster declaration due to Hurricane Helene.

Tuition Grants for Students Attending UNC Asheville - \$5.5 million

Allocates funds to The University of North Carolina (UNC) Asheville to provide Spring 2025 grants that cover the cost of tuition for eligible students.

Emergency Scholarship Grants for Postsecondary Students (UNC) - \$5 million

Allocates funds to the UNC Board of Governors (BOG) to assist students impacted by Hurricane Helene with paying for tuition, fees, and emergency expenses that impact a student's ability to remain enrolled.

Need-Based Scholarship for Public Colleges and Universities Additional Awards - \$3.5 million

Allocates funds to the North Carolina State Education Assistance Authority (SEAA) for the Need-Based Scholarship for Public Colleges and Universities program to make additional award funds available in FY 2024-25, which will be used to provide additional financial aid to eligible disaster-impacted students. SEAA is also directed to use an estimated \$15.6 million in unobligated funds in the Scholarship Reserve Fund for Public Colleges and Universities to distribute awards for this purpose.

Emergency Grants for Affected Private College and University Students - \$1 million

Allocates funds to SEAA to distribute to eligible private colleges and universities to assist students impacted by Hurricane Helene with paying for tuition, fees, and emergency expenses that impact a student's ability to remain enrolled.

Need-Based Scholarships for Students Attending Private Colleges and Universities Additional Awards

Directs SEAA to use an estimated \$2.5 million in unobligated funds available for need-based scholarships for students attending private institutions of higher education to provide additional financial aid to eligible disaster-impacted students.

Provisions

The provision requested for academic calendar flexibility was included in S.L. 2024-51. The provisions requested for exceptions to charter school enrollment requirements and emergency grants for postsecondary students were included in S.L. 2024-53.

10. Revised State Match Funding Requirement

State Match for FEMA Public Assistance Funds – \$27 million

The estimate for the state share of FEMA funding for education items has not changed since the October 2024 report.



Health and Human Services

Encompasses the financial impact of damage to health and child care facilities, as well as costs to address other health and human services needs caused by Hurricane Helene.

Estimates (\$M)							
	Damage & needs			Investments			
Category	Direct	Indirect/ Induced	Total	Expected Federal	Expected Private	State Funded as of 12/12/24	Unfunded
Health Care Facilities	\$81	\$79	\$160	\$38	\$40	-	\$82
Public Health	\$22	-	\$22	\$6	-	\$12	\$4
Social Services	\$31	-	\$31	\$20	-	\$4	\$7
Health Needs	\$348	-	\$348	\$325	-	\$10	\$13
Mental Health	\$33	-	\$33	-	-	\$25	\$8
Child Care	\$120	-	\$120	\$74	\$34	\$10	\$2
Medicaid	\$88	-	\$88	\$59	-	-	\$29
Subtotal	\$723	\$79	\$802	\$522	\$74	\$61	\$145
Strengthening & Mitigation	\$19	-	\$19	-	-	-	\$19
Total	\$742	\$79	\$821	\$522	\$74	\$61	\$164

1. Summary

Estimates are based on information provided to OSBM by the North Carolina Department of Health and Human Services (DHHS), and external health and human service stakeholders. Total impact is estimated at \$821 million, at least \$593 million of which OSBM expects to be covered by federal and private sources of funding, and of which \$61.4 million has been covered through state appropriations, resulting in an unmet health and human services impact of \$167 million.

Much of the damage from Hurricane Helene was to a part of North Carolina that includes a higher percentage of older residents than the rest of the state and that is home to many rural communities that might have issues easily accessing health care and social services.

Demographics Snapshot of Disaster-Impacted Counties	
Medicaid	Almost 1.4 million people enrolled in Medicaid
Uninsured	11.7% uninsured (over 400,000 people) - Almost 33% of uninsured fall below 138% of poverty line
Disabled	15% of population over the age of 18 (over 500,000 people)
Public Assistance	11.6% of households receive FNS benefits (over 200,000)
Elderly	18% over age of 65 (over 800,000) 30% of households have at least one person over the age of 65 (over 525,000)

Over 12% of residents in the region live in poverty, and a little more than 20% live below 150% of the poverty line. Over 40% of the state's Medicaid population live in the area. Under normal circumstances, these residents often rely on a combination of government-subsidized health and human services for food, medical care, and housing assistance. In the wake of Hurricane Helene, they have turned to emergency assistance programs such as the Disaster Supplemental Nutrition Assistance Program (D-SNAP), and temporary housing shelters until they can return to their homes.

Over 40% of the state's population lives in the 39 counties the Federal Emergency Management Agency (FEMA) declared eligible for individual assistance. Nearly two in ten individuals were food insecure prior to Helene, and many of those people lack the capacity to easily recover from such a devastating event. A robust response is needed to ensure the affected population has access to food and crucial physical and mental health care and social services.

2. Scope

Structures in scope for health and human services estimates include:

- Hospitals, nursing homes, and health care safety net facilities
- Public health (including vector surveillance and mold mitigation)
- Social services (including foster care & adult care)
- Health needs (including emergency prescription and nutrition assistance, assistive technology, and I/DD services)
- Mental health services
- Child care
- Medicaid

3. **Methodology**

Healthcare Facilities

Hospitals

OSBM estimated hospital costs by comparing the total number of beds for private hospitals in the 51 Hurricane Florence FEMA disaster declared counties, to the total number of beds in the private hospitals in the 39 Hurricane Helene FEMA disaster declared counties.

OSBM then scaled down the total estimated facility damage costs and economic losses resulting from Hurricane Florence for each private hospital to account for the 19% fewer private hospitals in the 39 Helene affected counties. OSBM then adjusted the total damage cost and economic losses for inflation that occurred between 2018 and 2024. Using this methodology, private hospitals will face an estimated \$49 million in facility costs and \$31 million in economic losses. In addition, the UNC Hospital system estimates that they will face \$6 million in facility damage and \$16 million in lost revenue.

Nursing Homes, Hospice Facilities, Community Health Centers, and Free and Charitable Clinics

OSBM surveyed the North Carolina Health Care Facilities Association, the Association for Home & Hospice Care of North Carolina the North Carolina Community Health Center Association, and the North Carolina Association of Free and Charitable Clinics to estimate facility damage to these three facility types (nursing homes, community health centers, and free and charitable clinics).

OSBM's analysis defines facility damage categories for nursing homes, community health centers, and free and charitable clinics as the following:

- Level 1) No physical damage, but surge in patients from evacuated facilities
- Level 2) Temporary damage i.e., loss of electricity/ water, significant surge in patients, and
- Level 3) Facility evacuated and closed due to damage.

For nursing homes, hospice facilities, community health centers, and free and charitable clinics, OSBM assumed that facility damage cost for a level three facility is equivalent to \$164,450, while facility costs for a level two facility is \$82,225. OSBM then multiplied the total number of facilities in each facility type within each damage level by the per facility cost.

Using this methodology, OSBM estimates that nursing homes will face a total of \$5 million in facility damage, and over \$5 million in economic losses. Hospice Facilities will face approximately \$500,000 in facility damage and more than \$2.6 million in total economic loss.

Community health centers will face a total of \$20 million in estimated facility costs and more than \$24 million in economic losses while free clinics will face an estimated \$0.9 million in facility damage.

Public Health

Mold Remediation

OSBM estimated the cost for mold remediation by scaling the amount committed during Hurricane Florence recovery to the same percentage (4%) of households potentially impacted in the 39 Hurricane Helene FEMA disaster declared counties and accounting for inflation. This scaling resulted in an estimated almost 69,000 households in need of mold remediation. Adjusting the \$13.69 per household estimate for Hurricane Florence recovery to 2024 dollars (1.25% inflation) increases the cost per household to \$17.05. Applying this per household cost to the number of Helene impacted households results in an estimate of \$1 million mold remediation need. FEMA will reimburse 100% of mold remediation costs for the first six months of recovery.

Mosquito Abatement

OSBM's methodology for mosquito abatement costs is based on the population and acreage of the Hurricane Helene impacted counties and the estimates from the state's commitment during Hurricane Florence. OSBM scaled the Florence mosquito abatement estimate of \$8 million using the acreage of the 39 Helene-impacted counties (16,511.001 acres) and adjusted for inflation. OSBM estimates a total need of \$6 million for mosquito abatement in 39 counties. FEMA will reimburse eligible "increased" cost of mosquito abatement. Fall and winter temperatures could potentially reduce the need for mosquito abatement in the impacted counties, but it is unclear to what extent at this time.

Public Health Well Water sample collection and testing supplies and equipment to meet EPA requirements is located in the Utilities and Natural Resources section of this report.

Local Public Health Departments

DHHS estimates that \$15 million is needed to ensure Local Public Health Departments (LHD's) in the impacted communities can adequately respond to Helene and support continued recovery across impacted counties.

This additional and time-limited increase in Aid-to-County (ATC) funding will be used to support surge staffing and purchase resources and supplies to bolster communicable disease and infection prevention efforts. These funds will also support environmental health protection efforts and private well water quality testing kits and will enable LHD's to sustain essential functions including the provision of post-disaster inspections, disease prevention, vector mitigation and other critical public health needs.

Social Services

Foster Care

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. This estimate also includes funding for two temporary staff to disperse the funds.

To further ensure that kinship providers can continue to cover the costs of children in their care, and reduce the burden on county budgets while the affected counties address the aftermath of Helene, DHHS estimates an additional \$1.1 million is needed to cover the county share of

kinship provider payments, of which the state and county governments share equally and ensure that child welfare involved families can safely remain in their communities.

Adult Care

Administrative Cost to Guardianship Corporations – 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.

Other Vulnerable Older Adults – According to the American Association of Retired Persons (AARP), older adults are significantly more vulnerable to natural disasters due to mobility difficulties, fixed incomes, and lack of access to consistent internet services. HHS estimates the cost to assist older adults with essential services, reducing unnecessary institutionalization, at \$1.4 million.

DSS Staffing

DHHS estimates a need of \$20 million to increase capacity of local social services agencies. There has been an increase in applications for emergency services that are handled by local departments of social services. DHHS estimates that an additional 30 temporary positions are needed across the agency to make required contacts with children in foster care placed in congregate settings, as well as to assist child protective services staff in assessments of facilities and other duties as needed by county agencies.

County Emergency Assistance for utilities can be found in the Housing section of this report.

Health Needs

Emergency Prescription Assistance Program (EPAP)

OSBM estimates a total need of \$6.2 million to ensure eligible, uninsured people in the region can access their medications. OSBM estimated EPAP cost by comparing the ratio of uninsured individuals in the 51 Florence affected counties to the 39 Helene impacted counties. OSBM adjusted the \$1 million estimated need for Florence to account for the +35% difference in the uninsured populations of each disaster, as well as for changes due to inflation between 2018 and 2024.

Assistive Technology

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. This investment also covers the purchase of additional equipment, and 1.5 temporary FTE to assist individuals in accessing equipment that best meets their needs.

Intellectual and/or Developmentally Disabled Displacement Recovery

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. This estimate includes furniture, bedding, heating, clothing, assistive technology, and personal care supplies. An additional \$8 million is required to ensure that publicly funded group homes can upfit facilities to support new members who have been displaced.

DHHS also projects that \$5 million is required to provide counseling and therapeutic equipment for individuals in 100 group homes that were impacted, but from which residents do not have to transition, and that \$3 million is needed to provide additional respite support to caregivers, while ensuring that individuals with IDD can access sensory equipment, providing additional therapeutic support.

Food Insecurity

D-SNAP – NC DHHS estimated the amount needed to cover the Disaster Supplemental Nutrition Assistance Program (D-SNAP) 50% county and state match by determining the infrastructure required to process and approve more than 300,000 D-SNAP applications in the 39 impacted counties. A total of \$35 million is needed to bolster state infrastructure. This investment will leverage approximately \$238 million in federal D-SNAP benefits.

Food Banks and Emergency Food Assistance – OSBM estimated the cost to ensure food banks in the impacted counties will be able to recover from damage to their facilities and continue to offer services. OSBM based this estimate on the total amount allocated in the Coronavirus Relief Funds and State Fiscal Recovery Funds to Food Banks during the pandemic. OSBM then adjusted the total allocation for the 39 Helene impacted counties, which represent approximately 40% of the state. Through this methodology, OSBM estimates that \$45 million is needed to reinforce food bank infrastructure to ensure they can continue providing food to the community.

To bolster emergency feeding programs, and meet the nutritional needs of affected individuals, Reinvestment Partners, a non-profit organization that serves the state, estimates that an additional \$5 million is needed to expand their Eat Well emergency feeding program to an additional 12,500 individuals impacted by Helene.

Mental Health Services

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.

The DHHS Division of Mental Health, Substance Use, and Developmental Disabilities (DMH) will invest \$33 million to address the expected rise in behavioral health needs for Helene impacted individuals. Without these funds, DMH estimates that the current system will be unable to sustain requests for supports.

Of the \$33 million, \$20 million is needed to ensure that impacted and uninsured individuals can receive crisis services, including detox centers. DMH established that an additional \$5 million is required to guarantee that the more than 400,000 uninsured individuals can access coordinated care, ensuring their behavioral health needs are met with the appropriate level of care.

To provide continued care to the 13,906 individuals on the Innovations Waiver in the affected areas, DMH will provide a one-time retention payment for more than 1,500 Direct Support Professionals, totaling \$5 million.

The remaining \$3 million will be used to bolster telehealth resources in community centers, enabling individuals without internet to receive telehealth services.

School Behavioral Health can be found in the Education section of this report while supports for the I/DD population is mentioned above.

Child Care

While access to facility damage data is limited, 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 Hurricane Helene to address the child care needs of families in the 39 impacted counties. To estimate child care facility damage, OSBM established county damage categories using DEM data.

OSBM estimated the total square footage of all child care centers in the 39 impacted counties based on the statutorily required 25 square feet per child. Using an estimated new construction cost of \$115 per square foot, OSBM assigned a percentage of this cost based on the county's damage categorization. The total cost of damage is estimated at \$46 million. Assuming private insurance coverage of 65% of damage costs, approximately \$34 million, the total unmet need for child care facility damage is \$12 million. A small percentage of facilities may be eligible for SBA Disaster Loans, and FEMA Individual Assistance coverage.

DHHS has also cited the need for one-time disaster relief grants to child care providers in hardest hit Helene-impacted counties. DHHS estimates that \$52.6 million is needed to ensure support for child care workers and to ensure child care centers remain open or can reopen. HHS' need methodology is based on a child care provider's fixed operational costs and child care worker compensation based on established state rates.

DHHS has identified additional need related to support for parents who are experiencing loss of income and are unable to pay parent fees for child care services for families enrolled in the Subsidized Child Care Assistance Program in the Helene-impacted counties. Mirroring the response to Hurricane Florence recovery, DHHS estimates that \$16.6 million is needed to waive these fees and provide eight months of relief funding to families. Additionally, DHHS estimates \$4.8 million dollars of assistance is needed to fund programs providing full-time care for school age children due to the high number of school closures in the Helene impacted counties.

Medicaid

DHHS' Division of Health Benefits (DHB) estimates that Medicaid enrollment will increase by more than 2,000 adults and 11,000 children, a approximately 5% increase in enrolled beneficiaries, and that an additional \$27 million is needed to cover the total share of the adults and children who newly enroll following Helene.

DHB is waiving the \$4 Medicaid pharmacy benefit co-pay that beneficiaries must pay to ensure the more than 1 million Medicaid beneficiaries affected by Hurricane Helene can continue

accessing drug therapies and prescription drugs. The total cost to ensure this continued access through December 2024 is \$19 million.

DHB is extending tailored care management rates through March 30 to support needs of affected individuals and is increasing community-based care management to strengthen outreach and address beneficiaries increased health needs. The total estimated cost to extend these rates is \$37 million.

To sustain communication in impacted counties, and ensure beneficiaries and providers are aware of Medicaid flexibilities instituted following Helene, DHB is bolstering Helene disaster response planning, policy development, and communication. The total investment needed is \$4.5 million.

This funding need excludes costs to cover the adults ages 19 through 64 earning up to 138% of the federal poverty line who enroll in Medicaid Expansion. Medicaid Expansion costs require no state appropriations.

4. Assumptions

- OSBM assumes all private hospitals and nursing homes have comprehensive private insurance coverage that will compensate them for 80% of their facility costs.
- OSBM assumes that the same percentage of households were impacted by flooding in Florence and Helene assumption, and that the per household amount used during Florence can be adjusted for inflation and applied to the Helene mold remediation estimate.
- OSBM assumes that mosquito abatement needs for Helene will be comparable to needs for Florence, and that some level of mosquito abatement will be necessary in spring 2025 despite fall and winter temperatures.
- OSBM assumes that due to limited data availability there are many more centers with varying levels of damage.
- While total damage and closure of child care centers in the Hurricane Helene impacted counties is unknown, OSBM assumes that several of the area's over 2,000 child care facilities have sustained some damage.
- OSBM assumes that this new construction cost is applicable to needed child care center repairs.
- OSBM assumes that some child care providers will be eligible for assistance through FEMA IA, SBA Disaster Loans, and private insurance coverage to address damage.
- OSBM assumes a 15% inflation rate in the construction costs for child care facilities and healthcare facilities. Experience from hurricanes Matthew, Katrina, Harvey, Superstorm Sandy, and Florence suggests construction costs were 8-20% higher in the aftermath of these events due to a shortage of available construction services or an increase in the cost of raw material or labor. In addition, Hurricane Helene construction costs are likely to be driven up by the continued impact of the pandemic recovery, more difficult terrain, and Hurricane Milton.

- OSBM applied a 15% strengthening and mitigation rate to healthcare facility costs.
- OSBM assumes that the funding need for food banks following the Wake of Helene mirrors the COVID-19 need.
- EPAP methodology assumes that North Carolina has a 2% take up rate, or double the impact experienced in New Jersey following superstorm Sandy.

5. Primary Data Sources

- DEM
- DHHS
- LME/MCO Executive Staff
- Hospital, Nursing Home, Hospice Facility, Community Health Center, and Free and Charitable Clinics Executive Staff
- FEMA
- OSBM
- UNC Management Assistance Data
- U.S. Census Bureau

6. Potential Sources of Non-State Funding

Federal

- *Medicaid (\$58 million)*- US DHHS Center for Medicaid and Medicaid Services (CMS) – CMS will cover 65.09% of Medicaid eligible costs in FFY 2024-25, which began October 1, 2024, and 90% of tailored care management rates, for a total estimate of \$58 million. CMS will also cover 90% of Medicaid Expansion, with the remaining 10% being covered by state hospital assessments.
- *Administration for Strategic Preparedness and Response (\$5 million)* -75% of the EPAP costs
- *Title IV-E (\$1 million)* - 25% of the costs associated with child welfare funding for basic needs
- *USDA D-SNAP Federal Match (\$256 million)* - Covers 50% of the administrative costs associated with D-SNAP (\$18 million and 100% of the benefits (approximately \$238 million).

FEMA

- *FEMA PA (\$50 million)* - North Carolina expects to receive an estimated \$50 million from FEMA for PA to address needs associated with damage to health facilities (\$38M), health related needs (\$7 million total), which includes funds for the NC Office

of Chief Medical Examiner , Communicable Disease Prevention , and Fatality Management Costs , and mosquito abatement (\$5 million). Based on federal cost share of 90%, this allocation will result in a 10% state cost share of \$5.6 million.

- *FEMA PA (\$0.4 million)* - The state expects to receive an estimated \$0.4 million from FEMA for PA towards mold remediation costs. Federal cost share for this work is expected to be 100% for the first six months of recovery (\$400,000)
- Some child care providers will be eligible for assistance through FEMA IA and/or SBA Disaster Loans.

US Department of Housing and Urban Development (HUD)

- OSBM assumes that CDBG-DR will cover some portion of costs, although it is difficult to estimate the amount at this time.

Federal – Contingent on Special Appropriation:

- *Social Services Block Grant Funding - \$14.9 million*

North Carolina requested a total of \$14.9 million in SSBG funding based on the response and recovery needs reported by NC Department of Health and Human Services (NCDHHS) to ensure the well-being of vulnerable children, adults, and families in the Helene impacted counties. The US DHHS allocated \$462 million in SSBG funds for Hurricane Sandy. While North Carolina's request for SSBG following Helene is much lower, these funds are critical in ensuring the state can support vulnerable populations

- *Childcare and Development Block Grant - \$74 million*

North Carolina expects \$74 million in CDBG funding to provide one-time disaster relief grants to child care providers, including childcare centers, homes, and Pre-K sites, in Helene-impacted counties. Of the \$74 million, North Carolina will use \$52.6 million to provide one-time disaster relief grants to child care providers in impacted areas; \$16.6 million to waive parent co-pays for children receiving child care subsidies to reduce barriers to accessing child care; and \$4.8 million to cover 100% of the cost for programs caring for school-aged children full-time due to school closures.

- *Low-Income Home Energy Assistance Program - \$44 million*

North Carolina requested \$44 million in LIHEAP funds to ensure that the approximately 20% of LIHEAP eligible households living in Helene impacted counties can afford their heating bills and can access services to remain warm. NC DHHS will also use these funds to enable individuals whose homes have been destroyed to access temporary shelter, establish warming centers, cover the purchase and installation costs for generators and for utility reconnection, and ensure individuals can move to shelter if they do not have access to heating.

- *Community Services Block Grant - \$10 million*

North Carolina requested \$10 million in CSBG funds to support continued disaster relief efforts over the next two years. The state will utilize the funds to support

economic stability, provide emergency assistance, and improve health outcomes for eligible disaster impacted individuals. Without this critical federal assistance, the impacted counties will struggle to recover from the devastation and provide essential services to their residents.

- *Hospital Preparedness Program - \$3 million*

North Carolina requested \$3M in Hospital Preparedness Program funding to support response and recovery needs reported by NC DHHS. Funds will support the NC Office of Emergency Medical Services' ongoing operations and recovery activities to ensure the state sustains capacity to respond to the impact of Hurricane Helene.

- *Child Welfare Grant Programs - \$4.5 million*

North Carolina requested a total of \$4.5 million across four child welfare programs to support the more than 4,000 children in foster care in impacted counties, as well as resource families, kinship families, and child welfare involved families. US DHHS allocated \$28 million for Children and Families Services programs to cover similar needs following Hurricane Florence.

- Title IVB-1 (\$500,000)
- John H. Chafee Foster Care program (\$1 million)
- Community-Based Child Abuse Prevention Program (\$2 million)
- Child Abuse Prevention Treatment Act program (\$1 million).

Private

- OSBM assumes \$74 million in facility damage costs will come from insurance.
- Public hospitals will be eligible for assistance through FEMA PA for some type of assistance.
- Hospitals would cover 10% of Medicaid expansion through state hospital assessments.
- Licensed family childcare homes could receive coverage for damage from home day care policy add-on coverage.

7. State Funding Recommendations as of October 23, 2024 – \$291.6 million

Unless otherwise noted, all funds will be appropriated to DHHS.

Medicaid – \$28 million

Supports continued access to healthcare for affected individuals, and eligible individuals that enroll in Medicaid. This investment funds the state share of total Medicaid costs to ensure that DHB can provide healthcare to the more than 2,000 adults and 11,000 youth who are expected to enroll in Medicaid in the affected counties, reimbursement for the elimination of the \$4 co-payments for prescription drugs through the end of the calendar year, an extension of the tailored care management rates through March 30, 2025, and contractual support to sustain DHB's current disaster response.

Mental Health Supports- \$33 million

Provides funds to strengthen behavioral health supports to ensure DMH can adequately respond to the expected rise in behavioral health needs of the more than four million individuals in the impacted counties, including crisis care, detoxification and continued access to telehealth. Funds will ensure that the more than 400,000 uninsured individuals in the affected counties can access mental health, improving access to care.

Support for Individuals with I/DD – \$18 million

Invests funds to ensure that the more than 400,000 individuals diagnosed with I/DD in affected counties can remain in the community by providing respite support, transitional supplies for individuals who need to transition to a different group home, and counseling and therapeutic equipment for 100 disaster impacted group homes. Funds will also enable group homes to make necessary upgrades to meet the needs of individuals who transition to their facilities. Without this support, individuals may lack safe housing, increasing pressure on families and emergency services.

Sustainability Payments to Providers- \$2.8 million

Supports providers that offer vocational training and job search assistance for individuals with disabilities who participate in supported employment. This investment provides job counseling services to the 11,185 adults and students with disabilities in disaster impacted counties by providing sustainability funds.

Emergency Prescription Assistance Program- \$1.6 million

Activates the EPAP program, which enables uninsured individuals to access zero cost prescription medications, medical supplies, vaccinations, and some medical equipment due to impacts on healthcare and pharmacy operations. This investment will guarantee access for the more than 400,000 uninsured residents in the affected counties, accounting for almost all the region's uninsured population.

D-SNAP Match Funding- \$18 million

Leverages federal funds to provide food assistance to 310,000 newly eligible low-income households with food loss or damage caused by Hurricane Helene. This investment will cover the 50% county match for administrative costs incurred by local departments of social services in operating D-SNAP including IT infrastructure and call centers. This state appropriation leverages federal funding for a total of \$238 million in benefits.

Food Banks- \$45 million

Provides funds to the North Carolina Department of Agriculture and Consumer Services funds for distribution to food banks in affected areas. Funds will ensure that food banks in Helene impacted counties, including Manna and Second Harvest, can continue to provide food to the more than 400,000 food insecure individuals in affected counties throughout the recovery. Funds may be used to purchase refrigeration units, refrigerated trucks, and food.

Emergency Food Assistance – \$5 million

Provides funds to Reinvestment Partners, to bolster their Eat Well program. These funds will ensure that an additional 12,500 impacted individuals can utilize \$80 per month to purchase

fruits and vegetables. Enrollment in the program will be managed by Community Care of NC which DHHS selected to provide outreach for other services to disaster victims.

Child Care Center Disaster Relief – \$74 million

Provides one-time disaster relief grants to eligible child care providers (including child care centers, homes, and Pre-K sites) in the impacted counties and tribal communities. These payments are critical to ensure the fragile child care infrastructure in the impacted counties remains functional to support the needs of area families. Funds will be used to support child care providers' operational costs and child care worker compensation. Funds will support over 1500 child care centers in the 39 Hurricane Helene impacted counties. Funds will help families enrolled in the subsidized child care assistance program by waiving parent fees for 8 months. Funds will also cover up to 100% of the costs for programs providing full time care to school age children due to school closures.

Local Health Department Support – \$15 million

Invests in aid to local health departments in impacted counties. These funds will support surge staffing and supplies for communicable disease and infection prevention efforts, environmental health efforts, and private well water quality efforts. This investment will support essential health department functions like post disaster food and lodging inspections, disease prevention vector mitigation, and support of temporary shelters.

Communicable Disease Prevention and Response – \$1.5 Million

Provides funding to support public health disease risk mitigation activities, including establishing surveillance systems, vaccinating high-risk populations and developing a communication plan to address increased disease in the Hurricane Helene impacted areas. Funding will support prevention and screening of flu-like and respiratory illness in high-risk environments including emergency shelters and mobile healthcare facilities.

Time-limited Public Health Response & Recovery Staff – \$3 Million

Provides funds to increase public health capacity to support and coordinate state technical assistance and support local health departments. Includes funding to support the Local Disaster Support Unit, immunization efforts, and Evacuation Shelter staffing. Funds will support the continuity operations at local health department in the 39 Hurricane Helene impacted counties.

Vital Records Cost for Replacement – \$1 Million

Provides funds to support waived requirements of NC Office of Vital Records and Registrars of Deeds to collect fees for processing vital records for those seeking replacements and for newly registered death certificates for anyone whose death is associated with the weather event as designated in Executive Order 318. HHS estimates that 4% of the population (over 130,000) of the impacted counties will need up to 2 replacement certificates. Also provides funds to hire four temporary staff members in NC OVR through December 31, 2024.

NC Office of Emergency Medical Services – \$2.5 Million

Invests funding to support logistical healthcare operations while city and county infrastructure is rebuilding. Provides funding for six months of warehouse operations, services and supplies, support utilization of the State Medical Response System and the NC Mobile Disaster Hospital,

provides 30 temporary staff to support oversight of healthcare support sites and equipment, temporary staff operating costs. FEMA funds will be leveraged to the fullest extent possible.

Fatality Management Costs – \$3 Million

Provides funding to the Office of the Chief Medical Examiner for critical response costs related to temporary decedent storage, decedent transportation and surge staffing. FEMA funds will be leveraged to the fullest extent possible. These funds will assist with unmet need related to identification and reunification efforts, expanded statewide fatality management coordination, Hurricane Helene recovery and disaster preparedness.

Child Social Services Support – \$6.6 million

Invests funds to support children and families whose state or local departments of social services are serving in the 39 impacted counties. This investment includes almost \$3 million in flexible funding to meet the needs of more than 4,000 children in DSS custody and their resource parents. A total of 2.5 million will support children and families receiving child protective services at impacted county departments of social services, reducing trauma by helping families remain in their communities. This investment also covers the county share of the cost to support kinship care providers (family members of children in DSS custody who provide an alternative to foster care for those children), helping to relieve strain on county budgets.

Adult Social Services Support – \$4.3 million

Supports individuals receiving adult protective services or guardianship services, helping vulnerable adults to remain in their communities following the impact of Hurricane Helene, reducing institutionalization and ensuring their essential needs are met. This funding also invests in guardianship corporations responsible for meeting the needs of the 1,410 individuals in their care. Funding will cover expenses guardianship corporations are incurring to provide critical supplies like food, water, and hygiene items to ensure the safety and well-being of individuals under guardianship.

Social Services Surge Staffing – \$20 million

Invests in time-limited surge staffing and support for local departments of social services in the 39 impacted counties. This investment will fund 30 time-limited positions to support foster care, child protective services, resource referral services, and technical assistance to county agencies. This investment also ensures continuity of operations across the department, shoring up DHHS' capacity to respond to the increase in applications for Food and Nutrition Services programs, Medicaid, Work First, and other emergency assistance programs.

Assistive Technology – \$0.3 million

Ensures that individuals with disabilities who require assistive technology devices can replace damaged or lost devices by enabling DHHS to relocate 9 emergency kits for distribution and purchased additional assistive technology equipment. Invests additional funds for temporary staffing to ensure that devices can be delivered to individuals, and that individuals can access devices that meet their needs.

Critical Staffing Support – \$9 million

Invests funding to meet continuity of operations needs across DHHS. Funds will be used to address pay rate differentials, pay increases, and overtime that may not be reimbursable by FEMA at state operated facilities.

8. Special Provision Recommendations as of October 23, 2024

DHHS Hurricane Helene Recovery Cashflow Mitigation Funding

Requests \$125 million in funding from the Savings Reserve to assist DHHS with the necessary cashflow to incur eligible Hurricane Helene related costs while awaiting FEMA reimbursement. DHHS will reimburse the Savings Reserve after reimbursements are received.

Allow NCDHHS to Apply for a Temporary Waiver for the Time Limit ABAWDs Can Receive FNS Benefits in Certain Counties with >10% Unemployment

Requests flexibility to apply to USDA for a one-time, temporary waiver for the federal time limit that able-bodied adults without dependents (ABAWDs) in impacted counties can receive FNS benefits without meeting additional work requirements above and beyond the general FNS work requirements. (Amends GS 108A-51.1)

Authorize NCDHHS to Administer County Child Welfare Services and Adult Protective Services in Emergency Circumstances

Requests authority to directly administer specific Child Welfare Services and Adult Protective Services on behalf of counties in certain emergency circumstances. This authority includes, but is not limited to, the authority to make specific case decisions, to direct conflict of interest cases (e.g., in cases where citizen residency is unclear), and to supervise staff and/or make staffing decisions as necessary. (Amends GS 108A-25.1A)

Temporarily Suspend County Responsibility for Errors Made in Determining Medicaid Benefits

Requests to temporarily waive responsibility for county Department of Social Services (DSS) errors as the response to the impact of Hurricane Helene presents challenges for county offices beginning September 1, 2024, through March 31, 2025. (Amends GS 108A-25.1A)

Authorize Temporary Extension of License Renewals for Mental Health Providers

Authorize DHSR to temporarily extend annual licenses for providers licensed pursuant to Chap. 122C that are located in the area impacted by Hurricane Helene. (G.S. 122C-23(e))

Temporarily Waive Certain Rules Pertaining to County and/or Municipal Jails

Allow the Division of Health Service Regulation (DHSR) to grant waivers of state regulatory requirements during an emergency. (Amends G.S. 153A-221)

Authorize Temporary Extension of Registration Renewals for Multi-Unit Assisted Housing with Services Facilities

Authorize the Division of Health Service Regulation (DHSR) to extend current registrations for facilities providing Multi-Unit Assisted Housing with Services (MUAHS), which are assisted living residences in which hands-on personal care and nursing services are arranged by housing management and are provided by a licensed home care or hospice agency. (Amends G.S. 153A-221)

Authorize Temporary Extension of Annual Licenses for Adult Care Homes and Family Care Homes

Authorize DHSR to temporarily extend annual licenses for adult care homes and family care homes in the area impacted by Hurricane Helene. (Amends G.S. 131D-2.4(d))

Authorize Temporary Extension of Certification Renewal Applications for Adult Care Homes Administrators

To allow additional time for certified adult care home administrators to complete and submit their certification renewal applications and fees, and to obtain the required continuing education credits. (Amends G.S. 90-288.15(b))

9. State Funding Provided in SL 2024-53

The General Assembly Appropriated the following items to date:

Mental Health Crisis Supports and Support for Individuals with I/DD – \$25 million

Appropriates funds to the Department of Health and Human Services (DHHS) to bolster mental health crisis services and supports, and supports for individuals with I/DD.

Local Health Department Support – \$12 million

Appropriates funds to the Department of Health and Human Services (DHHS), Division of Public Health, to assist local health departments with restoring essential functions. Funding can support temporary staffing, communicable disease and infection prevention, and private well water quality efforts.

Disaster Supplemental Nutrition Assistance Program (D-SNAP) – \$10 million

Appropriates funds to the Department of Health and Human Services (DHHS), Division of Child and Family Wellbeing, to assist the Division and county departments of social services in matching federal funds for the administrative expenses incurred in operating the D-SNAP food assistance program.

Child Care Centers and Family Child Care Homes – \$10 million

Appropriates funds to the Department of Health and Human Services, Division of Child Development and Early Education, for the North Carolina Partnership for Children to distribute funds to Smart Start Local Partnerships that serve counties with a federal disaster declaration due to Hurricane Helene.

Child Welfare Essential Services – \$3 million

Appropriates funds to the Department of Health and Human Services, Division of Social Services to distribute to county departments of social services to continue the provision of services and supports to children involved in the child welfare system who have been impacted by Hurricane Helene.

Essential Services for Vulnerable Adults – \$1.4 million

Appropriates funds to the Department of Health and Human Services, Division of Social Services to distribute to county departments of social services to continue the provision of services and supports to vulnerable adults impacted by Hurricane Helene.

Provisions provided in Senate Bill 382

Extension of MH/DD/SUS facility licenses and license renewal deadlines

Extends Mental Health, Developmental Disability and Substance Use Services Facility License expiration date from December 31, 2024, to March 1, 2025, and extends the license renewal deadline for calendar year 2025 to March 1, 2025.

Authorization for the division of health service regulation to temporarily waive rules pertaining to local confinement facilities during certain emergencies

Enables DHSR to temporarily waive rules in GS 153A-221 pertaining to local confinement facilities during certain emergencies and clarifies what those emergencies are.

Extension of registrations and registration renewal deadlines for multi-unit assisted housing with services facilities

Extends the annual license expiration date for multi-unit assisted housing that provide services from December 31, 2024, to March 1, 2025, and extends the license renewal deadline for calendar year 2025 to March 1, 2025.

Extension of adult care home and family care home licenses and license renewal deadlines

Extends the annual license expiration date for adult care home and family care home licenses from December 31, 2024, to March 1, 2025 and extends the license renewal deadline for calendar year 2025 to March 1, 2025.

Extension of deadline for renewal of adult care home administrator certification and completion of continuing education requirements

Extends the annual license expiration date for adult care home administrator certifications and completion of continuing education requirements and family care home licenses from December 31, 2024, to March 1, 2025 and extends the administrator renewal deadline for calendar year 2025 to March 1, 2025.

10. Revised State Match Funding Requirement

State Match for FEMA Public Assistance Funds - \$5.6 million

North Carolina expects to receive an estimated \$50 million from FEMA for PA to address needs associated with damage to health facilities, health related needs, and mosquito abatement. Based on a federal cost share of 90%, this allocation will result in a 10% state cost share of \$5.6 million.



Tribal and Federal Lands

Addresses physical damage to tribal and federal lands and potential impacts on tourism.

1. Summary

Tribal Lands

The Eastern Band of Cherokee Indians (EBCI) is a federally recognized Native American tribe located in western North Carolina. Situated in the Great Smoky Mountains, the tribe is vulnerable to natural disasters like floods and storms and was included in the federal Hurricane Helene Disaster Declaration. With an estimated population of 16,000 enrolled members, the EBCI primarily resides on the Qualla Boundary, which covers approximately 56,000 acres of land. The Qualla Boundary is not a traditional reservation, but it is held in trust by the federal government for the EBCI. This area is located primarily in Swain County and parts of Jackson County. The Qualla Boundary is home to the majority of enrolled members, many tribal facilities, businesses, and cultural sites, making it a focal point for the community. Smaller numbers of members also reside in Haywood, Graham, and Cherokee Counties.

While the EBCI and FEMA are still in the process of assessing damage due to Hurricane Helene, the majority of EBCI members live in critical or high impact-classified counties.

- Swain County: 8,000 EBCI residents. High impact classification.
- Jackson County: 5,000 EBCI residents. High impact classification.
- Haywood County: 1,500 EBCI residents. Critical impact classification.
- Graham County: 1,000 EBCI residents. Medium impact classification.
- Cherokee County: 500 EBCI residents. Medium impact classification.

The EBCI maintains a critical partnership with FEMA to enhance disaster preparedness, response, and recovery, reflected by the 1,216 applications for Individual Assistance (IA) EBCI members have submitted to FEMA through October 16, 2024. Through this collaboration, the EBCI accesses federal resources and expertise to swiftly address damage, protect its members, and restore infrastructure, while preserving its cultural heritage and autonomy in disaster management. FEMA offers grants available to tribes to help them reduce disaster risks and build resilience. These include:

- The Hazard Mitigation Grant Program (HMGP) for post-disaster hazard mitigation
- The Building Resilient Infrastructure and Communities (BRIC) program for disaster infrastructure projects
- The Pre-Disaster Mitigation (PDM) grant for risk-reduction planning and projects before disasters. These programs support efforts like flood control and building retrofits to enhance tribal resilience against future emergencies

- The Indian Health Service (IHS) also offers emergency grants to tribes to help restore and improve healthcare services for tribal members following a disaster

Healthcare. The EBCI operates a tribally managed healthcare system, integrating medical care with an emphasis on culturally competent services, preventative care, and community health. The primary facility is the Cherokee Indian Hospital Authority (CIHA), providing comprehensive services to approximately 16,000 enrolled members and surrounding communities. The CIH is funded primarily by the Indian Health Service (IHS) but is managed directly by the tribe, giving the EBCI control over the care and services offered.

Education. The EBCI operates the Cherokee Central Schools system, comprising three main schools, serving 1,300 students, prioritizing academic excellence while integrating Cherokee language and culture into the curriculum:

- Cherokee Central Elementary School, 600 students, kindergarten to grade five
- Cherokee Middle School, 300 students, grades six to eight
- Cherokee High School, 400 students, grade nine to twelve

Economy. As a gateway to the Great Smoky Mountains, the EBCI relies heavily on tourism, attracting millions of visitors each year. Gaming operations, primarily through Harrah's Cherokee Casino Resort, are the tribe's largest source of revenue and employment. The tribe is committed to environmental stewardship and cultural resource preservation. With impacted areas remaining closed or inaccessible to visitors, the loss of tourism will significantly affect the local economy. These impacts are detailed in the Economy section of this report.

Damage

While the ECBI and FEMA are still assessing the full breadth of damage caused by Hurricane Helene, the following are some initial damage reported by the tribe.³²

- Hurricane Helene caused substantial damage and losses to the Tribal Trout Hatchery, with overall immediate and anticipated costs totaling approximately \$0.5 million.
 - The loss of 31,000 fish, valued at approximately \$0.1 million.
 - Flood mitigation and emergency repair efforts, totaling \$0.2 million.
 - Potential revenue losses from fishing permits for the upcoming months of October through December 2025, estimated at \$0.1 million based on average sales from 2023 and 2024.
- Seventeen roads experienced damage, with at least one requiring extensive repairs. The cost to repair this damage will depend on the severity of damage, the number of miles of road impacted, and the type of road. For roads that were significantly damaged and require full reconstruction, estimated cost would be \$3-5 million per mile for a two-lane paved road. Bridge damage occurred at Indian Creek, with water behind the embankment still an issue on the main bridge. Landslides have affected State Highway 19, and Cherokee police have been managing traffic in certain areas.

³² OSBM conversation and follow up with EBCI Division of Operations, Agricultural Resources, Cherokee Department of Transportation, October 14, 2024.

- The storm caused roof damage to several tribal buildings, including the EOC/EMC building, youth center, and justice center. There are concrete issues and damage to tribal roads, buildings, and driveways. The business district saw damage to buildings that exacerbated pre-existing structural issues. Some property under the tribe's LLC was destroyed, displacing several people. The storm caused damage including gravel and grading work to the Kituwah area, a sacred site central to Cherokee culture and heritage. Kituwah holds deep cultural importance as the "Mother Town" of the Cherokee people and is also used by local school systems for cross-country running. The Fire Mountain trail and disc golf course experienced some damage, though cleanup efforts are already underway. The focus remains on the impacted section of Highway 441 and Oconaluftee Island Park. In the aftermath of the storm, several purchases and costs have been incurred. Eight new trailers were acquired, and there were instances of equipment failure during the recovery efforts. As a result, three to four track hoes were purchased, along with a masticator for mulch. Additionally, three dump trucks were needed due to the insufficiency of the existing CDOT fleet.

Federal Lands

Total federal acreage in North Carolina is 2,434,801, representing 7.8 percent of total acreage in the state. However, federal land accounts for over 15% of total land area in the counties most critically impacted by Hurricane Helene.

Millions of people visit western North Carolina to enjoy the national parks and forests located in and around the Appalachian Mountain chain that runs along the North Carolina border. The Blue Ridge Parkway alone attracts approximately 16 million visitors annually, averaging over a million monthly visitors in April through November and with peak visitation of over 2 million in October. Nearly 95% of visits to the Blue Ridge Parkway and Great Smoky Mountains National Park are from non-local visitors, as estimated by percentage of visitor spending from non-local visitors. A 2023 National Park Service report estimated that national park visitors to North Carolina spent an estimated \$2.6 billion, supporting 38.8 thousand jobs, \$1.5 billion in labor income, \$2.4 billion in value added, and \$4.1 billion in economic output in the North Carolina economy.

Federal land in western North Carolina includes:

- Blue Ridge Parkway (NPS) – 16 million annual visits
- Pisgah National Forest (USFS) – 10 million annual visits
- Nantahala National Forest (USFS) – 7 million annual visits
- Carl Sandburg Home National Historic Site (NPS) – 90,000 annual visits
- Portions of Blue Ridge National Heritage Area (NPS)
- Portions of Great Smoky Mountains National Park (NPS) – 13.5 million annual visits
- Portions of Cherokee National Forest (USFS)
- Portions of Appalachian National Scenic Trail (NPS, USFS, ATC)
- Portions of Overmountain Victory National Historic Trail (NPS)

Damage

Hurricane Helene caused significant damage to roads, bridges, structures, and utilities on National Park Service and United States Forest Service land. Damage primarily resulted from severe flooding and mudslides, ten of which are considered catastrophic. In addition to damaged roads, a number of roads along the Blue Ridge Parkway require major clean up as they have been obstructed by tens of thousands of large, downed trees and other debris. Depending on the severity of damage to the Blue Ridge Parkway, road reconstruction is estimated at \$514 million – \$1.1 billion³³.

The entirety of the Blue Ridge Parkway in North Carolina remains closed with significant damage to roadways. The Blue Ridge Parkway headquarters and Visitor Center, both located in Asheville, NC, lost access to water following the storm, and the Linville Falls Visitor's Center was destroyed. Most significant damage has been observed between Mt. Mitchell and Linville Falls, an area directly northeast of Asheville, NC. Initial estimates indicate that roads leading from Asheville to Mt. Mitchell will remain closed until the summer of 2025, but some road repairs may take several years.

As large portions of national parks and forests in the impacted areas remain closed or inaccessible to visitors, there will be a significant impact from loss of tourism to the state and local economies. These impacts are included in the Economy section of this report.

Federal Funding Requests

North Carolina made the following requests to the federal government related to damage and needs from Helene on tribal and federal lands:

- Support the tribal lands in their recovery and provide swift funding and technical assistance. The EBCI will be eligible for FEMA IA, PA, and HMGP funding, as well as SBA disaster loans. Additionally, the state anticipates tribal lands will require funding from programs like the Bureau of Indian Affairs' Emergency Management Program and Tribal Climate Resilience Program, the Historic Presentation Fund within the Department of Interior, the US Department of Agriculture's Rural Development Disaster Assistance and Emergency Watershed Protection Program.
- Prioritize the reconstruction of infrastructure and the restoration of national forests within Helene-damaged national parks. North Carolina requests that the Department of the Interior (DOI) and the US Forest Service strategically utilize existing funds, and that Congress provide new appropriations for these purposes. Investments will support the preservation of natural resources, ensure visitor safety, and revitalize local tourism, which is essential to North Carolina's economy. Of particular concern is the Blue Ridge Parkway, the majority of which remains mostly closed in North Carolina as of December

³³ Cost estimates associated with road reconstruction along the Blue Ridge Parkway utilize a cost estimate of \$18 million per mile of new 2-lane road construction. This amount is higher than the average cost for road reconstruction to account for the challenges of road reconstruction on heavily graded land on the Blue Ridge Parkway and complications arising from mudslides in that area. A range of critically damaged roads is assumed based on county-level Category of Impact. For counties classified as "Critical," the estimate assumes a range of 12.5-25% of road require reconstruction, while for counties classified as "High," a range of 5-15% of roads are assumed to require reconstruction.

10. The Blue Ridge Parkway alone attracts approximately 16 million visitors to North Carolina annually.



Other Disasters

Addresses needs related to PTC-8, Tropical Storm Debby, the 2024 Drought, Hurricane Florence, and Hurricane Matthew.

1. Summary

Though most recovery efforts are currently focused on Hurricane Helene, North Carolina is still recovering from several other natural disasters. Each of these storms has had different effects, such as wind damage, flooding, or drought, and has impacted different parts of the state. State agencies have requested an additional \$420 million specifically to address these storms. However, several of the recovery requests for Hurricane Helene may also be used to address previous disaster needs.

2. Scope

The scope for this section includes needs related to natural disasters other than Hurricane Helene.

3. Methodology

Other Disasters recovery needs

This section presents agency requests for PTC-8, Tropical Storm Debby, the 2024 Drought, Hurricane Florence, and Hurricane Matthew.

Agricultural disasters – crop losses

Dr. Jeffery Dorfman, Hugh C. Kiger Distinguished Professor of Agricultural and Resource Economics, NC State University, calculated preliminary estimates for these other natural events statewide. Crop loss estimates are based on initial plant industry reports. Assumptions about crop insurance coverage levels by crop type were provided by the NC Board of Agriculture members.

4. Disaster Information

Potential Tropical Cyclone-8 (PTC-8)

PTC-8 impacted North Carolina from September 15-16, 2024, primarily affecting the southeastern coastal region. The storm brought torrential rainfall, leading to severe flash flooding, particularly in the Cape Fear area. In some places, over 12 inches of rain fell within a 12-hour period, with estimates of up to 20 inches in certain locations. The town of Carolina Beach was one of the hardest hit, receiving more than 10 inches of rain in just four hours, causing widespread flooding, power outages, and road closures. A state of emergency was declared as emergency services conducted rescues of stranded residents and pets. Strong winds exacerbated the situation, causing downed trees and power lines along the coast. PTC-8 was declared a federal disaster in four counties on October 19, 2024. The overall estimated impact from this storm is \$61 million. The state expects FEMA PA to provide reimbursement of 75% of this impact, or close to \$46 million.

Tropical Storm Debby

Tropical Storm Debby struck North Carolina in early August 2024, bringing severe flooding and heavy rainfall across the state, particularly in Anson, Stanly, and Alamance counties. The storm caused rivers such as the Rocky River and Pee Dee River to swell significantly, leading to widespread flooding of woodlands, farmlands, and public areas. Debby dumped up to 15 inches of rain in some regions, causing flash floods, downed trees, and power outages. Though it primarily impacted inland areas, there were storm surges in some coastal regions. The flooding threatened agricultural lands, damaging crops like cotton, soybeans, and peanuts. The overall impact of Tropical Storm Debby is estimated to be \$11 million. The estimated reimbursement from the FEMA PA program is estimated at about \$8 million.

2024 Agricultural Disasters

In addition to the devastation from Hurricane Helene, growers have faced historic droughts statewide at a crucial stage of the growing season, excessive rainfall, Tropical Storm Debby, Potential Tropical Cyclone #8 as well as a cicada brood hatch that had localized significant impacts.

To date, there are 93 counties in either a primary Presidential or Secretarial Disaster Declaration for 2024. Additional declarations are pending USDA approval. Disaster declarations originate with the County FSA Committee and must have minimum of 30% damage to any crop(s) to trigger the USDA designation process.

The 2024 drought had a significant impact on state agriculture. After the driest June on record, drought conditions rapidly intensified. By mid-July, more than 22 counties were classified as experiencing severe drought, with Columbus County in the southeast experiencing extreme drought. The hardest-hit regions include the southeast, the central Coastal Plains, and the northwest Piedmont. These conditions devastated crops, particularly corn, which was at a critical growth stage during the dry spell. Farmers in counties like Columbus reported harvesting as little as 60 bushels of corn per acre, compared to a typical 170 bushels. Most farmers in the region have some form of insurance, but the coverage rarely fully compensates for the scale of losses seen during a year of extreme drought.

Crop losses from the drought are estimated at \$695 million, and it is expected that \$391 million would be covered by private insurance. North Carolina requested a \$201 million supplemental disaster appropriation from USDA, in the form of a block grant, for crop losses caused by PTC-8, Tropical Storm Debby, drought, and other agricultural disasters in 2024. This was part of a larger USDA request, and more detail is included in the Agriculture section of this document.

Figure 1: 2024 NC Crop Loss Estimates

Commodity	Main Event	Production Loss	Loss Value (Millions)	Estimated Insurance Coverage Level	Estimated Un/Under-Insured Losses (Millions)
Corn	Drought	60%	\$302	70%	\$91
Soybeans	Drought	6%	\$39	70%	\$12
Tobacco	Drought, Debby	35%	\$190	70%	\$57
Hay	Drought	20%	\$40	0%	\$40
Blueberries	Excess Rain, Cicadas	15%	\$15	0%	\$15
Watermelon	Drought, Excess Rain	20%	\$10	0%	\$10
Sweet Potatoes	Drought	25%	\$76	25%	\$57
Pumpkins	Drought, Excess Rain	25%	\$5	0%	\$5
Other vegetables	Mostly Drought	15%	\$9	0%	\$9
Nursery/Other Crops	Mostly Drought	--	\$9	0%	\$9
Total			\$695		\$304

Hurricane Florence

Hurricane Florence struck North Carolina on September 14, 2018, making landfall near Wrightsville Beach as a Category 1 storm. Over four days, some areas saw more than 30 inches of rainfall, making Florence one of the wettest tropical systems in U.S. history. The storm primarily affected coastal cities such as Wilmington and New Bern, but its impact extended far inland, with the Cape Fear and Neuse rivers reaching record levels. The flooding displaced thousands of residents, led to the deaths of 42 people, and caused nearly \$17 billion in damage.

Hurricane Matthew

Hurricane Matthew struck North Carolina on October 8, 2016, as a Category 1 storm, and primarily affected the eastern and southeastern parts of the state. Although the storm's winds were moderate, its heavy rainfall—over 18 inches in some areas—caused devastating flooding, particularly in towns along the Tar, Neuse, and Lumber rivers. The flooding displaced thousands of residents and resulted in the deaths of 31 people in North Carolina. The storm caused significant agricultural losses, damaging crops such as cotton, peanuts, and sweet potatoes, and led to more than \$4.8 billion in damage.

5. State Funding Recommendations as of October 23, 2024 – \$420.2 million

The following requests are unlikely to be covered by federal funding for reasons described in each request below.

State Match for Recent Disasters – \$40 million

Provides state matching funds to the Division of Emergency Management within the Department of Public Safety for response and recovery efforts for Tropical Storm Debby, which received a pre-landfall emergency declaration, and PTC-8, which was declared a major disaster. Because

both storms received emergency declarations, they are eligible for federal disaster recovery funds that require a state match.

Privately Owned Roads & Bridges – \$5 million

Provides state funding for the repair of critical residential private access roads and bridges impacted by Tropical Storm Debby and PTC-8.

Flood Damage Remediation and Revenue Loss – \$0.2 million

Provides funds to assist the Department of Natural and Cultural Resources (DNCR) in recovering from PTC-8. Needs include funds to remediate flood damage and replace lost revenue. The Archaeology branch office in Kure beach and the Brunswick Town and Fort Fisher historic sites experienced flood damage and need funds to restore access, remove fallen trees, and replace landscaping. The Aquarium at Fort Fisher and the Brunswick Town and Fort Fisher historic sites lost revenue when PTC-8 flooding made those sites inaccessible. The Aquarium was closed for two days, resulting in lost admissions revenue, and the historic sites had to cancel events, resulting in event payment refunds. FEMA does not provide funding for lost revenue.

2024 Uninsured Crop Losses – Pending verified losses, insurance claims

As shown in Figure 1, the preliminary estimate of the resulting crop production losses is \$695 million; it will be several months before the full extent of the losses are verified and claims data becomes available on crop insurance coverage. State funding needs for uninsured losses will be assessed after the harvest and marketing season concludes.

Hurricane Florence Homeowner Recovery Program Needs – \$175 million

Provides funds to sustain the North Carolina Office of Recovery and Resilience's (NCORR) Homeowner Recovery Program. The program has a budget of \$650 million in Community Development Block Grant Disaster Recovery (CDBG-DR) funding for both Hurricanes Matthew and Florence but will need a total of \$825 million to meet program needs.

In 2018, the state requested federal CDBG-DR funding of \$1.1 billion for housing and received only \$542 million in CDBG-DR funds for Hurricane Florence. Since that time, the Homeowner Recovery Program has helped 2,750 families return to rebuilt, resilient housing. Recognizing that the Congressional appropriation was well short of the need, and that the program weathered the COVID-19 pandemic, rising construction costs, labor shortages, and other challenges, the program requires an additional \$175 million in state appropriations to complete the program.

This funding is needed immediately to avoid stopping work on in-progress homes.

Remaining Florence & Matthew Needs – \$200 million

Provides funds to assist individuals and families with low- to moderate-incomes with the following disaster recovery housing matters: elevations, buyouts, acquisitions, reconstructions, repairs, reimbursements, and related services not covered by FEMA Hazard Mitigation Grant Program (HMGP) and/or HUD CDBG-DR. The requested funds would be used to fund 500 to 1,000+ new projects in counties impacted by Hurricanes Matthew and Florence, as well as projects in counties that had received no state disaster recovery act funds for Hurricane Florence recovery but nonetheless were impacted by the storm.

6. Special Provision Recommendations as of October 23, 2024

- **Eliminate PTC-8 Fund.** Repeals Section 5.1 of SL 2024-51, eliminating the PTC-8 matching fund and directing match funds for smaller storms to the State Match Fund as established in SL 2021-180 and clarified in SL 2021-189.

7. State Funding Provided in SL 2024-51, SL 2024-53, and S.L. 2024-57

The General Assembly appropriated the following items to date:

State Match for Recent Disasters - \$10 million

Provides funding to the Office of State Budget and Management (OSBM) for a transfer to NCEM to provide State match for federal disaster assistance programs. The estimate assumes a 75/25 federal match rate.

Florence Homeowners Recovery Program Needs – \$30 million

Provides funding to OSBM for a transfer to the NC Office of Recovery and Resiliency (NCORR) to support homeowner recovery projects under the Rebuild NC program.

ReBuild NC Program Support – \$50 million

Appropriates \$50 million from the State Emergency Response and Disaster Relief Fund to the OSBM Disaster Relief Reserve for allocation to the Office of Recovery and Resiliency to support homeowner recovery projects under the Rebuild NC program for FY 2024-2025.

8. Revised State Match Funding Requirement

FEMA PA match - \$18 million

The state estimates to receive \$54 million in FEMA PA funding given the size of the estimated damage from PTC-8 and Tropical Storm Debby. The state match for these funds is estimated at \$18 million.