CECE

ASSOCIATION OF PUBLIC & LAND-GRANT UNIVERSITIES

NC STATE UNIVERSITY

HURRICANE FLORENCE: PRE-FLOOD SUSCEPTIBILITY + POST-FLOOD IMPACTS

IEP CATEGORY – PLACE

North Carolina State University:
Pollocksville – Coastal Dynamics Design Lab
ABOUT THE POLLOCKSVILLE - COASTAL DYNAMICS DESIGN LAB PARTNERSHIP

Small and rural, the Town of Pollocksville, North Carolina (population 216) is located on the banks of the Trent River in Jones County, North Carolina. The town is in the midst of a multi-year flood recovery process resulting from Hurricane Florence (2018). The rainfall generated by Florence was equivalent to a 1,000-year storm event, causing over $17B in monetary damages in North Carolina. The associated impacts of riverine flooding in Pollocksville far exceeded the 500-year floodplain, inundating dozens of homes and nearly two-thirds of the town’s commercial properties. The Pollocksville-Coastal Dynamics Design Lab (CDDL) partnership is bolstering community recovery efforts through an integrated portfolio of projects. All outcomes are co-produced with the community via participatory processes and rigorous analyses that continue to assist local leaders make Pollocksville more resilient to future shocks.

Deeply rooted in an agrarian past, the community maintains a direct connection to many agricultural commodities that adjoin the town’s periphery. The town is increasingly referred to as the “Gateway to Nature” due to its direct access to the Trent River, the Croatan National Forest, and classification as a Bird Sanctuary. Pollocksville is attempting to leverage its location through investments in its Riverfront Park, fishing pier, and kayak launch. These amenities, combined with the existing building stock in the Main Street commercial district and newly completed highway exit that accesses the town, afford Pollocksville a unique opportunity to rebuild in a way that increases its overall community resilience – social, economic, and environmental. To assist in propelling recovery forward, this partnership recognizes the financial realities, multi-generational social networks, personal place attachments, and bespoke micro-migration strategies that must be considered in the

Photo from in-person event Feb 2021. Over sixty stakeholders participated in the walk-up event, 27% of town’s population.

Examples of how information was distributed to the community (physical mail, online, in-person events, door-to-door, technical advisory meeting)
recovery processes of low-wealth, rural areas.

**RURAL, OVERBURDENED AND UNDERSERVED**

Often limited in the financial resources or technical capacity required to adequately recover from and plan for disasters, small towns across America are often left with few options for building back more resiliently. Specific to Eastern North Carolina, the long-term planning processes and infrastructure projects required for improved community resilience are seldom accessible.

For citizens of Pollocksville, and more generally Jones County, the community faces a combination of demographic and environmental vulnerabilities that meet the U.S. Environmental Protection Agency criteria for both an “overburdened” and an “underserved” community. In the census tract that includes Pollocksville, the average per capita income is $22,183 (NC average: $30,783), the percent of the population age 65+ is 23.5% (NC average: 16.7%), and the percentage of the population who identify as People of Color is 40.5% (NC average: 29.4%).

These figures:

- represent income, age, and race characteristics that are representative of a community with elevated social vulnerability risk factors
- contribute to the inability of Pollocksville residents to attain the resources necessary to make the community more resilient to environmental stressors. As witnessed after Hurricane Florence, these vulnerabilities become active threats to life and property during and long after a natural disaster.

Pollocksville and Jones County also face significant obstacles to financing the infrastructure projects needed to better prepare for future disasters. Of the 80 counties classified by the NC Rural Center as having ‘rural’ population densities, 17 of them (including Jones County) share the dual characteristics of having:

- annual, per capita capital expenditure budgets that are less than the average for NC rural counties ($78.74/person/year)
- total budgets for annual capital expenditures that are not able to finance the local cost-share requirement (25%) of a single ‘resilient infrastructure’ project based on 2020 national average costs ($1,400,510.00, FEMA).

Together, these data points suggest that without external financial support, communities in Jones County are both under-resourced compared to other rural
counties in the state and lack the ability to self-fund capital improvement projects that may be necessary for community viability and sustainability.

The Pollocksville Community Floodprint responds to these financial and technical challenges by strategically aligning community-identified values for resilience with potential funding sources that are external to local funding streams and creating support materials that make Pollocksville more competitive to receive the external investments, grants, and resources it needs and deserves.

**PROCESS AND OUTCOMES**

As documented in Pollocksville and other rural communities, the overlap of vulnerable populations and heightened environmental risks imposes barriers to accessing the long-term technical support and financial resources needed to better prepare for future disasters. In response to these shortfalls, the CDDL secured external grant funding to assist the community at no cost to the community.

The project team led a mixed-method community engagement campaign. Engagements occurred during the height of the pandemic; activities were hosted outside (with masks), and interactive sessions were designed to promote social distancing. Even with these challenges, the attendance for in-person activities included nearly 30% of the town’s population. These efforts were further bolstered by mailed (included with monthly water bills) and online surveys. The project team also worked with town officials to assemble a Technical Advisory Committee that included representatives from state mitigation and emergency management, local non-profits, and county floodplain management and economic development.

As an outcome of the close collaborations with stakeholders and project partners, the resulting plan responds to local challenges by establishing community-identified needs and opportunities; undertaking and effectively communicating highly detailed analyses; engaging stakeholders in the co-production of design and decision-making processes; illustrating a phased, flexible plan; and addressing long-term technical assistance needs via a final document that was strategically designed to be “cut-and-paste” into predetermined, future grant applications.

Within the first six months following delivery of the initial planning document, the Pollocksville partnership had already attracted $1.7M in investments to implement the following portfolio of interconnected projects. In addition to these funds, collective outcomes of the projects operationalized through the Floodprint process resulted in $1.96M in environmental benefits and avoided damages.
Strategically and collectively woven into the broader community, these projects reinforce the themes of environmental resilience, recreational enhancement, and economic recovery. Supported under this unified vision of long-term viability and sustainability, Pollocksville is ready to build back stronger than before the storm.
ABOUT APLU

The Association of Public and Land-grant Universities (APLU) is North America’s oldest higher education association. APLU is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico. The association's membership consists of public research universities, land-grant institutions, state university systems, and affiliated organizations.

APLU's mission is to: expand access and improve student success to deliver the innovative workforce of tomorrow; advance and promote research and discovery to improve society, foster economic growth, and address global challenges; and build healthy, prosperous, equitable, and vibrant communities locally and globally.

Based in Washington, DC, the association's work is furthered by an active and effective advocacy arm that works with Congress and the administration as well as the media to advance federal policies that strengthen public universities and benefit the students they serve.

ABOUT THE IEP UNIVERSITIES PROGRAM

APLU and its Commission on Economic and Community Engagement (CECE) established the Innovation and Economic Prosperity (IEP) Universities Program to help higher education institutions codify, elevate, and advance their campus enterprise supporting economic and community development.

The IEP designation program recognizes institutions that have demonstrated a meaningful, ongoing and substantial commitment to economic and community development, growth, and economic opportunity.

The IEP awards program recognize exemplary and innovative projects in university-based economic and community engagement:

- **Talent** and workforce development
- **Innovation**, entrepreneurship, and tech-based economic development
- **Place** development through public service, outreach, and community engagement

Learn more at: [www.APLU.org/IEP](http://www.APLU.org/IEP)