

# Research & Policy Brief Series

## Rivers and Resiliency: How Rivers Shape Place Character and Contribute to Community Development

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### What is the Issue?

Communities across the U.S. are engaged in revitalization efforts to transform post-industrial riverfronts into vibrant community centers (e.g. Evert 2015, Cook and Ward 2012). An essential, but perhaps underappreciated ingredient in these efforts is the rebuilding of citizens’ relationships with the river. For rustbelt riverfront communities that have experienced catastrophic flooding, relationship building may be especially challenging; to succeed, it is important to address *sense of place*. We report on a university-community partnership in Binghamton, New York designed to understand perceptions of local rivers while engaging residents to envision the future. This approach can foster understanding of opportunities and challenges related to living with water in positive ways.

### Rust to Green Binghamton: The Living with Water Project

Rust 2 Green Binghamton’s (R2GB) *Living with Water* project is an action research initiative focused on understanding and increasing community capacity for resiliency, particularly in the context of recurring and increasingly intense flooding due to climate change (Allred et al. 2016). R2GB’s goal is to engage in creative problem solving to transform problems into opportunities and obstacles into assets. Located at the confluence of the Chenango and Susquehanna Rivers, the City of Binghamton experienced devastating floods in 2006 and 2011, compounding challenges associated with the loss of significant manufacturing activity in the last half of the 20th century. R2GB research focused on *flood* experiences found that the ways in which residents relate to the rivers are complex and multi-dimensional. We sought to better understand these relationships and to identify ways to promote the river as a core community asset, rather than the rivers being viewed solely as a threat or liability.

### Research Methods

To understand perceptions of and aspirations for Binghamton’s rivers, community residents were engaged through a combination of qualitative and quantitative research techniques in the summer of 2017, including a community survey and public prompts via chalkboards at community events. Data was collected during *Live on the Waterfront*, a monthly local music event on the Chenango riverfront. Two chalkboards, each with one of the following prompts, “The River is…” and “I wish the rivers had…” encouraged approximately one hundred responses to the questions. The chalkboard responses were used to frame a community survey on attitudes towards river quality, safety, and usage. Surveys were distributed to residences via the drop-off, pick-up method (Broussard Allred and Ross-Davis 2011) in five downtown Binghamton neighborhoods chosen for their proximity to the rivers, and to represent the socioeconomic diversity of the city (N=234). 50 completed surveys were received; 26 were undeliverable. Additional surveys distributed at a November 2017 community meeting yielded an additional 21 survey responses for a total of 71 completed surveys. The response rate for the drop-off pick-up survey distribution method was 24%.

### Findings

To understand place identity for Binghamton and its rivers, survey participants were asked to indicate the degree to which they agree or disagree with statements about identifying with, and feeling connected to, the rivers (Figure 1). To establish a baseline, participants were also asked to respond to statements about identifying with, and feeling connected to, Binghamton, as a place.

“Living in Binghamton makes me what I am” and “I identify strongly with Binghamton’s rivers” are statements designed to gauge the relative influence of the city and its rivers in shaping residents’ place identity. Most respondents (67%) agree or strongly

Figure 1:

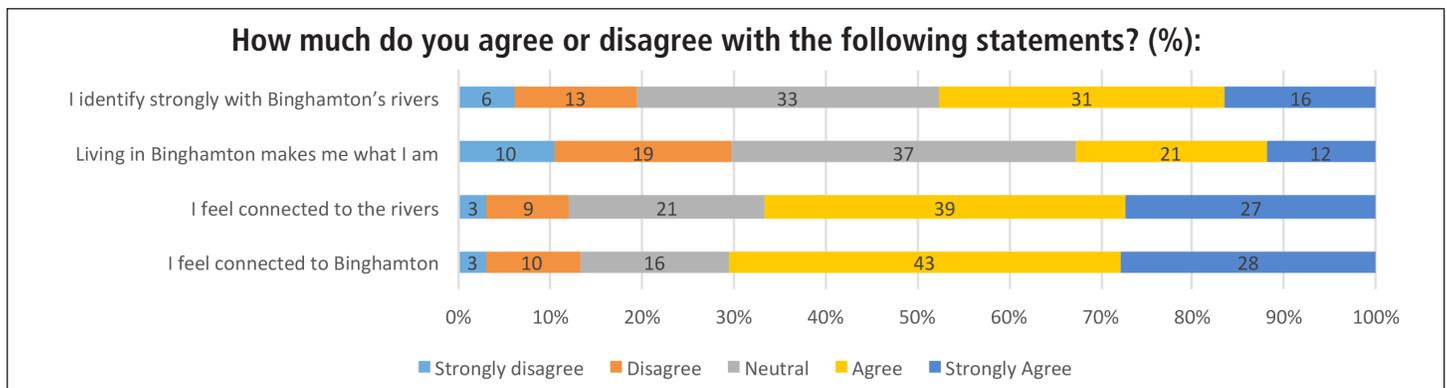
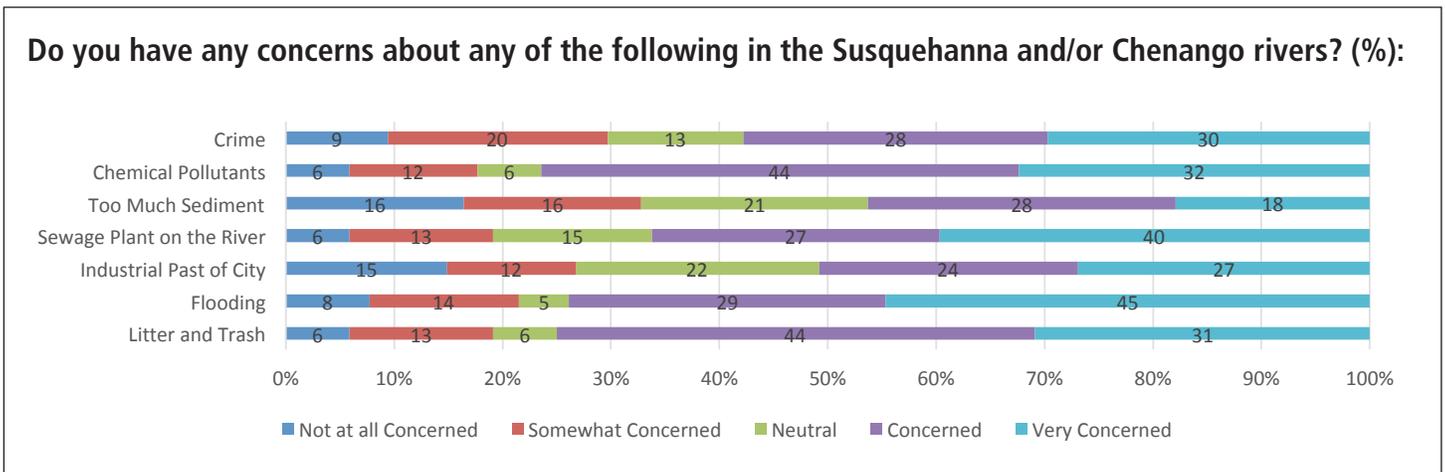


Figure 2:



agree that “living in Binghamton makes me what I am” while 48% agree or strongly agree that they “identify strongly with Binghamton’s rivers” – the differences in responses are statistically significant, suggesting that Binghamton as a *place* is viewed as relatively more central to respondent’s identity than are the *rivers*.

Two statements – “I feel connected to the rivers” and “I feel connected to Binghamton” – are designed to assess respondent’s place identity and sense of connection to the city and its rivers. Responses to the two statements produced similar results and are not statistically different (71% and 67%, respectively, agree or strongly agree with the two statements).

To better understand factors potentially inhibiting or negatively impacting residents’ relationships with the rivers, we asked survey respondents to indicate their level of concern about a variety of issues identified in the interviews and chalk board responses. (figure 2)

The top three issues of concern (combining responses of “concerned” and “very concerned”) are *chemical pollutants*, *litter and trash*, and *flooding*. The issues of least concern (those invoking “not at all concerned”) are *sediment* and the *industrial past of the city*. The 2006 and 2011 floods caused significant damage and loss for Binghamton and Broome County residents and this threat to property and well-being is still very much a concern for residents. While 77% of respondents were concerned or very concerned about chemical pollutants, only 51% had the same level of concern about the industrial past of the city. The results indicate areas of concerns

about the rivers and riverfronts that may deter residents and visitors from frequenting them. Litter and trash are of concern to survey respondents, which could impact aesthetics and recreational use of the rivers. A better understanding of these water-related concerns is critical in order to address them and improve resident-river relationships. (figure 3)

Aside from being a data-gathering tool, the chalkboards encouraged people to think creatively, and inspire collective thoughts about the rivers. Chalkboard responses convey a desire to make the rivers more accessible and suggest Binghamton’s rivers are important to respondents. Most responses are positive, characterizing the river as “spiritual energy” and “life”. Respondents seek to “bring back” past river-related activities such as “the raft race” or “Pops on the River,” a riverfront concert of Binghamton’s Philharmonic Orchestra. A desire for more engagement and recreation with the rivers is present in quotes such as “more purpose”, “more events like this”, “kayak rentals”, and “canoes”. Comments such as “underutilized” and “more opportunity” suggest unrealized potential, while criticism of the river is reflected in remarks about pollution (e.g., “too dirty to swim”). Place identity references surface in comments such as “[the river is] in you and me” and “... part of history.” While flooding is routinely part of river-related discussions, it is not referenced in the chalkboard comments, perhaps because of the festive nature of the riverfront setting.

### Discussion

Our analysis suggests the Chenango and Susquehanna rivers play an important role in the identity of Binghamton residents and that current revitalization initiatives are making a positive impact. Creating additional spaces and incentives for people to engage with the riverfronts as well as highlighting the role of the rivers in the city’s narrative could help reaffirm and deepen these connections, and attract new visitors to Binghamton’s rivers. The ideas shared in the chalkboard exercise speak to a variety of ways respondents would like to engage with the river and could serve as rallying points for new riverfront revitalization projects. At the same time, it will be important to address issues of concern that negatively impact perceptions of the rivers and may inhibit their use. Future research into if and how these concerns influence residents’ behaviors will be critical for shaping Binghamton’s narrative and making positive contributions to the rivers’ place in the community’s future.

Figure 3: Chalkboard responses collected during Live on the Waterfront, Chenango Riverfront



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