

## **Using Data Visualization to Demonstrate Outcomes—Examples From Ripple Effects Mapping**

### **Abstract**

If you have conducted a ripple effects mapping (REM) event, you may have wondered "What is the best way to use these data, and what are some creative options for sharing the findings?" REM involves a mind mapping approach to evaluation and is an effective way to collect qualitative data that document the direct and indirect impacts of complex programs and projects. We provide examples of visual ways to display the gathered data and describe how to use the information to elevate your program outcomes.

**Keywords:** [ripple effects mapping](#), [mind mapping](#), [evaluating community development](#), [data visualization](#), [infographics](#)

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## **Introduction**

Qualitative data, often collected through focus group sessions or interviews, are usually shared in transcribed words only. However, the rich and visual qualitative data generated by ripple effects mapping (REM) can be used in multiple ways to leverage information collected through the experiential process. Facilitators of an REM process lead participants through a data collection exercise combining elements of appreciative inquiry, storytelling, and mind mapping (Hansen et al., 2018). The process of visualization of participant stories and experiences results in the collection of unique qualitative and quantitative data that illuminate the impacts and effects of collaborative projects and programs. The products generated through REM can be used as tools to aid in program evaluation and communication. Herein we provide examples of REM data visualization for communication purposes.

## **Background**

Each author has been a designer, practitioner, trainer, and/or program lead for REM and has experienced the

"what to do with the data" dilemma from all aspects. As Extension professionals, we are interested in sharing ways in which we have used the process, not just as a data collection and evaluation method but also as a way to generate powerful visual storytelling tools. We do not walk you through the how of conducting an REM event. Refer to *Field Guide to Ripple Effects Mapping* (Chazdon, Emery, et al., 2017) or *Advanced Facilitator Guide for In-Depth Ripple Effects Mapping* (Hansen et al., 2018) for information about the core components, methods, and steps for conducting an REM event.

## Storytelling and Visualization

As Extension professionals, we are regularly challenged with capturing the value and impact of our work in compelling ways—work that needs to be shared with our funders, the communities we serve, and the universities at which we work. Storytelling is a powerful technique that can be used in many different ways to communicate Extension work (Edwards et al., 2019; Franz, 2016.) Stories help us understand and assess the impacts and value of Extension work in a way that quantitative data cannot (Peters & Franz, 2012). Cowger and Tritz (2019) stated, "More than numbers, our participants' stories reveal their educational needs and achievements and the rich, robust, and sometimes powerfully emotional real-life impact of our program" (Applications for Extension Educators section).

Narrative visualization, the process of transforming data into visually shared stories, is increasingly being used by researchers, journalists, and the business community as an effective way to communicate complex themes and facilitate data analysis (Lee et al., 2015; Segel & Heer, 2010). Visualizations aid in our ability to process complex interactions and understand the world around us (Fox & Hendler, 2011). Like concept mapping or social network analysis, REM results in a visual representation of the connections and relationships between actors and the cause and effect of collective organization (Hansen Kollock et al., 2012; McLinden, 2013). When group structures and interactions can be clearly visualized, collaboration and group function can improve (Yoon, 2011). The stories elicited through the REM process and visualized on the emerging map become a powerful way for participants to understand and communicate the impacts of a group's work (Emery et al., 2015).

## REM Visualization Examples

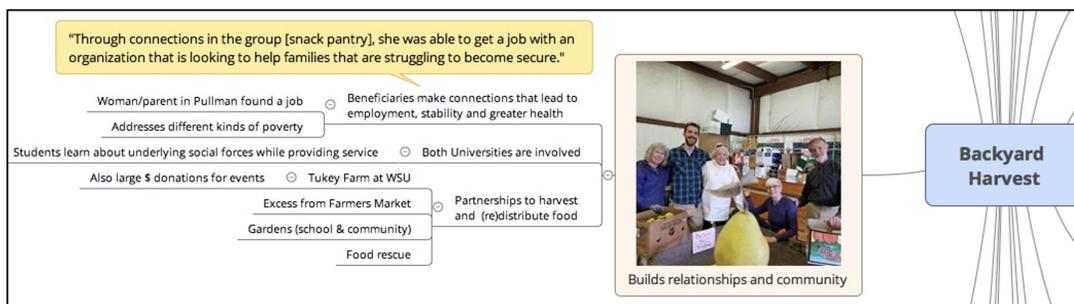
The way data are packaged influences audience perception and attention (Evergreen & Metzner, 2013). Effective visualizations of REM data can be leveraged for program success in a variety of ways. Graphic products resulting from REM can include

- a photo of the REM map;
- a group photo with the REM map;
- a digital version of the REM map;
- a "story map," or digital version of the REM map with photos and quotes embedded; and
- individual ripples animated in PowerPoint presentations.

The graphic products can be used in grant reports, printed in newsletters or brochures, or printed with a large







## Simplification of Individual Ripples

Simplification of the data also can aid in user comprehension (Evergreen & Metzner, 2013). Individual ripples can be pulled out to demonstrate specific, targeted impacts (Figure 5). These graphics can be used as stand-alone products, animated in presentations to accompany a verbal narrative, or incorporated into larger products such as Extension "public value posters" (Chazdon, Meyer, et al., 2017). Using the digitized (or original) map in public presentations gives many options for drawing new people into the project.

**Figure 5.**  
Individual Ripples Animated in a PowerPoint Presentation



## Applications for Extension Educators

As Extension educators and faculty, we are challenged to share our stories in ways others can interpret and understand. The programs and communities we work with also face the same challenges. In addition to the engaging aspect of the REM process, the visual products that result from an REM process are powerful tools that can help Extension professionals communicate impact to those that matter most: our community partners, funders, and university systems.

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