

**The theory of the problem:** The Susquehanna River drainage area is greater than 20,000 square miles within Pennsylvania. State agencies like the PA Fish and Boat Commission and PA Department of Environmental Protection (DEP) collect data on water quality, fish health and abundance, vegetation, and other indicators for the river. Higher education institutions also do their own data collection and analysis. However, typically these organizations do not collaborate or share their data, due to a variety of factors. This leads to data gaps, different conclusions, and diverging management recommendations. Finding a way to bring these different groups together to share data is one resource that has been identified by myriad stakeholders as a necessity that is currently lacking.

**The theory of change:** There is considerable useful data out there on the health of the Susquehanna River, yet it is housed within various private computers that cannot converse and share. This creates redundant studies, data gaps, and confusion on the state of certain indicator species and water quality metrics related to the Susquehanna (among other water bodies). Having a shared database will advance our knowledge of the state of the Susquehanna River and come up with mutual solutions to address issues affecting the river and its tributaries. The data housed within will include that of state agencies such as the Fish and Boat Commission and the Department of Environmental Protection (DEP), higher education institutes, and nonprofits. The data will meet certain set parameters and standards and will be publicly-accessible. This will allow for partnerships and advanced efforts to protect the river.

**The theory of action:** The first step is to identify a location for the centralized database. RiverStewards met with a representative of Harrisburg University (HU) to discuss the potential creation and maintenance of the database. HU was already thinking about a similar effort to take all DEP's data (not just water quality, but air quality, etc.) and house it in a central repository at the university. It was decided to use the Susquehanna River and its related data as a pilot for the database idea. The next step is to bring in others from the university, as well as representatives from the relevant state agencies, academia, nonprofits, a river guides to help decide data protocols and other measurements to ensure that the data is reliable and ok for public release. Once the agreed upon protocols are in place, graduate students and faculty from HU will create the shared database. HU and RiverStewards will work with the state agencies, academia, and nonprofits to copy their data over and begin the process of outreach to the greater academic community to let them know of the database's existence and purpose. Periodic meetings between all parties involved will take place to discuss potential changes/upgrades to the database, data gaps, and other concerns.

Budget and timeline to be determined.