Guiding the Science: Getting River Guides Involved in Data Collection

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 needed resource. Another is to get more people involved in the data collection itself, as state agency staff members cannot do it all themselves. The shared database and more boots on the ground 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 theory of change: River guides are out on the Susquehanna River as part of their livelihoods. Their experience and expertise of the river and its ecological processes would provide invaluable data on the health of the river and its inhabitants to state agencies and academia, if only it could be captured in a manner useful to those groups. To date, two of the busiest and most experienced Susquehanna river guides have committed to participate in a smallmouth bass survey with RiverStewards. This data could easily be entered into a database through the development of a smartphone application that the river guides would use to collect data. The data will mirror what is collected by the Fish and Boat Commission and the DEP and will be housed in a central database repository that is accessible to all state agencies, academia, and other interested parties for use in their studies and reports. RiverStewards will train the river guides and provide them with the resources necessary to effectively collect useful data.

The theory of action: The first step is to identify a location for the centralized database. RiverStewards is pursuing a partnership with Harrisburg University to create and maintain the database. The Fish and Boat Commission, DEP, and others will be brought in to help decide data protocols that will be in line with the data they currently collect. RiverStewards will then identify an application developer to create a phone app based on those protocols. Data points may include information on the smallmouth bass collected (length, weight, noticeable sores, lesions, or growths, behavioral anomalies, etc.), water conditions, and other points. RiverStewards will then train a select group of river guides to use the phone app and upload their findings to the database website. As the project progresses, more river guides will be brought on board to cover different 40-mile stretches of the Susquehanna River. Frequent communication between the involved state agencies, academia, river guides, and other partners will ensure the data being collected is useful and accurate, or adapted as needed.

Budget and timeline to be determined.