Database Development for Tracking Regional Quality Assurance and Science
Ashton Pieris*, Program on the Environment, University of Washington
Site Supervisor: Donald Brown, Environmental Protection Agency
Faculty Advisor: Ann Bostrom, University of Washington

Background
• Environmental data is important for making environmental decisions.
• Quality Assurance Project Plans (QAPPs) are a key component of a systematic planning process for environmental projects that rely on data collection (i.e. Superfund sites).
• Collecting and analyzing environmental data can be both complex and expensive.
• A well-planned QAPP ensures environmental data can be used in decision-making.
• It is important to properly track, log, and store environmental data.

Research Question
How can the development of an electronic database improve the overall tracking of the Quality Assurance Project Plan?

Internship
• Interned with the United States Environmental Protection Agency (USEPA) with the Laboratory Services and Applied Science Division.
• My project focused on developing a Microsoft SharePoint database to ensure QAPPs are being properly submitted, tracked, and approved.

Results
Elements of Effective Databases:

Effective
Database

Ease of use

Commonality of data elements

Relevant information

Figure 2. Shows elements of an effective electronic database used for tracking QAPP submissions.

• Three key elements specific to producing an effective database emerged through internal feedback from the QA Team.
• Choosing the right metrics to be captured day to day can help the QA team reach certain goals such as turnaround times, communication, and quality.

Methods
• Deployed database that tracks QAPP submissions.
• Tested database to make sure it met the needs of the EPA through internal feedback. (Figure 2)
• Designed an online form that customers could use to document QAPP submissions from start to finish.
• Included bowling chart metrics to compare actual metrics to targets and goals.

Significance
• In order to capture quality science an agency must create a sound and consistent system for measuring the activities that lead to productivity.
• By better tracking environmental data we are able to do more environmental good.
• Ensures environmental data are of known and documented quality, of sufficient quantity, are legally defensible and are suitable for their intended use.

Acknowledgements
I would like to thank my site supervisor Donald Brown and the rest of the Quality Assurance team at the EPA for allowing me the opportunity to work along side them and other experts in the environmental field. I would also like to thank my family, friends, and everyone who supported me along this journey including my faculty advisor Ann Bostrom.

Figure 1. Displays a flow board which is the current method used by the EPA to track QAPP submissions.

Figure 3. The process in which tracking environmental data leads to more environmental good.