SEI Watershed and Water System
Program Description

Strategic Energy Innovations has received a grant from the National Oceanic and Atmospheric Administration (NOAA) to support our Discovering Watersheds & Public Water Systems project. The support of NOAA will allow SEI to offer intensive support to 7 high schools within the San Francisco Bay-Delta watershed to engage students in hands-on watershed and public water system analyses, citizen science, and community service during the 2016-2017 school year.

The standards-aligned, project-based SEI Watersheds & Public Water Systems and School & Home Water Assessment curriculum units aim to:

- Engage students in exploring their local watersheds and water systems through hands-on fieldtrips and development of a GIS story-map, and
- Empower students to take action to protect and preserve local watersheds in their home and community through water usage audits, conservation and pollution mitigation campaigns, citizen science, and watershed restoration.

SEI will design and guide interactive watershed experiences, partner with local organizations to offer participation in restoration projects, and partner with local water distribution and wastewater treatment plants to help students investigate public water systems and their interaction with local watersheds.

SEI's expert educators will provide participating teachers with project-based curriculum, teacher training, instructional support, co-instruction, and field learning design and facilitation support. This includes fully developed and field-tested curriculum, teacher training stipends and meals, water quality testing kits, field trip transportation and substitute stipends, and SEI's full instructional support.

Funding covers an average of 3 field learning experiences for student watershed data collection, water system exploration (such as a fieldtrip to the local wastewater treatment facility), and watershed restoration projects. NOAA staff, scientists, and engineers will join watershed fieldtrips at data collection points to assist with instruction and describe their personal career pathway.

Students will create an interactive GIS Story Map that includes details of both their local watershed and public water system, as well as water quality data collected in their field learning experiences. Water quality data will also be shared and available for comparison between students around the Bay Area through an online citizen science database.

The objectives of this project are to: increase student knowledge and understanding of their local watershed and public water systems; increase connection to their watersheds and awareness of changes to their local environment due to local climate change impacts, pollution, and ecosystem/habitat degradation; and empower students to make a meaningful contribution to the health and community awareness of local watersheds through citizen science data collection and water conservation practices involving water auditing/pollution mitigation campaigns.

To understand the impacts of our project, we will use pre- and post-tests to assess knowledge and skills, pre- and post-surveys to assess changes in attitudes and behaviors, and evaluations by students and teacher to identify opportunities for continuous improvement of the program.