

## Bay Watershed Education and Training (B-WET)

The NOAA Bay Watershed Education and Training (B-WET) Program is an environmental education program that promotes locally relevant, authentic experiential learning focused on K–12 audiences. B-WET funding is provided through competitive grants that promote Meaningful Watershed Educational Experiences (MWEEs). MWEEs are multi-stage activities that include learning both outdoors and in the classroom, and aim to increase the environmental literacy of all participants. These activities leverage local STEM assets and STEM professionals. NOAA funding is provided to support student investigation of environmental topics and related professional development for educators. Students identify actions to address these issues and understand the value of those actions.



*Students formulate a hypothesis during a stream exploration field trip with the Nooksack Salmon Enhancement Association. B-WET Pacific Northwest*

B-WET currently serves seven regions of the country: parts of California, Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawaii, New England, and the Pacific Northwest, reaching a total of 27 states and the District of Columbia. This regional implementation allows B-WET programs to support grantee capacity building and respond to local education and environmental priorities. For more information about the B-WET program, visit <http://www.oesd.noaa.gov/grants/bwet.html>.

### 2015 Program Impacts

- ❖ B-WET funded **84 institutions** bringing locally relevant, authentic experiential environmental learning to K–12 audiences, supported by local STEM assets and STEM professionals.
- ❖ Approximately **2,000 educators** received professional development to enhance their skill and confidence in using environmental education and MWEEs to address multiple subjects' curriculum standards and local education agency initiatives.
- ❖ An estimated **66,000 students** participated in multi-stage, inquiry-based activities that include learning both in the classroom and outdoors in a local context.

Since 2002 NOAA has **awarded over \$69 million to support more than 650 B-WET projects**. Activities supported with 2015 funds include a cultural and natural history exchange program with the Suquamish Tribe in Washington State, bringing together high school students from different regions in the Pacific Rim to share common ideas, values, and traditional ways of knowing. In the Gulf of Mexico, an interactive website entitled Watershed Experience Tracker and waterway cleanup initiatives teaches teachers and



*Students screen a zooplankton sample in Chesapeake Bay as part of the Plankton and Nutrient Studies (PLANS) project with Morgan State University. Chesapeake B-WET*

students how marine debris affects their marine environment. In California, student mentoring teams including STEM professionals engage in the STEM disciplines and actively participate in Santa Barbara Channel research by assembling and collecting data with marine remotely operated vehicles (ROVs) in order to implement long-term monitoring protocols, analyze historical datasets, and construct scientific reports and outreach projects.

## **Evaluation and Advancing the Field**

B-WET uses evaluation and evidence based practices to improve and refine the core B-WET experience, the MWEE. The MWEE is based on research literature, evaluation results and lessons learned over a decade of program implementation. The B-WET national evaluation system, which began data collection in 2014, enables the program to monitor and adjust program activities as a result of new information about best practices, and to support grantees in implementing those practices.

B-WET is a leader in evaluation. The National Research Council highlighted B-WET in their 2010 report on NOAA Education as “the most rigorous evaluation design employed among the NOAA evaluation programs.” This recognition was in reference to an evaluation of the Chesapeake B-WET program in 2007 that demonstrated tangible links between students’ participation in B-WET funded MWEEs and an increase in their environmental stewardship and literacy.