



MONITORED THE HEALTH
OF 12 STREAMS...

...WORKED WITH 1,500 YOUTHS
IN WATER QUALITY SERVICE-
LEARNING PROJECTS...

GREENING FORWARD
BUILT 200 RAIN
BARRELS, AND 80
COMPOST BINS...



AND PLANTED 200
TREES AND 500
PLANTS!



**FLETCHER INTERMEDIATE SCIENCE & TECHNOLOGY SCHOOL
AURORA, CO**

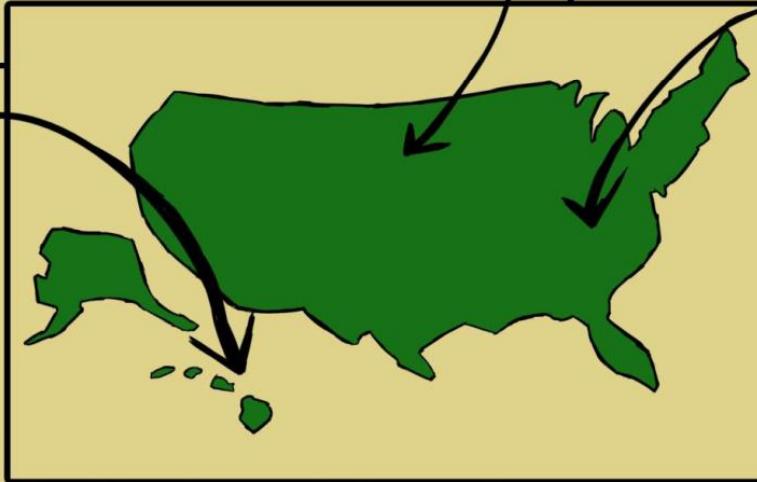
FLETCHER INTERMEDIATE SCIENCE & TECHNOLOGY SCHOOL LIES WITHIN THE CHILDREN'S CORRIDOR OF DENVER, AN AREA RECOGNIZED BY THE PITTON FOUNDATION TO BE OF CRITICAL NEED DUE TO DISPARITIES IN HEALTH, EDUCATION, AND CRIME. IN PARTNERSHIP WITH EARTH FORCE, GREENING FORWARD'S EXPERIENTIAL SERVICE-LEARNING PROGRAMS APPLY ACADEMIC KNOWLEDGE TO REAL WORLD PROBLEM SOLVING, THUS MAKING CLASSROOM CONTENT RELEVANT. STUDENT LEADERS SERVE AN ACTIVE ROLE IN MONITORING THE COMMUNITY'S WESTERLY CREEK AND CHALLENGING COMMUNITY PROBLEMS THROUGH AN ENVIRONMENTAL JUSTICE LENS. THE SOCIAL LANDSCAPE IS SIMILARLY MIXED ALONG WESTERLY CREEK. ALONG WESTERLY CREEK, ONE WILL FIND TWO WEALTHY, MOSTLY WHITE NEIGHBORHOODS WITH MANY GREEN AMENITIES RELATED TO THE CREEK AS WELL AS FULL PROTECTION FROM A 500-YEAR FLOOD. IN BETWEEN IS A MUCH DIFFERENT WORLD, ONE WITH LOWER AVERAGE SOCIO-ECONOMIC STATUS, MUCH HIGHER CRIME RATES, MUCH LARGER POPULATIONS OF IMMIGRANTS, AND DISADVANTAGED AND HOMELESS YOUTH. AS IT FLOWS THROUGH THIS NEIGHBORHOOD, WESTERLY CREEK IS VISIBLE ONLY INTERMITTENTLY, WITH MANY REACHES FLOWING UNDERGROUND THROUGH BOX CULVERTS. GREEN SPACE IS MUCH MORE DIFFICULT TO FIND. THE CHANNEL THROUGH THIS 11-BLOCK STRETCH, ACCORDING TO JUNE 2009 CALCULATIONS BY URBAN DRAINAGE AND FLOOD CONTROL DISTRICT, CANNOT ADEQUATELY HANDLE EVEN A 100-YEAR FLOOD. MORE THAN 130 OCCUPIED HOUSES AND APARTMENT BUILDINGS ARE LOCATED IN THE FLOODPLAIN. SUCH A FLOOD WOULD DO AN ESTIMATED \$11.5 MILLION IN DAMAGE, PLUS EXTENSIVE DISRUPTION TO LIVES OF PEOPLE WITH LITTLE IN THE WAY OF SAFETY NETS. HOWEVER, FLETCHER INTERMEDIATE'S STUDENT LEADERS ARE DEVISING SOLUTIONS TO THEIR COMMUNITY'S WATER AND SOCIAL ISSUES.

**CANTON CREEK MONITORS
BALL PARK, GA**

HOME SCHOOLED STUDENTS OUTSIDE OF ATLANTA, GA HAVE COME TOGETHER TO CREATE A COLLECTIVE COALITION OF YOUTH-DRIVEN WATER QUALITY EXPERTS. MADISON, ONE OF THESE HOME SCHOOLED STUDENTS, UNDERSTANDS THAT "OUR TRIBUTARY TO CANTON CREEK TRAVELS SOUTH OF THE CITY OF CANTON, THROUGH NEIGHBORHOODS AND UNDER SHOPPING CENTERS. WITH THE POTENTIAL FOR SO MUCH POLLUTED RUN-OFF, IT IS CRITICAL THAT WE CONTINUE TO MONITOR CANTON CREEK AND ITS TRIBUTARY REGULARLY. FOR INSTANCE, IN JULY 2012, WE DETECTED EXTREMELY HIGH BACTERIAL COUNTS IN BOTH CANTON CREEK AND ESPECIALLY ITS TRIBUTARY. WHEN A MONTHLY REPEAT OF OUR TESTS SHOWED THAT THIS WAS NOT AN ANOMALY DUE TO RECENT RAIN, FOR INSTANCE, WE UNDERSTAND THAT THE CITY OF CANTON ACTED ON THE INFORMATION THAT WE PROVIDED," SAYS MADISON. CANTON CREEK STUDENTS HAVE PARTNERED WITH COMMUNITY-BASED AGENCIES TO CREATE COMMUNITY WORKSHOPS ON STREAM-WATER CONSERVATION, RAIN BARRELS, AND COMPOST BINS.

**HALAU KU MANA CHARTER SCHOOL
HONOLULU, HI**

LOCATED IN THE MAKIKI VALLEY, HALAU KU MANA CHARTER SCHOOL IS ONE OF FEW TRADITIONAL HAWAIIAN SCHOOLS LEFT IN HAWAII. MAKIKI VALLEY WAS POPULATED IN 400 AD AND IS THOUGHT TO BE ONE OF THE FIRST AREAS OF OAHU SETTLED. HALAU KU MANA'S PROPERTY IS WHERE MAKIKI STREAM SPLITS INTO THREE TRIBUTARIES: KANEALOLE, MOLEKA, AND MAUNALAHA. THESE STREAMS FEED THE AQUIFERS FOR THE CITY OF HONOLULU. STUDENTS LEADERS AT HALU KU MANA HAVE BEGUN LEADING PROJECTS TO SLOW THE DEVELOPMENT OF COMMERCIAL INDUSTRIES IN THE MAKIKI VALLEY. THEY ARE FIGHTING TO PROTECT A CULTURALLY RICH AREA TO THE HAWAIIAN PEOPLE. ELDER (KUPUNA) FROM MAKIKI VALLEY OFTEN TELL STORIES OF EATING OOPU (NATIVE FRESHWATER GOBIES), OPAE (NATIVE SHRIMP) AND OTHER ANIMALS FROM THE STREAM IN THE EARLY 20TH CENTURY, BUT THESE CULTURAL ACTIVITIES ARE THREATENED WHEN DEVELOPMENT COMES TO MAKIKI VALLEY. STUDENTS HAVE USED STREAM WATER MONITORING AS A TOOL TO MEASURE ANY CHANGES OF THE MAKIKI STREAM'S HEALTH FOR THE PAST FIVE YEARS. THIS SCIENTIFIC RESEARCH HAS BEEN PRESENTED TO LOCAL AGENCIES AND IS ONE OF FEW SCIENTIFIC EFFORTS IN THE REGION THAT CAN BE USED TO SHOW LOCAL IMPACTS OF DEVELOPMENT ON MAKIKI STREAM. HALAU KU MANA STUDENTS ARE ALSO REDUCING THEIR SCHOOL'S IMPACT ON THEIR NEIGHBORING STREAMS BY BUILDING COMPOST BINS AND RAIN BARRELS FOR THE SCHOOL. STUDENT LEADER, MAKANA, SAYS, "IN MY OPINION ANYONE CAN CHANGE THE WORLD. ALL IT TAKES IS EFFORT. I THINK THAT YOUNG PEOPLE CAN AND DO CHANGE THE WORLD BECAUSE WE ARE JUST AS IMPORTANT AS ADULTS."



STORMWATER RUNOFF, A NON-POINT SOURCE POLLUTANT, IS THE 21ST CENTURY THREAT TO OUR WATERWAYS. GREENING FORWARD IS EMPOWERING YOUTH IN 20 COMMUNITIES TO LEAD STRATEGIES THAT SOLVE THE ROOT PROBLEM OF WATER QUALITY WHILE EDUCATING THEIR COMMUNITY'S DECISION-MAKERS ABOUT WATER CONSERVATION AND THEIR LOCAL STREAM ECOLOGY.

FOR MORE INFORMATION ON RAIN GARDENS, COMPOST BINS, RAIN BARRELS, AND WATER QUALITY MONITORING PLEASE VISIT WWW.GREENINGFORWARD.ORG.

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