The Environmental Corps

An AmeriCorps Program at American YouthWorks

→What is Environmental Corps and American YouthWorks?

→Service Learning and the Conservation Corps movement.

→Engaging youth through professional-level conservation projects and partnerships with land management agencies.

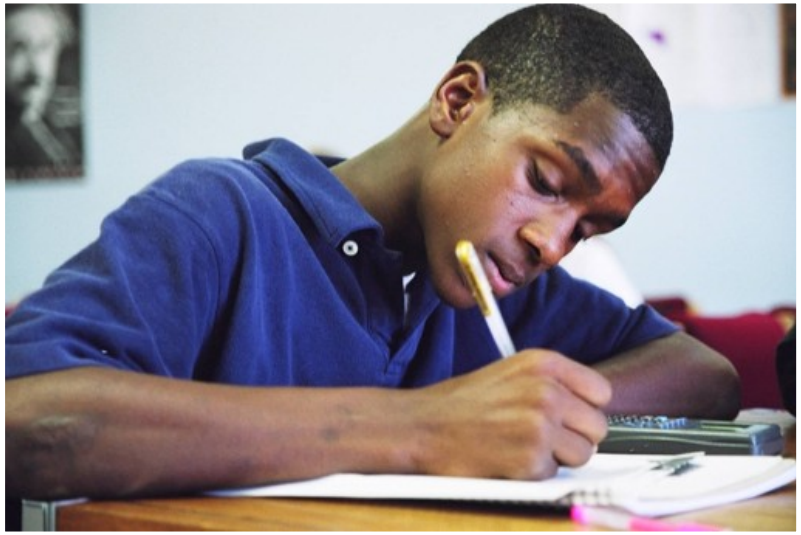
Committed to conservation, community revitalization and education, American YouthWorks offers:

- **Diploma**
- **GED**
- **College Prep**
- **Scholarships**
- **Service Learning Academy**

American YouthWorks:

Green Jobs Training Center

The Green Jobs Training Center is a LEED “silver” energy efficient renovation of the AYW campus to provide onsite green jobs training and technical certification in areas such as solar panel installation, wind turbine technology, energy efficiency, building maintenance, HVAC technology, careers in conservation, and more.



The Environmental Corps at AMERICAN YOUTHWORKS

Building Productive Lives and Better Communities

www.americanyouthworks.org

Construction

- Trail Building
- Trail Design & Layout
- Stairs & Retaining Walls
- Bridges & Armored Crossings
- Maintenance & Repair
- Natural Surface, ADA, etc.
- Benches & Kiosks
- Create Interpretive Brochures

Land & Range Management

- Brush Management & Fuel Breaks
- Prescribed Burning and Prep.
- Patrolling Parkland

Forestry

- Tree Planting
- Nursery Work
- Pruning, Mulching & Fertilization
- GPS Inventory

Community Education

- School and Community Gardens
- Trail Building Workshops
- Watershed Model Demonstrations
- Volunteer Management

Watershed Management

- Erosion Control & Bank Restoration
- Check Dams & Swales
- Aquifer Recharge-Feature Restoration
- Wet Pond Maintenance
- Water Quality Monitoring
- Creek Clean-Ups

Horticulture / Botany

- Remove Invasives
- Plantings and Maintenance
- Seed Collection
- Greenhouse Work
- Flora Surveys and Studies

Service Learning

- **Idea seeded by philosophers William James and John Dewey in the early 1900s**
  "if knowledge comes from the impressions made upon us by natural objects, it is impossible to procure knowledge without the use of objects which impress the mind" –Dewey 1916

- **An exciting, hands-on approach to education, service-learning is taking place in a wide variety of settings: schools, universities, and community-based and faith-based organizations throughout the country. The core concept driving this educational strategy is that by combining service objectives and learning objectives, along with the intent to show measurable change in both the recipient and the provider of the service, the result is a radically-effective transformative method of teaching students.**

Linking Service & Learning

- **1933 Civillian Conservation Corps**
- **1935 Works Progress Administration**
- **1944 The G.I. Bill links service and education**
- **1957 Student Conservation Association places student volunteers in National Parks & Forests**
- **1961 Peace Corps is started by President Kennedy**
- **1964 Volunteers in Service to America "VISTA" program**
- **1965 College Work Study programs start**
- **1966 TVA program first uses the term "service learning"**
- **1966 Urban Corps operates out of New York City**
- **1970 Youth Conservation Corps starts as a summer employment program administered by the USDA and Department of Interior**
- **1976 California Governor Jerry Brown starts the California Conservation Corps**
- **1989 President George H. W. Bush creates the Office of National Service**
- **1993 American YouthWorks starts a service-based field science course from its Charter High School in downtown Austin**
- **1994 Americorps established under President Clinton**

The Service Learning Experience

- They are **positive**, **meaningful** and **real** to the participants.
- They involve **cooperative rather than competitive experiences** and thus promote skills associated with **teamwork** and **community involvement** and **citizenship**.
- They **address complex problems** in complex settings rather than simplified problems in isolation.
- They offer opportunities to engage in **problem-solving** by requiring participants to gain knowledge of the specific context of their service-learning activity and community challenges, rather than only to draw upon generalized or abstract knowledge such as might come from a textbook. As a result, service-learning offers powerful opportunities to acquire the habits of **critical thinking**; i.e. the ability to identify the most important questions or issues within a real-world situation.
- They **promote deeper learning** because the results are immediate and uncontrived. There are no "right answers" in the back of the book.
- As a consequence of this immediacy of experience, service-learning is more likely to be **personally meaningful** to participants and to generate **emotional consequences**, to challenge values as well as ideas, and hence to support social, emotional and cognitive learning and development.

From Eyler & Giles, *Where's the Learning in Service-Learning?*, 1999

Conservation Corps in the U.S.

- 143 Service and Conservation Corps
- 81 with conservation focus

  representing all 50 states,D.C., and territories
- Engage 30,000 youth and young adults each year and complete 21 million hours of service
- 40% female, 57% of color, 66% with family incomes less than $22K, 45% without a HS Diploma or GED, 30% court-involved

Environmental Corps

Agriculture, Food & Natural Resources

Program of Study

Environmental Corps (E-Corps) is a green jobs training and service program that allows youth and young adults to build and restore the natural environment through public land improvement projects including trail building, carpentry, forestry and habitat restoration work throughout the State of Texas and beyond. Youth learn cutting-edge environmental job skills while pursuing their educational goals and earning a post-service education award. E-Corps is a member of The Corps Network, Mountain Alliance of Conservation Corps and Public Land Service Coalition and is a frequent recipient of contracts with local, state, and federal government entities due to its solid reputation in producing quality work safely and efficiently.

Course Offerings

- ***Landscape Design and Turf Management***
- ***Range Ecology and Management***
- ***Forestry and Woodland Ecosystems***
- ***Horticultural Science***
- ***Mathematical Applications in Agriculture***
- ***Service Learning***
- ***Professional Communications***
- ***Physical Education***

Certificates & Trainings

CPR
Wilderness First Aid
Feller A (Chain Saw)
Herbicide/Pesticide Applicator
Leave No Trace
Highline Rigging Safety

College & Career Opportunities

Get a Degree :

Landscape Design/Architecture ❖ Natural Resource Management ❖ Geology
Biology ❖ Geographic Information Sciences(GIS) ❖ Ecology

Explore a Career:

Landscape Designer ❖ Park Manager ❖ Conservation/Land Manager
Grounds Maintenance ❖ Hydrologist ❖ Irrigation Technician

Sponsors & Partners

Texas Parks and Wildlife Dept. City of Austin
Hill Country Conservancy National Park Service
Austin Parks Foundation Travis County
Balcones Canyonland Preserves

Environmental Corps

Agriculture, Food & Natural Resources

Course Descriptions

Landscape Design and Turf Management (0.5 - 1.0 credit)

To be prepared for careers in horticultural systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings. This course is designed to develop an understanding of landscape and turf grass management techniques and practices.

The student:

- learns the employability skills of a successful employee in the modern workplace.
- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.
- identifies environmental, aesthetic, and financial benefits of landscaped sites.
- performs landscape business procedures.
- analyzes the cost and maintenance of tools, equipment, and structures used in the landscape industry.
- performs turf grass establishment and maintenance techniques.

Range Ecology and Management (0.5 - 1.0 credit)

To be prepared for careers in environmental and natural resource systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to environmental and natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings. This course is designed to develop students' understanding of rangeland ecosystems and sustainable forage production.

The student:

- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.
- learns the employability characteristics of a successful employee.
- develops an understanding of the rangeland ecosystem.
- gains an understanding of rangeland as a dynamic, living, and changeable resource.
- analyzes the biotic and abiotic components of a rangeland.
- develops an understanding of the dynamic process of a renewable rangeland resource.
- applies rangeland ecology concepts as related to domestic livestock.
- identifies methods of maintaining and improving rangeland for wildlife production.
- develops an understanding of rangeland as it relates to worldwide concerns.

Forestry and Woodland Ecosystems (0.5 - 1.0 credit)

To be prepared for careers in natural resource systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. This course examines current management practices for forestry and woodlands. Special emphasis is given to management as it relates to ecological requirements and how these practices impact the environment.

The student:

- ***learns the employability characteristics of a successful employee.***
- describes the principles of forestry and woodland ecosystems.
- demonstrates forestry biometrics skills
- performs forestry management skills.
- identifies softwood and hardwood forest management and utilization practices.
- describes the role of wood technology in forest product development.
- applies cartographic skills to natural resource activities.
- identifies and distinguishes ethical practices in the field of natural resource systems.
- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.

Environmental Corps

Agriculture, Food & Natural Resources

Course Descriptions

Horticultural Science (0.5 - 1.0 credit)

To be prepared for careers in horticultural systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. This course is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production.

The student:

- learns the employability characteristics of a successful employee.
- develops technical skills associated with the management and production of horticultural plants.
- identifies structures and physiological processes used in plant production.
- manages and controls common pests of horticultural plants.
- demonstrates marketing and management skills used in the operation of horticultural businesses.
- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.

Mathematical Applications in Agriculture (1.0 credit)

To be prepared for careers in agriculture, food, and natural resources, students must acquire technical knowledge in the discipline as well as apply academic skills in mathematics. Students should apply knowledge and skills related to mathematics, including algebra, geometry, and data analysis in the context of agriculture, food, and natural resources. To prepare for success, students are afforded opportunities to reinforce, apply, and transfer their knowledge and skills related to mathematics in a variety of contexts.

The student:

- demonstrates mathematics knowledge and skills required to solve problems related to the agriculture, food, and natural resources industries.
- demonstrates mathematics knowledge and skills to solve problems related to agribusiness systems and career opportunities.
- demonstrates mathematics knowledge and skills to solve problems related to animal systems and career opportunities.
- demonstrates mathematical knowledge and skills to solve problems related to environmental service systems and career opportunities.
- demonstrates mathematics knowledge and skills required to solve problems related to food products and processing systems and career opportunities.
- demonstrates mathematics knowledge and skills to solve problems related to natural resources systems and career opportunities.
- demonstrates mathematics knowledge and skills to solve problems related to plant systems and career opportunities
- demonstrates mathematics knowledge and skills to solve problems related to power, structural, and technical systems education and career opportunities.
- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.

See "All Corps Courses" on page 37 for detailed descriptions of Career Preparation, Professional Communications, Service Learning, and Physical Education.

Bike Corps

Marketing

Service *is a big part of the Bike Corps. Members practice the spirit of giving back by....*

- *Caring for the trails they ride*
- *Volunteering at area bike events*
- *Organizing a "Community Bike Day"*
- *Advocating for biking as "green" transportation*
- *Commuting on bicycles*

Fitness *Bike Corps and fitness is a package deal. Corps members almost forget they're working out because they're having so much fun, but talk of muscle tone and cardiovascular health always end up being part of the conversations. We're making it happen.*

- *Spin Class at World's Gym in San Marcos*
- *Red Box Pump Track*
- *10-mile Loop @ Lady Bird Lake*
- *Hills and spills at Walnut Creek*
- *Words Mountain Bike Ranch*
- *Inspired the SLA Fitness Contest*

Learning *isn't just for the classroom. Bike Corps members practice real-world Math, Science and English as part of their experiences while they're gaining some great skills:*

- *Bike maintenance*
- *Gear ratios (...especially on hills!!)*
- *Journaling the adventures and experiences*
- *Communicating: Presenting and representing the SLA and Bike Corps in the community*

Course Offerings

- *Entrepreneurship*
- *Professional Communications*
- *Service Learning*
- *Physical Education*

College & Career Opportunities

Business ❖ Sales/Marketing ❖ Exercise Physiology
Mechanics ❖ Entrepreneurship

Sponsors & Partners

Jason George
Bicycle Sport Shop
Austin Ridge Riders
REI

Bike Corps

Marketing Course Description

Entrepreneurship (0.5 - 1.0 Credits)

Students will gain the knowledge and skills needed to become an entrepreneur. Students will learn the principles necessary to begin and operate a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, preparing a business plan, determining feasibility of an idea using research, and developing a plan to organize and promote the business and its products and services. In addition, students understand the capital required, the return on investment desired, and the potential for profit.

The student:

- demonstrates an understanding of entrepreneurship and the entrepreneurial way of life.
- visits local franchises and obtains franchise information such as pamphlets and brochures.
- identifies the importance of a well-written business plan.
- explains and demonstrates how to meet the needs of the customer.
- explains and demonstrates how to meet the needs of a growing organization.
- identifies financial and accounting terms and forms.
- is expected to demonstrate and explain financial and accounting terms and forms.
- uses leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives. The student is expected to participate in leadership and career development.
- knows that offering consumer credit encourages the sale of goods, services, and ideas.
- knows that international economic factors affect business planning.
- knows that pricing has policies, objectives, and strategies.
- knows the effects of credit on price and profit.
- knows the importance of managing the pricing structure.
- knows elements and processes of product planning.
- knows the process for development, implementation, and evaluation of a promotional plan.
- knows that purchasing usually occurs in a continuous cycle.
- knows that entrepreneurial risk is the possibility of loss or failure.
- knows the importance of environmental concerns.
- understands business ethics and legal responsibilities.
- acquires foundational knowledge of business laws and regulations to understand their nature and scope.
- explains the civil foundations of the legal environment of business to demonstrate knowledge of contracts.
- explores the regulatory environment of business to understand the diversity of regulations.
- knows that distribution involves activities associated with the physical movement or transfer of ownership of products from producer to consumer.
- knows that marketing research is a specific inquiry to solve a problem.
- knows the process of collecting marketing information to facilitate decision making.

See "All Corps Courses" on page 37 for detailed descriptions of Career Preparation, Professional Communications, Service Learning, and Physical Education.

Water Corps

Agriculture, Food & Natural Resources

Service *in the Water Corps is anchored by a close partnership with the River Systems Institute's Texas Stream Team located at Texas State University in San Marcos. Fun and exciting opportunities for service include:*

- *testing water quality at least once a month at a designates site and entering the data into a statewide database*
- *waterway clean-ups, canoeing up and down Texas streams removing trash.*
- *watershed demonstrations and presentations to area schools*

Fitness and Water Corps go hand in hand. And the hands will be paddling, rowing, splashing and fishing. In this inaugural year for our Water Corps, we have our sites set on outdoor recreational activities that highlight water fun and safety and the importance of taking care of Texas waterways. Plans include:

- Canoeing & Kayaking
- Stand Up Paddling
- Swimming
- Fishing

Learning *with Water Corps is all part of the fun. Math, English and Science come alive as students research, experiment, report, and present their way through a variety of water activities:*

- *Experimental Design through Water Quality Monitoring*
- *Researching the influences and impacts of different types of water usage*
- *Crunching the data and looking for trends*
- *Blogging, presenting, and creating photo essays about the work and the fun of Water Corps and the Texas Stream Team*

Course Offerings

- *Environmental Technology*
- *Professional Communications*
- *Service Learning*
- *Physical Education*

College & Career Opportunities

Hydrology ❖ Biology/Chemistry ❖ Public Policy
Conservation/Land Management

Sponsors & Partners

Texas Stream Team

Water Corps

Agriculture, Food & Natural Resources

Course Description

Energy and Natural Resources Technology (0.5 - 1.0 Credits)

To be prepared for careers in the field of energy and natural resource systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to energy and natural resources and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need to have opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings. This course is designed to explore the interdependency of the public and natural resource systems related to energy production. In addition, renewable, sustainable, and environmentally friendly practices will be explored.

The student:

- develops an improved supervised agriculture experience program as it relates to agriculture, food, and natural resources.
- uses instructional time to conduct field and laboratory investigations using safe, environmentally appropriate, and ethical practices in a documented supervised experience.
- learns the employability characteristics of a successful employee.
- determines the importance and scope of energy and natural resources.
- analyzes ethical issues related to natural resource management and energy production.
- understands energy and natural resource policies at the local, state, and national level.
- recognizes the purpose of land use planning.
- identifies water and wastewater use and management.
- describes air quality associated with energy production.
- examines soil erosion as related to energy production.
- analyzes the identification, handling, storing, and disposing of waste and hazardous materials.
- learns the processes for producing energy from agricultural crops, biomass, fossil fuel, wind, solar, and geothermal sources.

See "All Corps Courses" on page 37 for detailed descriptions of Career Preparation, Professional Communications, Service Learning, and Physical Education.

Erosion Control at Bull Creek

Calculating soil volume using AutoCAD design documents

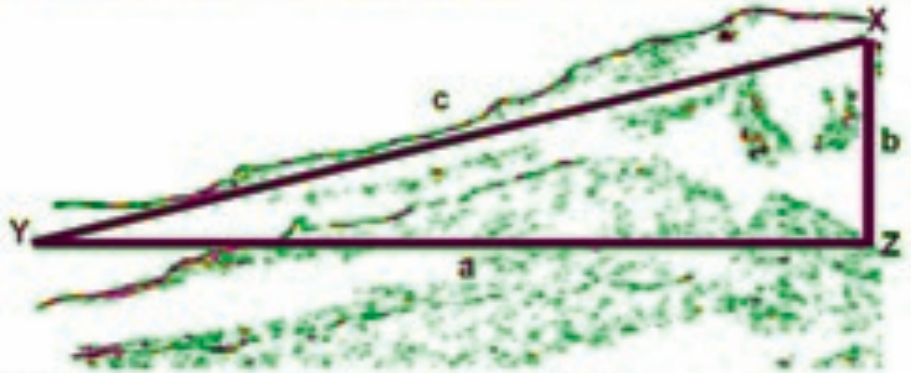
Writing about the process and value of parkland restoration

Preparing an earthen berm

Rock walls and cedar logs.

AMERICAN YOUTHWORKS SERVICE LEARNING ACADEMY

ENVIRONMENTAL CORPS
USING GPS TO DETERMINE SLOPE



Tracks

Waypoints

Pythagorean Theorem

$a^2 + b^2 = c^2$

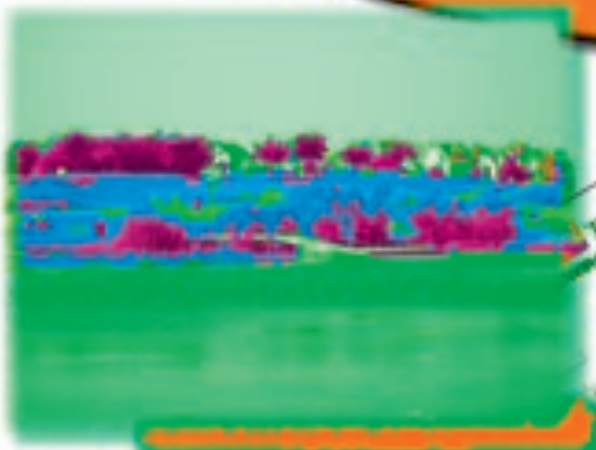
$y = mx + b$

Line Equation

SERVICE LEARNING ACADEMY

WATER CORPS
Water Quality Monitoring

PLUM CREEK - HAYS COUNTY, TEXAS



American YouthWorks Water Corps partners with the River Institute's Texas Stream Team to monitor the water quality at Plum Creek. Plum Creek has been identified as an impaired water body and the Water Corps' monthly reports to the Stream Team contribute to identifying non-point sources of pollution.

The students practice thoroughness and precision as they document field observations, carefully measure solutions to test for pH and dissolved oxygen, and recorded their findings.

Understanding the tests and the reasons for doing them adds to their understanding of our watersheds and the importance of water as a natural resource (especially here in Texas). The experience has also piqued members' interest in professional opportunities in the field of hydrology.

(Below: We also leave it better than we found it — collecting trash from the water!)

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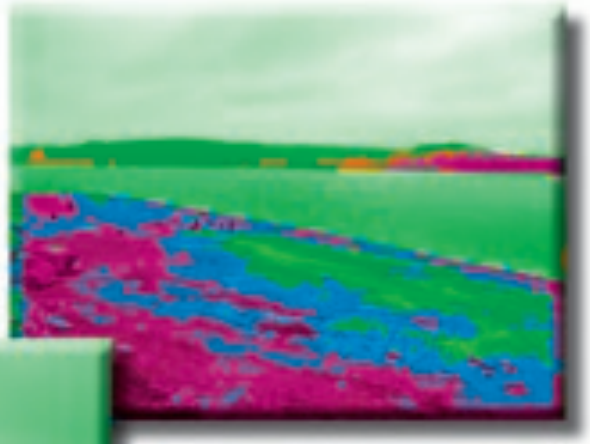
SERVICE LEARNING ACADEMY

WATER CORPS AT MANSFIELD DAM



"So that's what the dissolved oxygen test is about!"

Following up on a story in the Austin American Statesman, the Water Corps visited the Mansfield Dam to see the effects of a lack of oxygen in the water on the lake's fish population.

AMERICAN YOUTHWORKS

AMERICAN YOUTHWORKS

SLA Bike Corps

In action...

...rescuing an SUV from the mud!

March 27th-28th, 2010

...providing much needed water to the bike racers!

...experiencing camping (the good life!)

Aquarena Springs - San Marcos, TX

In partnership with...

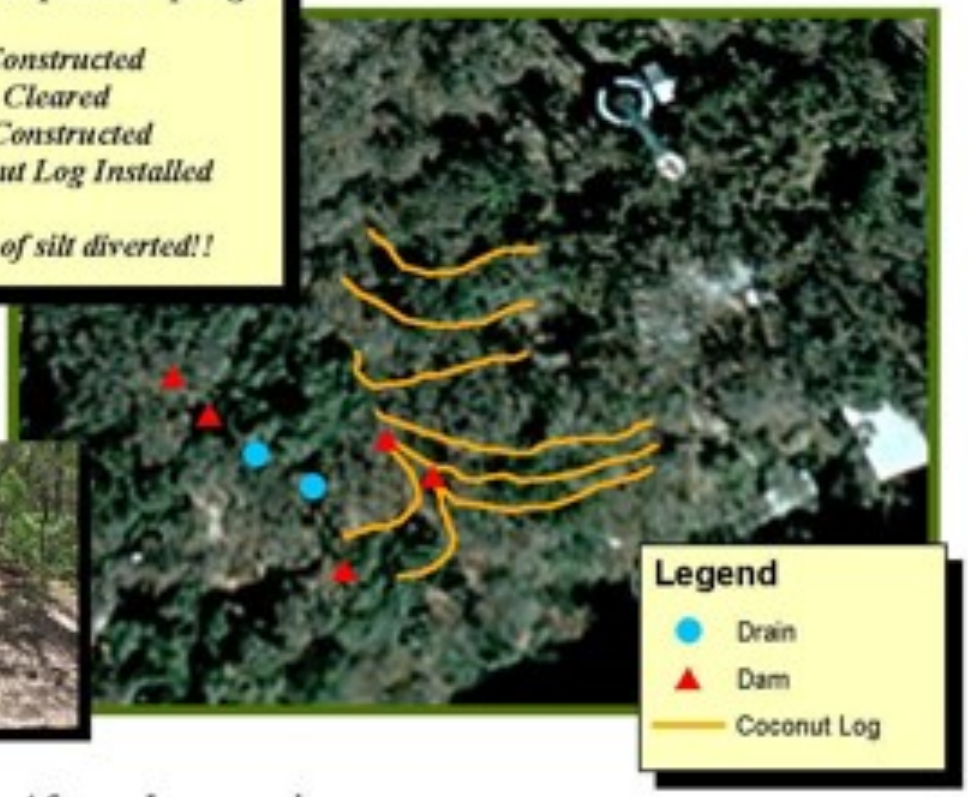
TEXAS STATE UNIVERSITY SAN MARCOS

Two Ecorps crews spent a total of 4 weeks at Aquarena Springs working in concert with Texas State University to improve the water quality in the springs. Soil from the steep slopes routinely washed into the springs during rainfall, eroding the land and damaging water quality. Ecorps installed 300 yds of coconut logs on the two-acre hillside and built limestone and mortar dams and drains to collect soil from runoff. As a result of their efforts, an estimated 120 cubic feet of soil was diverted from the springs and maintained on the hillside.

Erosion Control at Aquarena Springs

4 Dams Constructed
1 Dam Cleared
2 Drains Constructed
300 yds Coconut Log Installed

~ 120 cubic ft. of silt diverted!!



After a heavy rain...

AMERICAN YOUTHWORKS

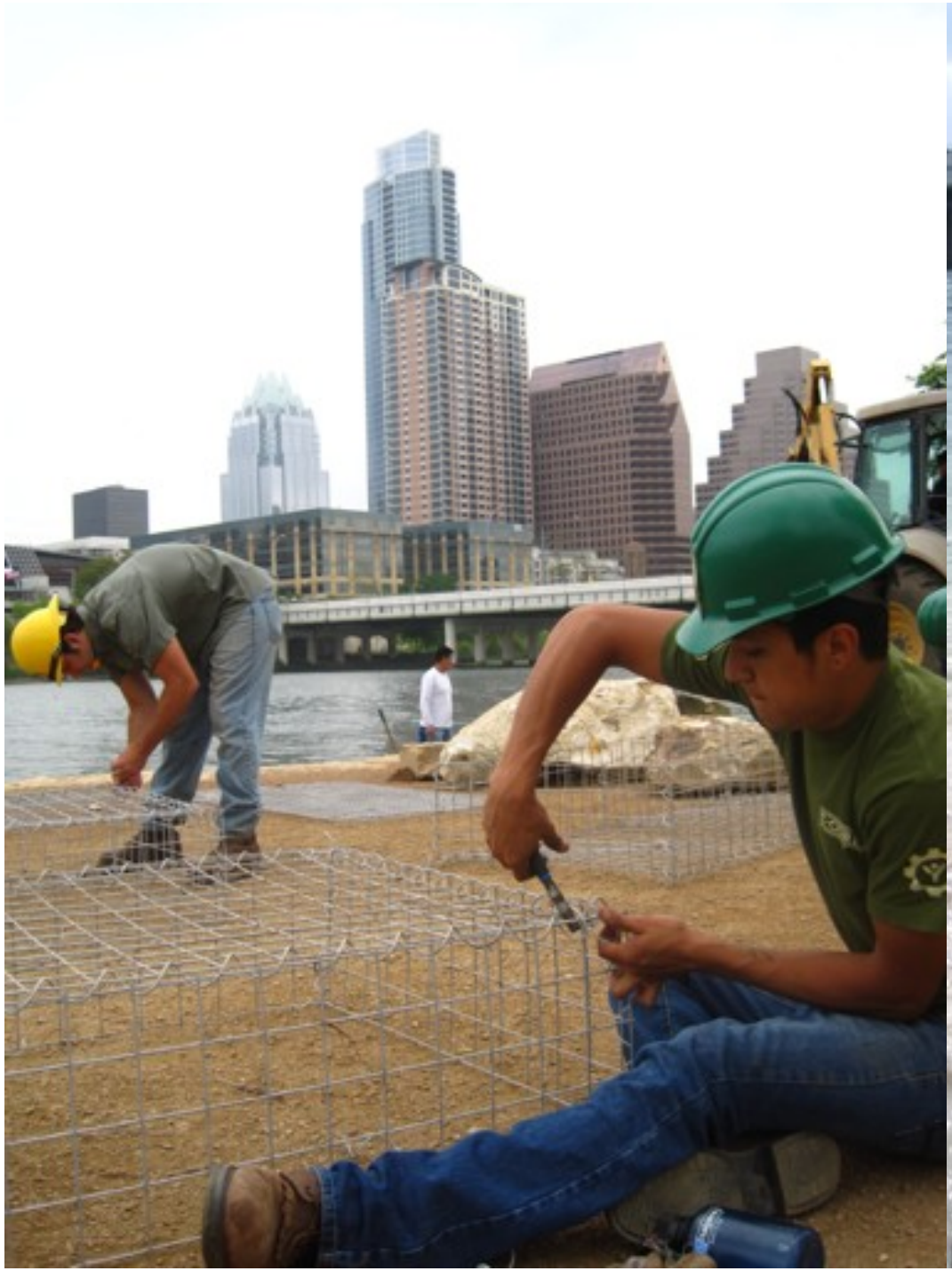
July 2009

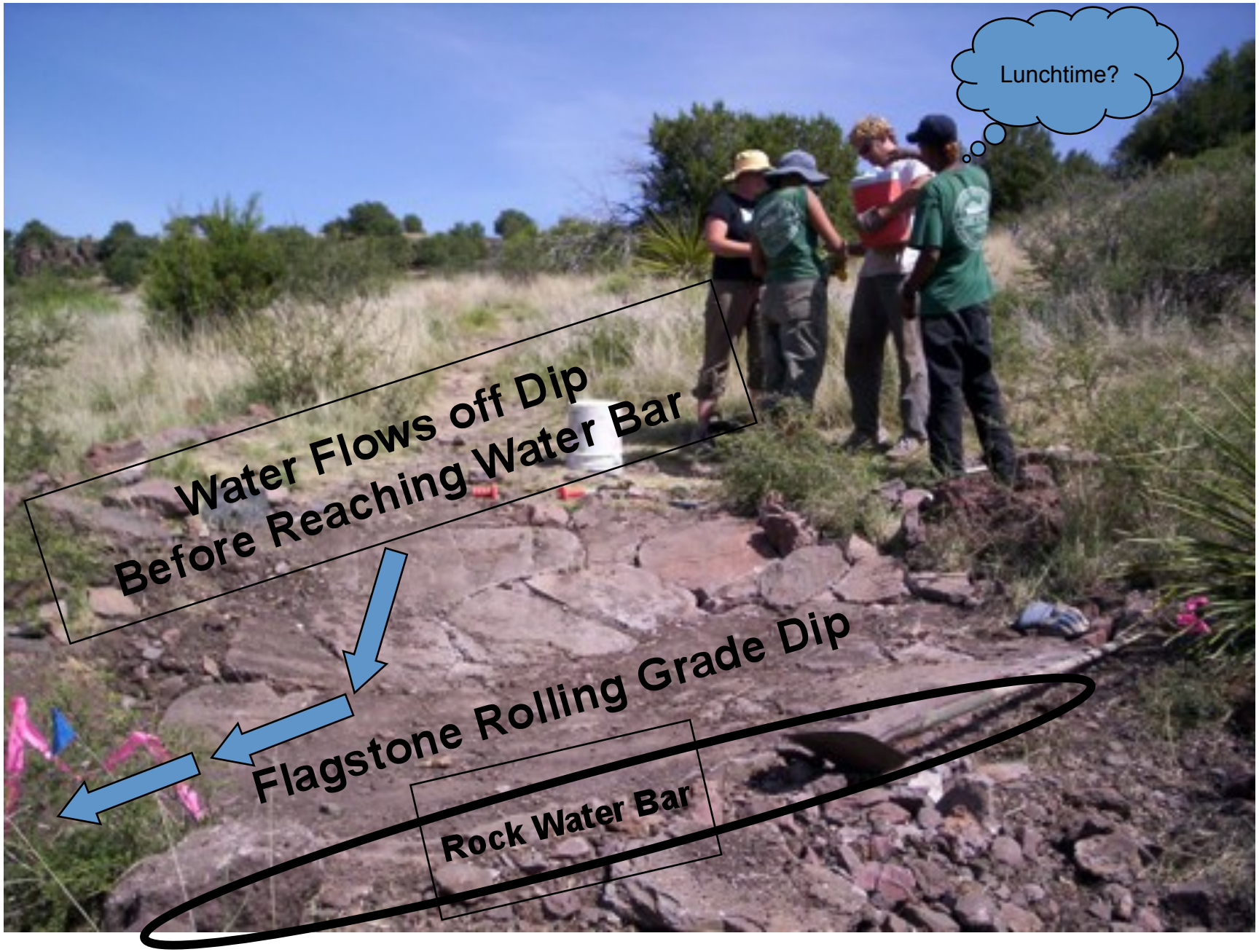

Convict Hill Quarr
Park
Hill Rd.

LIVING AND WORKING HISTORY!

E-CORPS:
RESTORING SAN ANTONIO MISSIONS


MISSION ESPADA




Lunchtime?
Water Flows off Dip
Before Reaching Water Bar
Flagstone Rolling Grade Dip
Rock Water Bar


Before
After


02/20/2007

AMERICAN YOUTHWORKS

Long Canyon, Travis County, Texas

Trail
protected area
fuel break

February 1 - 27: Performed trail maintenance including: removal of storm damaged trees in corridor, water run-off control meaures,tree-pruning, and new tread surface. Created shaded fuel break for wildfire mitigation at wildland-urban interface.

Total trail: 1667.9 yards
Total land preserved: 80.7 acres

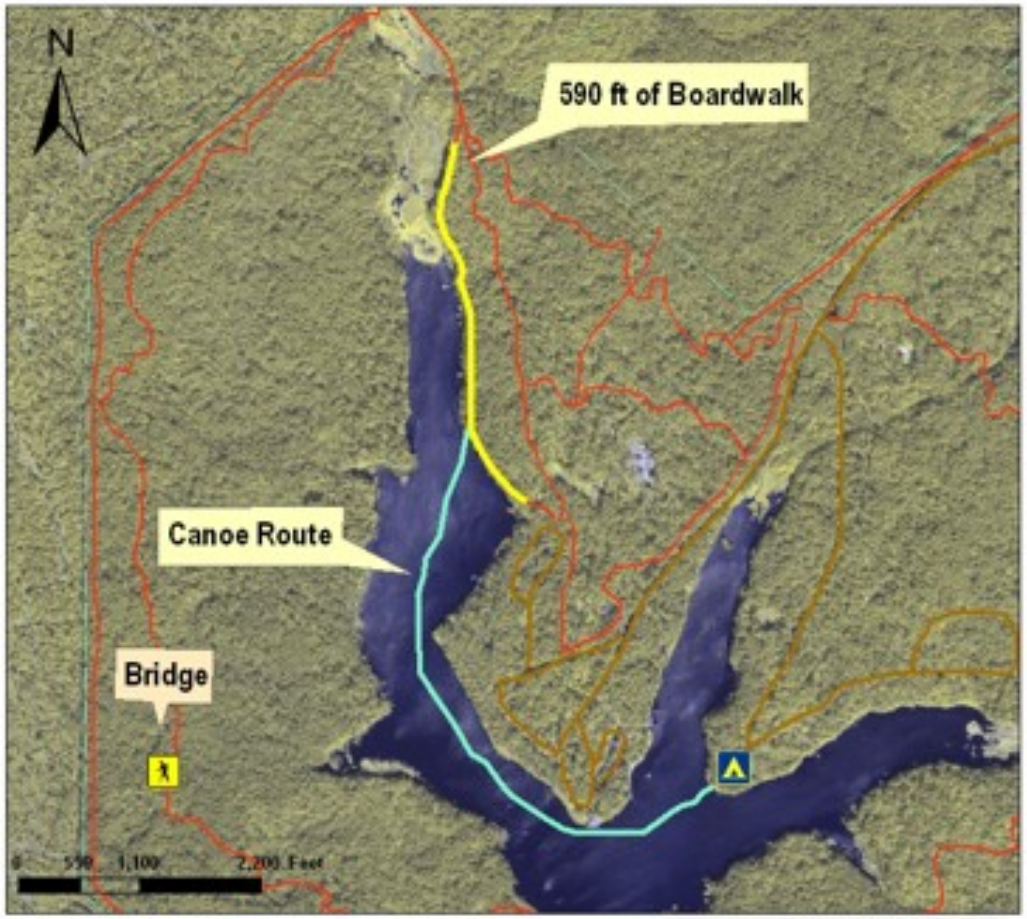

SAKAI
PavingPro 270


Bobcat
01/07/2005


SAM HOUSTON
01/01/2005

AMERICAN YOUTHWORKS

Huntsville State Park, Walker County, Texas



Legend:

- Ecorps trail work and boardwalk
- Ecorps bridge work
- Canoe route
- Trail system
- Property line
- Camp
- Roads