JUNTOS

INTERCULTURAL ENVIRONMENTAL STUDIES IN THE WESTERN BORDERLANDS

STUDENT GUIDE TO ENVIRONMENTAL RESOURCES AND OPPORTUNITES

Environmental Organizations, Opportunities, and Careers in the Western Borderlands

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IN THE WESTERN BORDERLANDS

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Environmental Organizations in the Western Borderlands

ARIZONA DEPARTMENT OF WATER RESOURCES, SANTA CRUZ ACTIVE MANAGEMENT AREA

Mission

The goal of the Arizona Department of Water Resources (ADWR), Santa Cruz Active Management Area (AMA) is the maintenance of the overall water balance within the AMA—to ensure a water supply for the future through wise use today. Included in this mission is the protection of the Santa Cruz River's riparian habitat.

Site Description

Rather than being a natural area for visitation, the Arizona Department of Water Resources is located in a building with 3 offices and a fairly large meeting room. Research on the river is conducted "in the field" and water conservation education activities are carried out in elementary and middle schools.

Projects

The Santa Cruz County office of the ADWR conducts a variety of research, conservation, and education programs. Projects include monitoring studies on the quality and supply of water in the Santa Cruz AMA, development of information handouts on water conservation and desert plants landscaping, and outreach to schools. The education programs target elementary and middle schools and teach about topics ranging from wetland studies and construction to water conservation.

Opportunities for Students

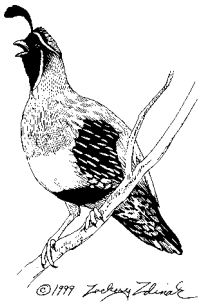
The ADWR is interested in collaborating with students and classes in a variety of water conservation projects. They have opportunities for students in education presentations, water monitoring projects, and various office tasks. Office volunteers could assist in activities ranging from computer data entry to development of educational brochures on water conservation and arid landscaping. ADWR encourages and may train students to give presentations or demonstrations in other schools. Other opportunities could involve students in monitoring water use and quality in their own schools. The Santa Cruz County office of ADWR also provides talks to groups about issues in the Santa Cruz AMA. Materials, including water conservation and desert plants brochures and water education kits are available for classroom use.

Skills and Abilities

According to ADWR staff, good communication skills, experience working with environmental groups, and eventually, a degree in environmental studies are qualities that will make students more employable in the environmental field.

Contact

If students are interested in being involved in any ADWR activities, please contact Terry W. Sprouse, Border Water Coordinator for the Santa Cruz Active Management Area. 857 West Bell Rd. suite 3, Nogales, Arizona 85621 phone: (520) 761 – 1814 *twsprouse@adwr.state.az.us*



ARIZONA-SONORA DESERT MUSEUM

Mission

The mission of the Arizona-Sonora Desert Museum (ASDM) is to inspire people to live in harmony with the natural world by fostering a love, appreciation, and understanding of the Sonoran Desert.

Site

ASDM is a renowned zoo, natural history museum and botanical garden, all in one place. On their desert paths, one might encounter Gila monsters, hummingbirds, boojums, and much more amidst the beautiful Tucson Mountains.

Projects

Projects exist in the areas of Biodiversity, Migratory Pollinators, Nature Awareness, Cultural Awareness, Plants, Desert Ecology, Earth Sciences, Ecology (general), Ecosystems, Environment (general), Environmental Education, Water Conservation, Endangered Species, Wildlife Eco-Tourism, Networking, Education Materials & Tools, and Research.

Opportunities for Students

The Desert Museum offers a series of onsite and outreach Sonoran Desert environmental science programs for children in grades K-12 using live animals and museum artifacts, and teacher workshops. All school programs are offered in either Spanish or English. The Museum is a popular destination for school field trips. The Museum's library materials can be checked out by members and teachers. Students could get involved in various Museum programs including the Docent program, Volunteer program, Junior Docent program, special research projects, the Migratory Pollinators program, family safaris, special event trips, adult workshops, weekend programs and summer classes.

Skills and Abilities

Enthusiasm, affinity for the environment, organizational skills, and good speaking skills.

Contact

If interested in participating, contact: Susan Williams, Robin Kropp, or Yajaira Gray, 2021 N. Kinney Road, Tucson, Arizona 85743. Tel. (520) 883-3025, (520) 883-2500 *http://www.desertmuseum.org*

BUENOS AIRES NATIONAL WILDLIFE REFUGE

Mission

The National Wildlife Refuge System administers a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats with the United States for the benefit of present and future generations of Americans.

Site

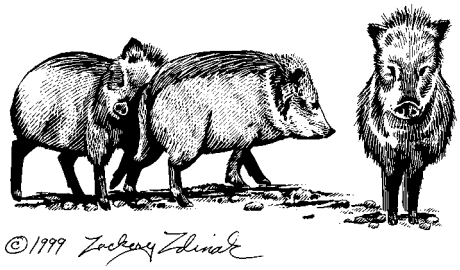
The Buenos Aires refuge is a diverse complex of Sonoran savannah grassland, mesquite grassland, desert shrub, riparian corridors, streams and ponds, and mountain canyons. At lower elevations, the largest ungrazed grassland in Arizona dominates the refuge. At upper elevations, grasslands give way to rocky outcrops and live oak. Hidden in washes and slight depressions are over 130 ponds that fill with water after summer rains. A perennial stream and wetland, found near the town of Arivaca, attract many rare birds found along the Mexican border.

Opportunities for Students

Volunteers assist biologists, staff visitor centers, guide tours, present slide programs, and maintain trails and facilities.

Skills and Abilities

Characteristics that will make students more employable in the environmental field include a willingness to work with the public, having lots of energy and stamina, and having a keen interest in working on biological projects. It is also important to gain some experience in the environmental field either through volunteering, internships, or summer jobs.



Other Services

The Refuge has educational materials available for classroom use. These include a songbird migration kit, a shorebird migration game (both include curricula, props, puppets and videos), a fire education curriculum for middle school, and a wilderness curriculum for high school. Additionally, they offer field trips and visits to the refuge.

Contact

Students interested in participating as volunteers or biological aid interns should contact Bonnie Swarbrick, the Outdoor Recreation Planner. P.O. Box 109, Sasabe, AZ 85633 phone: (520) 823-4251

CABEZA PRIETA NATIONAL WILDLIFE REFUGE

Mission

The National Wildlife Refuge System administers a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats with the United States for the benefit of present and future generations of Americans.

Site

Located in southwestern Arizona, the Cabeza Prieta shares a 56-mile international border with Sonora, Mexico. Within the 860,000-acre refuge area are rugged mountains and broad valleys dotted with sand dunes and lava flows. Cabeza Prieta, Spanish for "Black Head," refers to a lava-topped, granite peak in a remote mountain range in the western corner of the refuge. Although most of the refuge's numerous mountains rise less than 3,000 feet above the valleys, they are extremely rugged, very arid, and well suited for bighorn sheep and other desert wildlife. A visitor center and refuge headquarters is located in Ajo.

Projects

The refuge is the lead agency for the Sonoran pronghorn recovery efforts. It is also involved in other wildlife management projects including maintenance of bighorn sheep populations. Refuge volunteers and staff are active in educational programs for the public at both the visitor's center and in local schools.

Opportunities for Students

The refuge depends highly on volunteers for educational programs and other visitor contact and interpretation activities. Volunteers and students have assisted the refuge in many types of projects in the past, including revegetation as well as interpretation.

Note: On the refuge, persons hiking must carry their own water and supplies. There are no facilities of any kind on the refuge itself.

Skills and Abilities

Students who enjoy working in the outdoors and have an interest in conservation and other outdoor activities would be good candidates for work at the refuge.

Note: Because of the remoteness of most of the refuge, individuals who are physically active and who are capable hikers are usually best suited for work on the refuge.

Other Services

Field trips can be provided on a limited basis. Student interviews of refuge staff are always welcome.

Contact

If you would like more information about the refuge's projects, please contact Vergial L. Harp, Cabeza Prieta NWR, 1611 North Second Avenue, Ajo, AZ 85321 phone: (520) 387-6483 *vergial_harp@fws.gov*

CENTRO INTERCULTURAL PARA EL ESTUDIO DE LOS DESIERTOS Y OCÉANOS, A. C. (CEDO)

Mission

The mission of the Intercultural Center for the Study of Deserts and Oceans is to acquire and share knowledge of the Upper Gulf of California and Sonoran Desert that surrounds it in order to promote the conservation and sustainable use of its natural and cultural resources. To achieve its mission, CEDO works with governments, conservation groups, and community members.

Site

Built over sand dunes, the CEDO main building is composed of three floors, the first floor has the office, a library, a laboratory, kitchen, and complete bathrooms. The second floor has 5 rooms commonly used by visiting groups and a separate office; the third floor has a single room known as the tower. The construction of additional complete bathrooms has recently been completed. Besides the main building, CEDO has a gift shop and visitor center better known as the "Earthship", built with recycle materials. A center for displays is currently being built with recycle materials.

Projects

Current projects carried out by CEDO include the development of a marine educational program for teachers of several communities along the Upper Gulf Biosphere Reserve ("Mojemos Nuestros Pies, Maestros Juntos Explorando la Reserva del Alto Golfo y Delta del Río Colorado). CEDO is also testing marine environment sampling methodologies as part of the implementation of the GLOBE (Global Learning and Observations to Benefit the Environment) program in local schools. Other projects include the development of annual clean up campaigns. Volunteer docent training programs are conducted every 2 years. Public presentations on important regional themes are also performed.

Opportunities for Students

Students may collaborate as volunteers in various tasks at CEDO. Additionally, groups of students may participate in field trips, guided visits or talks.

Skills and Abilities

Some skills and abilities that can help students be more employable at CEDO are communication, knowledge about the area, and a great interest to serve.

Other Services

CEDO offers volunteer guide training, facilities with lodging, classrooms and laboratories. Speakers, library, videos and transparencies focusing on natural history are also available. Guided tours and field trips to the tidal zone, estuaries, the Pinacate, and sand dunes are also offered to groups.

Contact

Students interested may contact Rick Boyer for more information. Phone: (6) 382-01-13 *info@cedointercultural.org* Apartado Postal #53 Puerto Peñasco, Sonora 53550 México.

CIBOLA NATIONAL WILDLIFE REFUGE

Mission

The National Wildlife Refuge System administers a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats with the United States for the benefit of present and future generations of Americans.

Site

Established in 1964 to protect wintering grounds for migratory birds and other wildlife, the Cibola NWR is made up of river bottoms surrounded by a fringe of desert ridges and

washes. A dredged river channel stretches the length of the refuge and divides it in half. Present wetlands include the 600-acre Cibola Lake, approximately 10 miles of Colorado River backwaters, seasonally flooded croplands, and Hart Mine Marsh.

Projects

As part of its biological projects, wildlife monitoring by surveying, trapping, and observing is conducted annually. The education department carries out presentations in local schools about the importance of wildlife and their habitat. Other projects include trail maintenance, painting, and tree planting.

Opportunities for Students

Student opportunities include the involvement in biological activities such as monitoring wildlife, trapping reptiles, observing geese populations and other waterfowl, or participating in driving censuses. Other options are to collaborate in school presentations developed by the education department, reforestation and native species planting, working in the green house, or other general maintenance and clean up.

Note: Students should be aware of the extreme conditions possible in the desert environment such as heat, water availability and venomous snakes and lizards.

Projects

Cibola looks for volunteers, year-round, to help with clerical and computer work, biological projects, interpretation, light field work, and heavy field work.

Skills and Abilities

Students who are dependable, have a good work ethic, enjoy their work, and show enthusiasm are the most desirable as volunteers or employees.

Other Services

The Refuge has slide projectors and other presentation materials available for classroom use. On-site transportation and tools are available for work projects.

Contact

For additional information regarding the projects conducted at Cibola National Wildlife Refuge, contact Brenda Zaun: Route 2 Box 138, Cibola, AZ 85328 phone: (520) 857-3253 fax: (520) 857-3420 *r2rw_ci@mail.fws.gov*

CITY OF YUMA, DEPARTMENT OF PARKS AND RECREATION, YUMA WEST WETLANDS AREA

Mission

The mission of the City of Yuma Department of Parks and Recreation is to plant a tree for every person on the earth.

Site

Yuma West Wetlands Area is a 110 acres reforestation project focusing on planting trees and protecting them for animals.

Projects

The Department of Parks and Recreation carries out environmental programs that involve the planting of trees, they also conduct environmental education programs on the natural history of trees and how to protect them.

Opportunities for Students

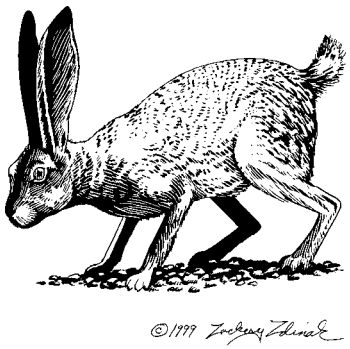
Students are encouraged to participate directly in the program by planting and saving trees. The Department provides all the tools and information necessary for the program.

Skills and Abilities

Knowledge of trees and how to grow them, conducting inventories on trees, or detecting tree diseases are skills that can make students more employable in this filed. The Department offers training to help students gain some of these skills.

Contact

If you would like more information about this program, contact Roger Blakeley (520) 343 – 8680 1793 1st Avenue, Yuma, AZ 85364



EDUCACIÓN PARA LA VIDA

Mission

Educación para la Vida is a private business working in the border region between Sonora and Arizona. Their mission is to encourage the development of values that at an indi-

vidual, family, organizational, community and social level, represent the opportunity of a better life for each and every person.

Projects

Current projects include studies on drugs and weapons in schools and summer environmental education and conservation courses, which focus primarily on awareness of and solutions to the water issues in the state of Sonora.

Opportunities for Students

Several opportunities are offered for high school students to get directly involved in their projects. Students may participate in the courses offered or they may serve as volunteers in the organization and development of the different projects. The organization also provides the necessary training for specific tasks including the use of computer, audio, and video equipment.

Skills and Abilities

Being dynamic, liking to work with the community, and having the time to dedicate one's self to a specific task, are characteristics that will give students a better chance of getting a position in this field.

Contact

If you are interested in participating with Educación para la Vida, you can call Michelle Grijalva or Liliana Medina at (6) 534-94-12 and 4-09-39 or mail to: 16 de septiembre y Calle 8 #801, Colonia Centro, San Luis Río Colorado, Sonora, México.

FRIENDS OF THE SANTA CRUZ RIVER

Mission

The mission of the Friends of Santa Cruz River is to protect and enhance the flow and water quality of the Santa Cruz River for the purpose of protecting and enhancing the riparian and aquatic habitat the river supports.

Projects

Friends of the Santa Cruz River conducts public information workshops, river walks, a well head protection program, and a summer river youth education program. The organization also coordinates the Santa Cruz River Way Partnership, which is a focused initiative to work with local landowners on the conservation of riparian habitat. Additionally, Friends of the Santa Cruz River collaborates with high school students in monitoring river water quality.

Opportunities for Students

Students are welcome to participate as assistants for the summer youth program, collaborate with the speaker's bureau in the public information workshops and talks, and in monitoring water quality. The organization provides the training and water quality test equipment for use in this project.

Skills and Abilities

The ability to analyze data and work with spreadsheets, knowledge of water quality monitoring and riparian ecology, and interpretive abilities are characteristics that will make students more employable in this organization.

Contact

Students interested in the Friends of the Santa Cruz River projects should contact Roy Simpson, the organization's president. P.O. Box 4275 Tubac, AZ 85646 phone: (520) 398-9093 *roy_b_simpson@nps.gov*

HANDS ACROSS THE BORDER FOUNDATION

Mission

The mission of Hands Across the Border Foundation, Inc. is to provide participants with carefully structured group intercultural exchange experiences, which enable them to fully benefit from the culturally diverse world of today.

Site

Hands Across the Border Foundation has an office located in Tempe, Arizona. The different exchange activities area carried out in participating schools in Arizona, Sonora, New Mexico and California.

Projects

In addition to intercultural experiences, the Foundation incorporates joint academic projects into exchange activities with each participating community. These projects are mainly focused on environmental awareness, the monitoring of air, water, and soil quality, and social aspects.

Opportunities for Students

Students can help organize and monitor the projects. Students could also assist with administrative work such as mailings and communication with schools. The Foundation provides training for the participation.

Contact

To get involved with Hands Across the Border Foundation, please contact: Sarah Gossage, 510 W. Warner Rd., Tempe, AZ 85284 (602) 705 – 4047

IMPERIAL NATIONAL WILDLIFE REFUGE

Mission

The mission of the National Wildlife Refuge System is to preserve a national network of lands and waters for the conservation and management of fish, wildlife, and plant resources of the United States for the benefit of present and future generations. The mission of the United States Fish and Wildlife Service— which works with the refuge system—is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.

Site

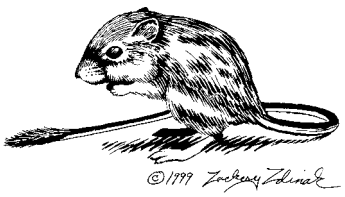
The refuge is located 40 miles northeast of Yuma, Arizona, and is situated in both Arizona and California. The Imperial NWR is 30 miles long, encompassing 25,625 acres and protecting two unique environments—the desert and the lower Colorado River. The surrounding upland areas provide a sharp contrast to the lush river system. The southwestern Sonoran desert is the hottest and driest desert found in the United States; it receives only 3.2" of rain annually, and is subject to extremely high summer temperatures. The land between the desert and the habitat along the river is a transition area that supports a diversity of plants and animals. Parts of the area have seasonal flooding as well as shallow, permanent water.

Projects

The Refuge conducts biological and educational programs and maintains a visitor center. Projects that may involve students include riparian restoration, wilderness management, moist soil management, exotic species, and recreational use issues.

Opportunities for Students

The Imperial National Wildlife Refuge encourages the involvement of students and local community members in its projects. Students can participate in activities such as habitat restoration through the planting of native species, biological surveys and monitoring of plants and animals, staffing the visitor center, or assisting with administrative tasks.



Note: The Refuge is one hour away from the nearest town (Yuma) and not all of its areas are accessible.

Skills and Abilities

Students with good communication skills make the most desirable employees.

Contact

For additional information you can call Renee Robichaud at (520) 783 – 7861 or mail to Martinez Lake, P.O. box 72217, Yuma, AZ 85365 *r2rw_imp@mail.fws.gov*

INE - SEMARNAP - PINACATE AND ALTAR DESERT BIOSPHERE RESERVE

Mission

The mission of the Pinacate and Altar Desert Biosphere Reserve is to conserve the biodiversity and protect the natural ecosystems and historical-cultural elements within the reserve.

Site

The location of the reserve consists of a region known as the "'volcanic shield". The area is 60 kilometers long and 40 kilometers wide. Within the reserve are clearly visible lava flows, nine gigantic craters, 400 volcanic ash cones and a landscape in reddish an blackish shades contrasting with green desert plants such as saguaros and palo verde trees.

Projects

The reserve carries out different education, conservation and research projects. Currently, education programs are being developed which will serve to enhance visitor understanding about the reserve and natural protected areas. Programs and materials for schools are also being developed. The reserve also works with people living inside the reserve to heighten environmental awareness and develop strategies to carry out sustainable projects. The conservation field includes monitoring threatened or endangered species such as pronghorn antelope, golden eagle, bighorn sheep, gila monster, red-tailed hawk, and others which occur within the reserve, at least temporarily. Within the reserve, collection and use of plants (both living and dead) and hunting have been permanently banned.

Opportunities for Students

The reserve offers students opportunities to participate as volunteers in its projects. They believe that youth involvement in education and conservation projects help to de-

velop ideas. Some of these opportunities include species monitoring, assisting in the development of educational programs, or participating in educational presentations with park rangers. Housing (equipped with a bathroom and kitchen to prepare meals) is provided for participants by the reserve.

Skills and Abilities

Students who can dream, create possibilities, and see the future with initiative and willingness undoubtedly have greater possibilities of being employed in the environmental field.

Contact

To participate, contact Víctor Quiroga, Environmental Education Projects Director at (6) 384-90-07, 384-85-01 or mail to: Apartado Postal 125, Puerto Peñasco, Sonora, México. Subsequently request approval from Carlos Castillo, Pinacate and Altar Desert Biosphere Reserve Director, phone (62) 15-98-81 and 15-98-64

INE - SEMARNAP - UPPER GULF OF CALIFORNIA AND COLORADO RIVER DELTA BIOSPHERE RESERVE

Mission

Biosphere reserves are areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.

Site

The Upper Gulf Biosphere Reserve is located in the shallow coastal water of the upper Gulf of California. The major habitats in the area include the warm desert and semi-desert: coastal/marine component; subtropical sea and river delta; halophylous vegetation; coastal and Colorado river delta wetlands; Desert dunes; shrub of arid land and delta's islands; granite mountain range; and agroecosystems.

Projects

Projects include education and research programs in the following areas: oceanographic studies, marine and freshwater fisheries population monitoring, surface and underground hydrologic studies, wetland birds population monitoring and habitat management, endangered species conservation biology, wildlife inventory and evaluation research, cultural anthropological research, paleontology and natural resources economic studies, desert pupfish and riparian habitats monitoring and restoration, pronghorn antelope monitoring, flat tailed horned lizard monitoring, climate variables monitoring, lesser long nose bat monitoring.

Opportunities for Students

The Environmental Education Department at the Upper Gulf of California and Colorado River Delta Biosphere Reserve has various environmental education programs related to deserts, oceans, and environmental issues. These are: "Juntos: Maestros y Niños del Desierto" (a curriculum on desert ecology), "Maestros: Mojemos los Pies"(an ocean and wetlands curriculum), "Manual de Reciclaje para Maestros de Primaria" (a recycling manual for elementary teachers), "La Ecología y el Problema Ambiental" (a program on ecology and environmental issues), "Manual de Basura en el Mar" (a manual on ocean garbage), and a teacher's guide to the Biosphere Reserve. There are opportunities for students to volunteer in research and education projects. There are also speakers available, public facilities, and workshops.

Skills and Abilities

Speaking, writing, and organization skills. Comfort in the out of doors.

Contact

To participate, contact Maria Jesús Martínez, Biologist, José Campoy Favela, Director, Av. Jalisco 9 y 10, Col. Sonora, Apdo. 452, C.P. 83400, San Luis Río Colorado, Sonora. Tel. (6) 536-37-57 Fax (6) 536-37-57 *avoceta@telnor.net altogolfo@sonnet.com.mx, http://www.ine.gob.mx/ucanp*

INTERNATIONAL SONORAN DESERT ALLIANCE (ISDA)

Mission

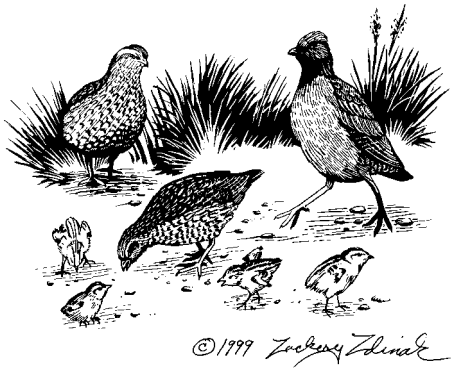
To encourage a healthy, positive relationship between the Sonoran Desert, its inhabitants, and the needs of humanity.

Site

ISDA has its offices, a resource library, and Youth "Roots" Room, in the old Curley School of Ajo, Arizona.

Projects

ISDA carries out projects in different areas including education, community outreach, and community-based economic development. Programs include "Juntos: Maestros y Niños



del Desierto", a hands on activity curriculum for elementary school children; "Roots" a youth program that encourages youth to take initiative in changing their communities through projects like painting scenic murals on community trash cans as part of school curriculum for recycling, developing leadership skills and promoting environmental awareness; and Earthship Hickiwan, a community workshop for building houses out of recycled tires, cans, and bottles.

Opportunities for Students

Students interested in collaborating in the projects and programs carried out by ISDA are always welcome to participate as interns or volunteers.

Skills and Abilities

ISDA believes that organic gardening, recycling, waste reduction, and the ability to endure meetings and paperwork while keeping your spirits up, are some characteristics that can make you more employable in this field.

Other Services

The International Sonoran Desert Alliance organizes periodic desert and community trash pickups, field trips to cultural events to the Sonoran Desert, as well as community workshops aimed at economic development.

Special Considerations

ISDA's area of operation includes all areas within a one hundred mile radius from Ajo, although most activities are local.

Contact

If you would like to participate in the projects offered by ISDA or obtain more information about them, please feel free to contact Paul Crawford or Reggie Cantú, phone (520) 387-6738 or (520) 387-6823 *alianza@ajo.net* or *alianzason@aol.com*

JUNTOS UNIDOS / UNITED TOGETHER

Mission

To create healthy drug and violence-free communities and families through collaboration, distribution of information and resources, supporting education, and capacity building.

Site

Juntos Unidos office is located at 2595 N. Grand Avenue, Nogales, Arizona, Suite C. The office is located in the north-central part of the city in a 7-room suite.

Projects

Juntos Unidos provides various types of educational programs and services. Through collaboration with border-wide partners, Juntos Unidos provides drug-prevention education training to the general population of Santa Cruz County. Juntos Unidos also has a strong youth program, partnering with middle and high school students from local schools. We are also building a strong community-wide recycling program, as well as environmental education and training to the community in general.

Opportunities for Students

Juntos Unidos strongly believes that in order to implement a strong youth-based program, Youth must be involved in both the planning AND implementation. The Juntos Unidos/ Nogales Alliance Youth Council serves to give local youth a voice in youth based programs for JU. The Nogales Alliance Youth Council also provides many training and travel opportunities for youth. We provide internet service, a full resource library and office supplies (paper, copier, etc.) for students working on homework assignments.

Skills and Abilities

The only skill one needs to be employable in ANY field is self-esteem. Any partnership that works with youth must value them as mature human beings. We as adults must be responsible for allowing youth to develop socially and professionally by letting them be involved.

Contact

For further information please contact Patricia B. Molina, Project Manager, P.O. Box 310, Nogales AZ 85628-0310 phone: (520) 761-4412

ORGAN PIPE CACTUS NATIONAL MONUMENT

Mission

Organ Pipe Cactus National Monument preserves and protects tracts of the Sonoran Desert and wilderness for the future and provides for its enjoyment now.

Site

Organ Pipe is located on highway 85, 35 miles south of Ajo, Arizona. In addition to the 330,688.86 acres of monument lands (312,600 of which are designated wilderness) OPRI has a museum with photographic exhibit and dioramas on the Sonoran Desert. The Monument exhibits an extraordinary collection of plants of the Sonoran Desert, including the organ pipe cactus, a large cactus rarely found in the

United States.

Projects

ORPI is involved in various research and conservation projects. An example of the kinds of projects students could get involved in include eradication of invasive species, interpretive displays, park maintenance, and field work on various research projects.

Opportunities for Students

ORPI offers volunteer opportunities for students and will work with school groups for special projects.

Skills and Abilities

Outdoor skills, comfort with the public.

Contact

To participate contact Karl Pearson, Route 1, Box 100, Ajo, Arizona 85321,Tel.(520) 387-6849, (520) 387-7144, *http://www.nps.gov/orpi*

KOFA NATIONAL WILDLIFE REFUGE

Mission

The National Wildlife Refuge System administers a national network of lands and waters for the conservation, management, and when appropriate, restoration of the fish, wildlife, and plant resources and their habitats with the United States for the benefit of present and future generations.

Site

The Kofa National Wildlife Refuge was established in 1939 and is managed by the U.S. Fish and Wildlife Service. The refuge encompasses 665,400 acres of pristine desert that is home to the unique desert bighorn sheep and the California palm, the only native palm in Arizona. Seventy eight

percent of the area has been designated wilderness in an attempt to preserve it in its natural state. Two mountain ranges dominate the landscape—the Kofa Mountains and the Castle Dome Mountains. Although these ranges are not especially high, they are extremely rugged and rise sharply from the surrounding desert plains, providing ideal bighorn sheep country. In the early part of this century, a number of mines were established in the mountainous areas of the refuge. One of the most notable was the King of Arizona mine. It gave the Kofa Mountains their name— "Kofa" being contracted from King of Arizona.

Projects

Biological projects primarily include the monitoring of species within the refuge such as bighorn sheep, deer, desert tortoises, birds, bats, and vegetation. Conservation projects involve land management activities such as making sure water holes are full of water, checking windmill operation, and upholding visitor regulations. The cleanup of old mining sites, including removing debris and restoring the land is also an important project carried out at the Refuge.

Opportunities for Students

Students are encouraged to participate as volunteers in the different projects carried out by the Refuge. There are opportunities in the biological programs including monitoring species or other conservation projects, general maintenance and mine clean up, making informational signs, helping with administrative tasks, entering information on data bases, filing, cataloging slides and helping with informational needs.

Note: The site is 40 to 50 minutes from Yuma, is rugged, remote, and has limited transportation. Students should consider environmental concerns such as heat, water availability and the existence of venomous reptiles.

Skills and Abilities

Attractive skills and abilities for individuals desiring work in this field include independence, good verbal communication and writing skills, and good computer skills.

Other Services

The Refuge has a few videos available for classroom use. In the future they hope to offer other outreach and educational programs including slide shows on the birds, mammals, and vegetation of the Kofa NWR.

Contact

To participate contact Ray Varney, Refuge Manager: 356 W. First Street, Yuma, Arizona 85364 Phone: 520/783-7861 Fax: 520/783-8611 *r2rw_ko@fws.gov*

PATRONATO PARQUE NACIONAL ECOLÓGICO RÍO COLORADO A. C.

Mission

To conserve, protect, and enhance the banks, lands, and natural resources that occur along the Colorado River.

Projects

Currently, "creative expression" activities are organized with the purpose of encouraging sound environmental habits. Activities include Earth Day, cleanup days, and environmental health campaigns.

Opportunities for Students

The association offers the opportunity to participate in its activities as a volunteer. Students may get involved in the

organization's current campaigns and activities. They may also collaborate in the development of future projects such as educational ecotourism, solid waste issues, and creative alternatives for the use of waste materials like paper, tires and plastic.

Skills and Abilities

Having the initiative and willingness to conserve our natural environment, exhibiting leadership and communication skills, and acquiring and disseminating information are some characteristics that can lead to more opportunities in the environmental field.

Contact

If interested in participating, contact Federico Iglesias at (6) 534-94-25 or mail to: Callejón Madero y 32 #3201, San Luis Río Colorado, Sonora, México.

PUENTES DE AMISTAD / BRIDGES IN FRIENSHIP

Mission

To improve the health of people living at the border communities of Arizona and Sonora.

Site

Puentes de Amistad is located at 143 N. State Ave. in Somerton, Arizona. A house owned by the City of Somerton has been converted into the organization's office. The City of Somerton provides the space on an in-kind basis.

Projects

The agency's main focus is prevention. There are a couple of projects that conduct brief intervention services. Current projects include The Promotores Program, Tobacco Prevention, Abstinence Only, Binational Program and a Juvenile intensive Prevention Program.

Opportunities for Students

As a non-profit, community based organization; there is always more work than staffs time to complete the work. Student volunteers are welcome and could help with outreach education programs and community work. Puentes de Amistad also offers services that include materials and resources for classroom activities.

Note: Participating students are encouraged to consider the remote location, monolingual Hispanic population served, and the border community culture.

Skills and Abilities

In this community it is key for a person to be bilingual, culturally competent, and knowledgeable of agriculture and the community.

Contact

If interested is working with the organization, contact Emma Torres, Project Coordinator. 143 N. State Ave. P.O. box 646, Somerton, AZ 85350 phone: (520) 627 - 4280

TERRA CYCLE TECHNOLOGIES

Mission

Terra Cycle Technologies is working to establish a viable composting operation via safe, informed processes and to be a cornerstone for environmental education in waste stream diversion projects. Terra Cycle Technologies is working with local schools and the community to achieve this goal.

Site

The Terra Cycle farm is located right off I-19 and next to the Santa Cruz River. It covers 40 acres of land, on which eight acres are used to grow organic vegetables, two acres are for composting, and the rest is riparian wooded area.

Projects

Terra Cycle Technologies is interested in sustainable agriculture and taking the necessary steps to achieve it. Its current projects include organic farming under drip irrigation, recycling of produce waste through composting, aquaculture and hydroponics.

Opportunities for Students

By offering intern and volunteer opportunities, Terra Cycle involves students in organic farming, setting up composting experiments, habitat restoration activities and/or clean up projects.

Note: The farm has no public facilities, although it does have a restroom for limited use, an office, and shady area. Students are encouraged to bring appropriate clothing, protection against the sun, and drinking water.

Skills and Abilities

Terra Cycle values students with an understanding of biological systems and who have some background in chemistry, biology and agriculture.

Other services

Terra Cycle Technologies provides field trips for groups of students. In the future, they hope to have an outdoor classroom.

Contact

For more information please contact Jo Jean Elenes at: 1371

E. Frontage Rd., Rio Rico, AZ 85648 phone: (520) 604 – 2089 *celenes@azstarnet.com*

THE SONORAN INSTITUTE

Mission

The Sonoran Institute (SI) is dedicated to promoting community-based strategies that preserve the ecological integrity of protected lands and at the same time meet the economic aspirations of adjoining landowners and communities. Underlying the Institute's mission is the conviction that community-driven and inclusive approaches to conservation produce the most effective results

Site

The Sonoran Institute operates from northwestern Mexico to Alaska. The Institute has worked primarily with communities adjacent to protected areas or public lands with significant natural values. The SI office is located in Tucson, Arizona

Projects

The Sonoran Institute is involved in several community-based regional programs in the borderlands region. Other programs include establishing Community Stewardship Organizations (CSOs), water quality studies, and providing outreach initiatives to ranchers, gateway communities, local public leaders, and local land owners.

Opportunities for Students

Students can volunteer to assist with selected SI projects or shadow SI staff. Speakers are also available for presentations.

Other services

Good communication and organization skills. Good people skills.

Contact

For more information please contact JLuther Propst, Director, Joaquin Murietta, Associate Director of Borderlands Program, (520) 290-0828, (520) 290-0969 fax, 7650 E. Broadway, Suite 203, Tucson, Arizona 85710, sonoran@sonoran.org, http://www.sonoran.org

TOHONO O'ODHAM COMMUNITY ACTION

Mission

The mission of Tohoho O'odham Community Action (TOCA) is to promote traditional aspects of O'odham life that are in jeopardy of being lost. TOCA is a nonprofit organization.

Site

TOCA activities occur throughout the Tohono O'odham Nation. Their office is located in Sells, Arizona.

Projects

TOCA is involved in educating people about traditional practices such as planting and maintaining traditional gardens, harvesting of desert foods, basket making, and other traditional crafts. There is also an outreach program for youth and elderly.

Opportunities for Students

Students are welcome to be involved in most of TOCA's programs and projects. Arrangements can be made for class presentations. TOCA can also supply seeds, tools, and instructions for O'odham school gardens.

Skills and Abilities

The desire to understand, honor, and respect one's culture.

Contact

Tony Johnson, P.O. Box 1790, Sells, Arizona 85634, Tel. (520)383-4966, (520)383-5286

TOHONO O'ODHAM ENVIRONMENTAL PROTECTION AGENCY

Mission

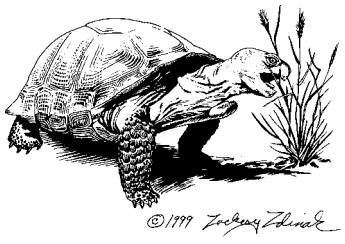
The Tohono O'odham Environmental Protection Agency (TOEPA) is working to create an environmental protection program to meet the needs of this desert area and its people. The Environmental Protection Agency develops and maintains environmental regulations and protection for the Nation. The office is also responsible for developing environmental program infrastructure and codes.

Site

The TOEPA works across the entire Tohono O'odham Nation in the western Sonoran Desert. The TOEPA office is located in Sells, Arizona.

Projects

Besides being involved in numerous environmental projects



across the Nation, TOEPA is currently developing a public outreach program for the Nation's schools. They recently produced a video called "Respect the Land" which links environmental protection and cultural traditions and have been showing it in schools and environmental festivals. The office performs public outreach on environmental issues at district meetings and to personnel. Topics for public outreach include emergency response, hazardous materials, code development, wellhead protection, and lead issues.

Opportunities for Students

TOEPA welcomes student involvement. They have sponsored student interns (paid positions) and often have projects for student volunteers. They would welcome student shadows and also can visit classrooms on a on-call basis. Additionally, the office has various resources such as educational curricula, maps, and other reference materials.

Skills and Abilities

Willingness to learn and try new things. Respect for the environment.

Contact

Ken Cronin, P.O. Box 837, Sells, Arizona 85634

TOHONO O'ODHAM NATION, NATURAL RESOURCES DEPARTMENT, SOLID WASTE MANAGEMENT PROGRAM

Mission

The Tohono O'odham Solid Waste Management Program strives to better manage solid waste in the Tohono O'odham Nation. The Solid Waste management Plan, approved by the Nation's Districts in 1996 and adopted by the Tribal Legislative Council in 1997, has been developed to prevent the problems of open burning dumps, back yard pits, burn barrels, and "wild cat" dumping on back roads.

Site

The Solid Waste Management Program has an office in Sells, Arizona.

Projects

Instead of burning or dumping trash, the program has established waste disposal centers in every village, with weekly or biweekly trash collection from these centers. Collection of recyclable materials will be expanded over the next year.

Opportunities for Students

An outreach program that will be presented to students on the Nation's schools is currently being developed. Serious students could assist in this outreach program. The office has recently hired an environmental educator who is coordinating the outreach program and who is working with youth to involve them in more environmental-related projects.

Other services

Speakers are available for brief classroom presentations. They have a booklet and flyer on the solid waste management program of the Tohono O'odham Nation. In the future, they expect to have more classroom resources related to recycling and solid waste.

Contact

Gary J. Olson or Faith Soto at phone: (520) 383-4765 fax: (520) 383-5255 *golson7691@aol.com* P.O. Box 370, Sells, AZ 85634

SAN XAVIER SERVICE LEARNING PROGRAM

Mission

Strengthen the community by placing youth in educational and leadership service roles that create solutions for the needs of the community.

Site

Located at the San Xavier District Reservation, SLP's office is housed in the Education Center. The Center is placed in a rural desert environment.

Projects

SLP recruits participants and resources to creatively provide solutions in meeting the needs of the San Xavier District community. Projects target environmental, social, and cultural issues. In the process, participants design, implement, and evaluate their service projects. The process encourages participants to gain service experience, skills, and knowledge.

Opportunities for Students

Interested students can call (520) 295 – 1025. We provide various youth service groups, environmental projects, volunteer experience, and leadership experience. SLP will work closely with participants to effectively and successfully complete their projects. To accomplish this, SLP will provide or recruit resources to meet the needs of the project, which may include materials, finances, equipment, volunteers, transportation, etc.

All project design, implemented and evaluated are to benefit the San Xavier District and Native American Students who attend the Sunnyside School District. (Location of service project varies locally).

Skills and Abilities

Effective communication skills, problem solving, organizational skills as well as basic knowledge of environmental knowledge area a key.

Contact

If interested in participating, contact: Bonnie Corella, Acting Program Manager, 2018 W. San Xavier Road, Tucson, AZ 85746 Phone (520) 295 - 1025.

WATER RESOURCES RESEARCH CENTER - ARIZONA PROJECT WET (WATER EDUCATION FOR TEACHERS)

Mission

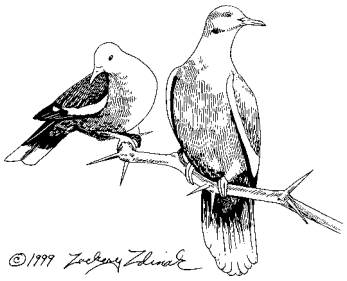
The Project WET mission is to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources through the development and dissemination of classroom-ready teaching aids and the establishment of state programs. Water education revolves around four basic tenets: that water connects all living and nonliving systems; that water of sufficient quality and quantity is important for all water users; that sustainable water management is crucial for a maintaining a healthy environment; and that awareness of and respect for water resources can be achieved by education. The Arizona WET mission is the same with one addition: that we promote an understanding of the water resources and issues pertinent to the particular community in which participants live. In that way, we strive to bring water issues "home" and promote the development of a "sense of place".

Site

The Project WET program is run through the Water Resources Research Center and Cooperative Extension of the University of Arizona. We have a large conference room suitable for Project WET workshops but do not have a field site.

Projects

The Water Resources Research Center (WRRC) offers extensive water education opportunities in addition to the Project WET program. The WRRC publishes a monthly newsletter entitled Arroyo as well as a bimonthly newsletter entitled Arizona Water Resource. The WRRC is sponsoring a conference series to discuss crucial water issues, the first of which was held May 1 & 2, 2000. A status report entitled, Water in the Tucson Area: Seeking Sustainability is just one of the many issue papers offered by the WRRC. Arizona's Changing Rivers: How People have Affected the Rivers is one of many books offered by the WRRC. The Arizona Water Map and Desert Landscaping (a CD-ROM) are popular educational tools produced and disseminated by WRRC.



Opportunities for Students

A water festival to begin the school year with a water focus is being planned for Friday, September 22, 2000 in all 50 states. The Arizona festival in the year 2000 will focus on water sustainability and will be held at Civano near Tucson. In the future, the water festival will be held in another community. Students interested in attending this year's festival or hosting a future water festival should contact us.

Skills and Abilities

Communication skills, both verbal and written, continue to be of paramount importance in any field of study. The ability to speak in a way that does not dominate, but encourages dialogue and agreement is a great skill. The environmental field is inextricably linked to land use and watershed management. In regard to land, people have diverse needs and therefore diverse viewpoints. Recognition that somewhere within all of the diverse needs there are also needs that people have in common is extremely important.

Contact

If interested in participating, contact: Kerry Schwartz, The University of Arizona, Water Resources Research Center, 350 N. Campbell Ave., Tucson, Arizona 85721, Tel. (520) 792-9591 ext. 22 Fax: (520) 792-8518 *kschwart@ag.arizona.edu http://ag.arizona.edu/azwater/WET*

YOUTH CORPS OF SOUTHERN ARIZONA (YCOSA)

Mission

To provide an environment in which corps members will develop skills necessary to act as responsible community members; strong leaders and environmental stewards.

Site

YCOSA's office is housed in Tucson, Arizona.

Projects

YCOSA provides youth the opportunity to work on trial building environmental restoration projects in the national parks and forests and BLM lands.

Opportunities for Students

YCOSA hires 17 to 21 year olds for 4 to 6 week projects on a year round basis.

Our work projects frequently are in areas where there aren't toilets/bathrooms and minimal water.

Skills and Abilities

Working on a crew with YCOSA is an effective way to get hands on skills and practical experience for resume.

Contact

If interested in participating, contact: William Drabkin, Program Director, Tel. (520) 791-7739 FAX (520) 791-7729, spiruman@aol.com, 2245 N. Flores Dr., Tucson, Arizona 85705.

JUNTOS

INTERCULTURAL ENVIRONMENTAL STUDIES

IN THE WESTERN BORDERLANDS

STUDENT GUIDE TO ENVIRONMENTAL RESOURCES AND OPPORTUNITES

Environmental Careers in the Western Borderlands

Emma Torres

Education: B. A. in Health and Human Services (candidate)

Current job: I am the Project Coordinator for Puentes de Amistad / Bridges in Friendship.

Why the environmental field? I come from a farm working family. I worked for 10 years in agriculture as a child and as a young adult.

What tools do you use? In this kind of job I use 16 years of community experience, lots of training in primary health and two years of college as my main tools to execute my job.

What I like most about my job: I like that I'm always learning something new and that I can apply that knowledge to improve the health of my people and the community.

What I like least about my job: There is so much to do, and so little time and energy. Also, I dislike the politics that people often use for personal benefits.

To relax I like to: Spend time with my family, read a good book, take walks.

I admire: People who don't give up, but rather keep pursuing what they believe.

I would tell a student: Study what you really enjoy. Life and work are awfully hard but if you like and believe in what you're doing, nothing can stop you to fulfill your goal.

Paul Crawford

Education: B. A. in Literature

Current job: I am the Program Coordinator for the International Sonoran Desert Alliance (ISDA).

Why the environmental field? I feel that Planet Earth is endangered. The environmental field is a "responsibility priority" for me.

What I like most about my job: I like the opportunity to get "earthy" with people who are trying to be environmentally responsible.

What I like least about my job: I get overloaded with reports, regulations, committee meetings, and other verbiage that keeps me at a desk rather than out in the field.

To relax I like to: Camp in the wilderness, take nature walks, star gaze and contemplate our intergalactic heritage.

I admire: Paramahansa Yogananda, Edgar Cayce, Drunvalo Melchizadek, Annie Sprinkle and Henry Miller.

I would tell a student: Wake up! The Old World is dying (transitioning) faster than you think. Be ready for new ways of being. Learn everything you can about environmental, domestic, and agricultural sustainability.

José Rafael Campoy Favela, Biologist

Education: M.S. in Natural Resource Management.

Current job: I am the Director of the Upper Gulf of California and Colorado River Delta Biosphere Reserve.

Why the environmental field:? First because I am a biologist, I also like fieldwork and I enjoy looking after natural sites.

What I like most about my job: I like being continuously in natural areas, supporting field investigations, taking care of visitors that come to the reserve, taking care of the local population, and efficiently manage this important section of the Gulf of California and Sonoran Desert.

What I like least about my job: I dislike seeing that the law is not respected, or how natural sites can be destroyed. I don't like bureaucratic processes, and I dislike not being able to resolve conflicts within the reserve.

To relax I like to: Visit natural sites with my family.

I admire: Julia Carabias.

I would tell a student: Don't forget that the "real world" outside the classroom is much different, and that if you decide to work with natural resources many opportunities and satisfactions await you.

Martha Judith Román, Biologist

Education: M.S.

Current job: I am the project coordinator for the IMADES "Gulf of Santa Clara" field station

Why the environmental field:? I desire to develop professionally in this field because it's closely related with nature, resource conservation, and biodiversity.

What I like most about my job: I like to develop natural resources research projects.

What I like least about my job: I dislike the steps needed to obtain funding for research projects. Sometimes there is not enough financial assistance.

To relax I like to: Travel or go to the movies.

I admire: Anyone that can be excellent at what he or she does.

I would tell a student: Study whatever you like best, and always try to do your best.

Richard C. Wascher, Community Coordinator

Education: Psychologist

Current job: My job is as the Community Coordinator for Juntos Unidos.

What tools do you use? In order to execute my responsibilities, I depend on a computer, the internet, and social attitude. I am out in the community very often, recruiting people to partner with Juntos Unidos in order to execute our mission statement.

What I like most about my job: What I think is the best part of my job is working with youth and hearing positive comments from them toward our programs or toward myself. It gives me a great sense of accomplishment and pride to know that Juntos Unidos and I serve a positive purpose to the youth that are involved in our organization.

What I like least about my job: It is very frustrating to see a lack of collaboration and interest on a community level. Many people complain that, "there is nothing to do" but yet when we try to implement a program or activity, it is hard to get people involved in helping THEIR OWN community to make it better.

To relax I like to: Play guitar and write and record music. I've been a musician for 16 years. I come from a divorced family and music was always my "therapy"— it kept me busy and off the streets.

I admire: My mother. Seventy percent of adolescents who commit crimes are form divorced families or single-parent homes. My mother did not allow us to become a statistic.

I would tell a student: Stand up for yourself and NEVER let ANYBODY say that "you can't". You are a very capable human being and if anyone tries to put you down, they are ignorant. Walk away because your criterion is strong and undeserving of ignorance. You are the one who will be running our businesses, our schools, and our government. But make your voice heard now.

Scott Jay Bailey, Ecologist

Education: B. S. in Biology, M.S. in Wildlife and Fisheries Science.

Current job: I am an ecologist at the Tohono O'odham Nation, Natural Resources Department.

Why the environmental field? I really like being outdoors and get a lot of pleasure form working with plants and animals.

What tools do you use? For my job I use computers, binoculars, field guides and other literature, GPS, compass, topographic maps, etc.

What I like most about my job: I like doing fieldwork and, since I enjoy writing, I also enjoy compiling information into reports. A very satisfying aspect of my job is when I am able to work on projects or issues where my involvement benefits a species or the environment.

What I like least about my job: It is often difficult to obtain funding for ecological work. Another discouraging factor is that decisions regarding threatened or endangered species often seem to be based more on politics than biology.

To relax I like to: Spend time with my wife and daughters, Tara, Kestrel and Sage. I also enjoy yoga, gardening, listening to music (I'm a volunteer DJ at KXCI, a community radio station in Tucson), camping, hiking, riding bikes, and traveling (especially to places I have not been to before). Getting together for meals with friends is also one of my favorite things.

I admire: Many different people and it would be difficult for me to list them all by name. However, my admiration for several teachers and professors greatly influenced my career selection. In addition, I admire parents who get involved in their children's education and other activities and people who work(ed) for peace and understanding among human kind.

I would tell a student: Stay in school, go to class, listen and study. Read books about subjects that interests you. Take advantage of any training opportunities that you

can. By learning a variety of things you can broaden your career opportunities and increase your understanding of other people. Keep an open mind.

Terry W. Sprouse, Economist

Education: B. S. in Agronomy & political Science, B. S. in Resource Economics, Ph. D. in Arid Lands Resource Sciences (candidate)

Current job: I am the Border Water Coordinator for the Arizona Department of Water Resources. I am also in a binational committee to resolve waste water needs for Nogales, Arizona, and Nogales, Sonora.

Why the environmental field? I do this work because I believe our health and welfare depends upon a safe environment.

What tools do you use? I speak Spanish quite often as I coordinate a hydrologic data exchange with Mexico.

What I like most about my job: I like working on committees that are seeking to resolve water problems in southern Arizona. Also, I enjoy talking to the public about our work.

To relax I like to: Jog, read biographies, and go hiking.

I admire: Ralph Nader, Abraham Lincoln.

I would tell a student: A good place for young people to get first hand experience working in environmental issues is in The Peace Corps. I highly recommend it.

David Ortiz Reina, Environmental Educator

Education: B.S. in Biology, Diploma in Environmental Education and Industrial Safety.

Current Job: I currently devote my time to industrial ecology in the Arizona - Sonora border region. Tools I frequently at work include the computer, scanner, and environmental regulations and standards. I also devote part of my time to environmental education in the Sonoran Desert.

Why the environmental field? I have been naturally inclined, and because of the humanistic side conservation has.

What I like most about my job: The contact I have with nature, meeting people and places where you can do something to change the people's quality of life.

What I like least about my job: That the government and the informality of environmentalist groups manage conservation and environmental issues.

To relax I like to: Spend time with my family and travel.

I Admire: Everyone who seeks to do something in life, puts a lot of effort, and persists to achieve its goals in an honest way.

I would tell a student: To go beyond what you learn in school and be persistent in achieving your life goal.

Víctor Manuel Quiroga Soberanes, Environmental Educator

Education: Zootechnical Veterinary, and Dramatic Art Technician. Masters in Environmental Education (candidate)

Current job: I am the Environmental Education and Community Development Project Director for the Pinacate and Altar Desert Biosphere Reserve.

Why the environmental field? When I was a boy I used to go out and play in the creeks near Durango, Mexico, my hometown. I liked watching birds and insects sharing the space with me. Nowadays, economical rationality and its instruments like industry have occupied those spaces and I think I should do something about it.

What I like most about my job: I like the challenges of finding alternatives and solutions to environmental issues. I like building goals and dreams in the pursuit of a better future, the coexistence of people and nature, and discovering something new each day in this beautiful desert.

What I like least about my job: It is difficult not having all of the technical and economic resources to do my job.

To relax I like to: Play basketball, watch movies, read a good book, get together with my friends and have a nice chat, travel and go to the theater.

I admire: My father, my mother, Benito Juárez, Socrates, Aristotle, philosophers of the German dialectics, every man or woman who gives the best of himself and puts passion into his or her life.

I would tell a student: If he or she decides to take the road to environmental work, one must be a little bit crazy and should liberate ones-self from economical rationality. They should be a dreamer to build a new civilization and also be a passionate fighter, but not a fanatic. One should strive to make their dreams come true without stepping on other people's rights.

Kenia Castañeda Nevarez, Environmental Educator

Education: Oceanographer

Current job: I work as the Community Programs Coordinator for CEDO (Intercultural Center for the Study of Deserts and Oceans). My work includes coordination of an environmental education program with teachers that live in the margins of the Upper Gulf and Colorado River Biosphere Reserve, establishment of GLOBE in Puerto Peñasco, talks and trips with local and visiting student groups, and the development of local cleanup campaigns.

Why the environmental field? I've always liked to be careful and conscience of every living creature. Nature has wonderful things to show us, and I believe in fighting so that they're always kept on this planet. Furthermore, I come from a family of teachers and since I was very young, I've been in contact with them. I have a passion for the sea, and I believe there is nothing more exciting than working in something you like, something that's related to your studies.

What tools do you use? In the kind of work that I do I use a wide variety of computer programs for statistics, word-processing, and graphic design. I also use books, regional maps, slide and transparency projectors, identification guides, and water kits to determine parameters like salinity, dissolved oxygen, and pH.

What I like most about my job: I like that my work is closely related to nature and the marine environment. Furthermore, I think that when you achieve something and look at the faces of satisfaction of the people involved or the astonishment when they learn about the environment that surrounds them, is very rewarding.

What I like least about my job: I dislike seeing the corruption that exists in my country, and that often, people who are responsible for conservation efforts are those with higher positions where bureaucracy takes place and all of the processes are slowed down.

To relax I like to: Read, go swimming, snorkel, and bake pies and cakes.

I admire: People who proceed beyond adversity, people who try to gain a degree with no support but self-determination to achieve something in life, parents who put a lot of effort ensuring that their families succeed and try by all means for their children to better themselves personally.

I would tell a student: To never disappoint your parents since they only seek your well-being. Fight with all your heart to decide what you want to study so that afterward, you achieve the goals for which you aim.

Judy Freeman, Intercultural Consultant

Education: M. A. in Spanish, Teaching Certification

Current job: International Exchange Specialist with Hands Across the Border.

Why the environmental field? I work to incorporate environmental awareness into our intercultural exchanges because only by encouraging people to see that we share the planet and must work together to make long term choices beneficial to the environment, we can preserve what our life depends on.

What tools do you use? I use the Spanish language, computers and other office machines, my car, and empathy with all kinds of people.

What I like most about my job: I enjoy the contact with people involved in the exchanges. I like seeing them learn to relate to each other in a positive way and begin to work together to solve problems.

What I like least about my job: I dislike all the time I have to spend in the office, sitting in a chair!

To relax I like to: Take walks, garden, visit with my friends and family, read.

I admire: People who are willing to devote tremendous amounts of time and energy to a project they believe in.

Allen Wilson, Mineral Resource Technician

Education: Associates in Science.

Current job: I am a mineral resource technician.

Why the environmental field? In my job, you don't need to be in the office all the time! Fieldwork is great and I love nature.

What tools do you use? For my job I use tools such as the computer, global positioning system (GPS), hand tools, camera, compass, and flagging.

What I like most about my job: I like fieldwork, mapping, GIS...almost everything! I also like taking pictures of everything that deals with nature.

What I like least about my job: I dislike long meetings and sitting around—that's why I try to keep busy.

To relax I like to: Play basketball and spend time with my family and friends. Also just kicking back and relaxing.

I admire: My whole family for their love and support. All the people who has helped me in a good way. I think you must learn to love life, which includes plants and animals, because without them, where would we be?

I would tell a student: Long hours and hard work will pay off at the end. Don't ever quit.

Georgina Pearson, Natural Resource Specialist

Education: B. S. in Natural Resource Recreation

Current job: I am the International Affairs Assistant for Organ Pipe Cactus National Monument.

Why the environmental field: I have a love for the outdoors and protecting parks and wilderness.

What tools do you use? I use computers and Spanish language skills.

What I like most about my job: I like the flexibility with the schedule, travel, and working with other countries.

What I like least about my job: The lack of benefits and status (working part time).

To relax I like to: Exercise, hike, cycle, walk, and read.

I admire: My parents.

I would tell a student: Respect yourself, your parents, and elders. Be honest, trustworthy, and patient. Follow your heart's desires. If you do these, the little things will work out.

Jefford D. Francisco, Natural Resources Technician

Education: Finished 12th grade.

Current job: I am the natural resources technician for the Tohono O'odham Nation, Natural Resources Department..

What tools do you use? I often use computers, reference books, maps, measuring tape, scope, and GPS for field surveys

Why the environmental field? I wanted people to be aware of the importance of plants and animals, the need for a better protection, and the respect for them.

What I like most about my job: I love going out in the field looking at plants and animals, and working with different people other than O'odham.

What I like least about my job: I dislike having to go to meetings!

To relax I like to: Work with my hands, fix things, labor work at home, watch TV., and going hiking to the mountains.

I admire: My mother and all the people that support me in my work. I admire Donna House, my first supervisor in the field of conservation.

I would tell a student: Don't give up and go for it if you're interested in the environmental field. I believe we need more people in this field.

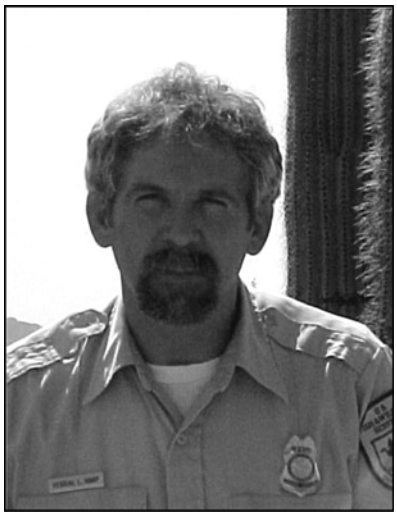
Vergial L. Harp, Outdoor Recreation Planner

Education: B. A. in English, Anthropology, with studies in Natural Resource Management

Current job: I am the wilderness coordinator at the Cabeza Prieta National Wildlife Refuge. I act as the public use specialist, plan the outdoor and visitor center exhibits and visitor contact program, and as a law enforcement officer for the refuge.

Why the environmental field:? I enjoy the outdoors and conservation/preservation activities and issues, including wilderness programs and public use programs which are focused on outdoor interests.

What I like most about my job: I like being involved in the protection of natural resources—whether it is hiking in the backcountry to check a water catchment basin, checking on visitors on the Camino del Diablo, or talking with visitors in the visitor center or with students in the classroom.



What I like least about my job: There are not enough hours in the day to achieve all I would like to address. Sometimes the hot nights are frustrating after a long, hot day in midsummer on the dusty Camino del Diablo.

To relax I like to: Hike, canoe, fly fish, church activities, coach baseball, watch a movie, spend time with my family.

I admire: The youth of our nation and their positive attitude toward our future. Aldo Leopold is high in my list as well as Mark Twain.

I would tell a student: Stay positive and enjoy the career you choose.

Jolene Johnson, Park Ranger

Education: B. S. in Biology, Master of Natural Science.

Current job: I am a park ranger at Organ Pipe Cactus National Monument, a 300,000 acre Sonoran Desert Park with 90% wilderness.

Why the environmental field:? I have always enjoyed the outdoors, being far away from cities and too many people. I wanted to work in a field that would allow me to help protect and preserve wild places.

What tools do you use? My job requires skill in using a multitude of tools too numerous to list, but includes weapons, radios, hand tools, patrol vehicle, GPS unit, fire fighting equipment, etc.

What I like most about my job: I like being outdoors, enjoying the resource, a certain amount of freedom and independence (as far as where I will patrol in a given day, what projects I decide to work on, etc).

What I like least about my job: I dislike the bureaucracy of the Federal Government, paperwork, and sometimes morale is low due to conflicts between employees and different divisions but that would be true of any job.

To relax I like to: Hike, read a book, run, weight lift. I get a lot of what I like to do from my job so in my free time I usually relax at home or about once a month I go to the nearest big city, which is about 2 ½ hours away.

I admire: Historical figures; Charles Darwin, Thomas Jefferson. There are some naturalists that I admire such as Jane Goodall, Gary Nabhan, and many of the ones I work with. I admire anyone who is energetic and enthusiastic about the environment and can inspire other people to appreciate it. There are few female law enforcement rangers that I admire also.

I would tell a student: Being in this field is like a calling. You will never make a lot of money so you make sure you know what your priorities are. Always study in school the things you are most interested in (as well as your required courses). Don't let a guidance counselor or anyone try to steer you in a more profitable course of study. If you really

love something you'll be able to find a job in that field if you have determination no matter how much competition there is.

Dominic Cardea, Park Ranger

Education: B. A. in Geology, M.A. in Environmental Education and Interpretation.

Current job: I am in charge of communicating to the public the values and reasons for National Parks and I encourage people to think about conservation and the natural world in their daily lives.

Why the environmental field:? I feel strongly about what the National Park Service stands for and it is a lot of fun.

What I like most about my job: I like leading walks and hikes and learning about the environment I work in. I do a lot of writing and drawing too!

What I like least about my job: Answering surveys about my job. Not really! I do not like the office work as much as the fieldwork.

To relax I like to: Hike, play music, listen to CD's, draw, paint, learn about the world, and travel.

I admire: Rachel Carson; she stood up for what she believed in against great odds and changed the world. My parents, who put up with me, and Aldo Leopold for his vision and great writing (read "Sand County Almanac").

I would tell a student: Follow your bliss! If you do something you like, you will never work a day in your life. Be mindful of your surroundings.

Faith Soto, Pollution Prevention Educator

Education: Associates degree in Business.

Current job: I am the Pollution Prevention Educator of the Solid Waste Management Program for the Tohono O'odham Nation. I often use an overhead projector, music, poster board, experiments, and activities to carry out my responsibilities.

Why the environmental field? To become more familiar with nature's life cycle, which would enable me to have a better understanding of how to protect it from harm, such as pollution. To protect our natural resources, which will in turn, protect us. We are all connected in this circle of life and rely on another to keep balanced.

What I like most about my job: I like meeting people, doing presentations for the youth, motivating certain individuals to make a change in their community, and learning as I go along.

What I like least about my job: Long presentations that last all day. Especially if I'm alone and repeating the same message to different groups. It's difficult to keep the energy level high, especially during the summer.

To relax I like to: Listen to music, go cruising through scenic routes, take nature walks, write, draw, play sports and games.

I admire: My mother and father for having the strength and patience to raise my brother and me in a healthy way. For teaching us to be proud of whom we are and to bring back what we learn to our people.

I would tell a student: Get involved in any way you can! It doesn't have to be on issues just concerning the environment. Expand your horizons. You can make a difference if you believe in yourself and the cause you are working for.

Felipe de Jesús Maldonado Guerra, Tourist Guide

Education: Technician in Sea Food Processing (candidate)

Current job: I am the Earthship manager at

CEDO, and I also participate in visitor programs.

Why the environmental field? I choose to work in the environmental field because I'm pretty familiar with the topics and I like to participate in conservation efforts.

What I like most about my job: I like the contact I have with groups of conscientious and participatory adults.

What I like least about my job: I dislike giving talks to children who I feel don't understand what I try to express.

To relax I like to: Sow and grow plants, weed my parcel, and read adventures about the sea.

I admire: People who are happy with what they do as their "*modus vivendi*".

I would tell a student: One should try to determine what is it that they like to do best and find a way of gaining an income that will allow them to live doing what they likes.

Gary J. Olson, Solid Waste Manager

Education: B. A. in Biology and Chemistry, M.S. in Resource Management.

Current job: I am the manager of the Solid Waste Management Program for the Tohono O'odham Nation. I develop and implement a Nation-wide program of solid waste collection, recycling and disposal for 55 villages of 23,000 people.

Why the environmental field? I am concerned about protecting and preserving the environment for future generations.

What I like most about my job: I like the "hands on" program development and implementation, cultural awareness of the O'odham traditions, and the rural nature of the program. I also like the variation in activities in every workweek.

What I like least about my job: I dislike the long commute after a long day.

To relax I like to: Hike and camp, garden, converse with friends.

I admire: Calm, happy, spiritually centered people.

I would tell a student: When I was a teenager I thought I had to pick a job for life. I found out that this wasn't true, and that trying different kinds of jobs got me in touch with what I liked and didn't like to do. Nothing is as good as direct experience and then deciding for yourself.