

# Southern Arizona Project to Address Public Land Degradation as a Result of Illegal Immigration 2004



Abandoned vehicle removal



Barrier construction



Replanting an illegal burn



Illegal road rehab



Trash cleanup

## End-of-Year Report



**Southern Arizona Project  
to  
Address Public Land Degradation  
as a Result of Illegal Immigration  
2004**

**End-of-Year Report**

**Introduction**

Fiscal Year (FY) 2004 was the second consecutive year funding was specifically provided by Congress “to address public land degradation as a result of illegal immigration” in Arizona. The Bureau of Land Management (BLM) and all of its partners greatly appreciate this support which was initiated by Congressman Jim Kolbe and supported by the Arizona Congressional Delegation and other members of Congress.

In FY2003, more than 122,000 illegal immigrants<sup>1</sup> were arrested on Federal and Tribal lands in southern Arizona. In FY2004, this number increased to more than 155,000. Many thousands more avoided arrest. This migration tidal wave caused very serious impacts to the fragile landscape and natural and cultural resources administered by Federal, Tribal, State, County and private land managers in southern Arizona. Thousands of roads and trails have been illegally established by the sheer magnitude of migrants coming into Arizona from Mexico. These roads and trails fragment habitat, destroy vegetation, cause erosion and leave unsightly scars which, if not rehabilitated, will last for decades in areas which were pristine six years ago or less.

It has been estimated that each immigrant discards at least eight pounds of trash on his/her journey through southern Arizona. On this basis, 1.24 million pounds (620 tons) of trash were left on Federal and Tribal lands in southern Arizona by those arrested in FY2004. This does not take into account the tens of thousands (if not more) of migrants that were not arrested or the previous six years of accumulation.

Cutting fences and vandalism by smugglers and illegal immigrants also are problems. Livestock fences are cut and torn out by vehicles. Gates are rammed by vehicles or left open, allowing livestock to escape. And, repairs of this damage are required on a continuing basis and are very costly and time-consuming.

Warming and cooking fires by illegal immigrants escape and destroy vegetation and wildlife habitat and cause a safety hazard to visitors—including other illegal immigrants that might be in the area—and firefighters.

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<sup>1</sup> Also referred to as undocumented aliens (UDA) and undocumented immigrants (UDI).

The House Appropriations Committee (thanks to Congressman Jim Kolbe and the support of other Arizona Representatives) included \$1 million for BLM in the Department of the Interior and Related Agencies Appropriations Bill for FY2004. In Conference Committee the amount was reduced to \$800,000. A rescission reduced it further to \$790,000.

Funding provided in FY2003 came late in the year and therefore a portion of this funding was carried over into FY2004. Funding provided in FY2004 supplemented ongoing efforts and expanded into other areas. Work accomplished in FY2004 included trash removal; rehabilitation of illegal roads, trails and impacted washes; removal of abandoned and burned-out vehicles; replanting burned out areas; fence, gate and barrier repairs; cattleguard and barrier construction; and other projects. And, employee and worker safety continued to be a high priority.

Cooperative Agreements have been made with the Youth Corps of Southern Arizona; Malpai Borderlands Group; National Park Service; U.S. Fish and Wildlife Service; Cochise, Santa Cruz and Graham counties; the town of Marana; the Tohono O'odham Nation and others to pick up trash left by smugglers and illegal immigrants and to repair damage caused by them. Arrangements have been made with several sanitary land fills to receive the trash. Trash bags, gloves and other protective equipment have been purchased and distributed to those who are helping with this effort. Trash bags were distributed to U.S. Border Patrol Agents for their use when arresting smugglers and illegal immigrants.

Although these efforts are directed at the symptoms and not the cause of the immigration problem, we are realizing some valuable positive results. Rehabilitating illegal roads and establishing barriers work in most instances and traffic over these routes has been redirected. Secondly, we have found that a clean area is less likely to encourage littering than an area with existing concentrations of trash. Thirdly, trash removal helps with monitoring of current illegal use patterns. And, fourthly, trash cans are actually used by some illegal immigrants when placed at pickup points and other areas of heavy use.

This report summarizes the accomplishments made in 2004.

BLM wishes to thank all of the volunteers, government agencies, and organizations that helped throughout the year to clean up trash and repair damage caused by smugglers and illegal immigrants in southern Arizona. Your support is greatly appreciated and contributed immensely to protecting many fragile and valuable resources.

## **Bureau of Land Management**

### **Arizona Border Security Detail**

In FY2004, Arizona BLM law enforcement used \$83,000 to provide security for crews cleaning up and rehabilitating lands in southeastern Arizona, and to provide emergency

care to persons found in distress in the southern Arizona deserts. This funding also was used to increase the law enforcement presence in order to serve as a deterrent for illegal immigrant and drug smuggling, prevent additional resource damage and trash dumping, and provide increased visitor and employee safety on public lands near the border.

During a period from April 4, 2004 to May 29, 2004, two additional Rangers were assigned to the Tucson and Phoenix Field Offices. During the rest of the summer until September 1, 2004, local Rangers continued to work periodic saturation patrols. Rangers worked over 800 hours of overtime on the project. In addition, over 1,280 hours of base time were contributed by Rangers with a duty station from outside Southern Arizona.

Listed below are the highlights and statistics from this time period:



### **Phoenix Field Office**

The Phoenix Field Office received \$107,000 to clean up litter, human waste and hazardous materials (fuel and motor oil spills, biohazard bags, etc.); remove abandoned and burned-out vehicles; repair damaged fences; replace gates with cattleguards; rehabilitate (stabilize and close) damaged roads; operate and maintain roads; and purchase and install notification and warning signs. The focus of the effort was within the Sonoran Desert National Monument.

Because of heavy use by drug and illegal immigrant smugglers, regardless of weather, and the subsequent law enforcement effort (Border Patrol, BLM Rangers and others), the condition of the Vekol Valley and Bates Well roads had deteriorated significantly. Some spots were unsafe to travel at night; others were on the verge of becoming so. Both roads were bladed with a road grader as necessary to make them usable and safe for law enforcement and public land visitors. As a result, BLM Law Enforcement Rangers, Border Patrol and other agencies, as well as the visiting public, are now able to traverse these two roads in comparative safety.

Culverts were installed in two wash crossings on the Vekol Valley Road. These washes flooded with each heavy rain, making the road impassable. This presented a safety hazard for visitors, but also made it extremely difficult for BLM law enforcement officers and Border Patrol to work in the area. This put illegal immigrants and visitor lives in danger during times of inclement weather. These culverts make the crossings usable in wet weather, enhancing safety.

The main road south through Vekol Valley in the Sonoran Desert National Monument leaves the monument and enters the Tohono O’odham Nation’s reservation in T9S, R1E, Section 14. Until a cattleguard was installed, there was only a simple wire gate in the fence at the road. Illegal immigrants and drug smugglers sometimes drove vehicles through the gate without opening it, and when they did open the gate, they seldom closed it. The gate would often remain in this “destroyed” or open condition for several days at a time. This allowed livestock from the reservation to enter the monument, and vice versa. Installation of the cattleguard prevents this from occurring in the future and facilitates grazing management and resource protection on both sides of the fence.

Three additional cattleguards have been acquired and will be installed in similar situations on the monument in FY2005.

Illegal immigrants and drug smugglers often abandon (and sometimes burn) their vehicles. In FY2004, over 200 abandoned vehicles were removed from the Sonoran Desert National Monument and other BLM-administered public lands in the area. The company doing the towing terminated its volunteer relationship with BLM because it was losing money on the work. Therefore, BLM entered into a contract arrangement with a towing company so that the abandoned vehicles could continue to be removed from the monument and surrounding lands for the remainder of FY2004 and into the next year.

Ongoing border related activity by illegal immigrants and smugglers has several impacts, including the deposition of trash and waste on the public land and the creation of new roads and vehicle trails where the smugglers have driven off road and often were pursued by law enforcement. The trash and waste they leave remains until it naturally degrades unless there is some effort to remove it. The vehicle trails potentially become roads if other public land users drive over them after the smugglers create them. Additionally, fences are often cut and other minor impacts occur.

To alleviate these impacts, the Phoenix Field Office “employed” two Student Conservation Association (SCA) interns for the October through May period, through an existing Assistance Agreement with the SCA. The interns are picking up and removing trash and waste and rehabilitating vehicle paths. They will repair fences and signs and do other border related restoration and reclamation work. They will remain with BLM from early October 2004, when they started, through May, 2005.

Many hundreds of pounds of trash were removed, and significant portions of nine illegal roads were rehabilitated during the first month of work. Over the course of their appointment, the interns will remove or coordinate the removal of tons of trash and waste as well as rehabilitate roads and carry out other needed work.

To inform the public of the possible danger in the areas of BLM-administered public land affected by border activity, signs were designed and ordered, to be placed at strategic locations where needed. The wording of the signs is as follows: “**CAUTION**  
**Smuggling activity is common in this area because of proximity to the international**

**border. Be aware of your surroundings at all times.”** Additionally, agency identifying logos and telephone contact information are on the signs.

The signs have been installed on roads commonly used by the public when entering affected public lands.

See Appendix A for additional details and photos.

## **Safford Field Office**

The Safford Field Office (SFO) received \$142,000 in FY2004, which was used to supplement existing Assistance Agreements with the National Park Service, U.S. Fish and Wildlife Service, Cochise and Graham Counties, and the Malpai Borderlands Group to clean up trash left and repair damage caused by smugglers and illegal immigrants. Please see the accomplishments of each in specific sections that follow in this report.

## **Tucson Field Office**

The Tucson Field Office (TFO) received \$332,000 in FY2004 to be used on several projects in order to remediate the impacts of illegal smuggling of immigrants and drugs on public lands. The money was used in several partnership agreements to assist in the rehabilitation of degraded lands, construction of vehicle barriers, contracts for waste removal, and costs of materials and supplies.

## **Student Conservation Association**

Four Student Conservation Association (SCA) Interns were contracted to organize and assist with the work projects approved under this funding for the Tucson Field Office. Two of the SCAs were assigned to the San Pedro Riparian National Conservation Area and two to the Ironwood Forest National Monument. As part of their training, these interns have become certified Wilderness First Responders, Tread Lightly Trainers, and are scheduled to become Leave No Trace Trainers. They have undergone field safety orientation and other training in order to become familiar and confident in performing their jobs under the current conditions, which include working in remote areas where illegal smuggling of people and drugs occurs, with little or no radio/cell phone coverage, and in extreme weather conditions.

In addition to organizing and working with a variety of organizations and groups to do cleanup and repairs, these SCA Interns spent more than 118 hours by themselves cleaning up trash left by smugglers and illegal immigrants (over 70 cubic yards) and rehabilitating illegal routes and other damaged areas.

Although funded in FY2004, these SCA Interns will be performing the following projects in FY2005:

- Coordinating 10 weeks of project work with the Youth Corps of Southern Arizona
- Teaching Tread Lightly! in public contacts and muster sessions with local Border Patrol stations
- Coordinating with partners for regular clean-up and rehabilitation work (e.g. Town of Marana, Humane Borders, and Sky Island Alliance)
- Documenting and remediating sites being damaged by illegal immigrants
- Coordinating waste removal, tire collection and disposal and other items not fit for landfills
- Revising bilingual messages for bulletin boards
- Installing and maintaining bilingual signage
- Recording and rehabilitating cross country vehicle routes (resulting from illegal smugglers), and
- Other projects.

The SCA's also are working with the Community Learning Adventure Service Project (CLASP) to get volunteers together with community speakers, on the land, to provide service hours to mitigate the impacts caused by smugglers and illegal immigrants and to talk about immigration in this area.

### **United States Customs and Border Protection**

Tucson Field Office has been working with the Border Patrol to assist in the clean-up of trash from immigrants and to help new agents become aware of traveling with minimum impact on the lands while doing their job. A Border Patrol specific Tread Lightly! Program was developed and delivered by BLM in June 2004 to over 50 Border Patrol supervisors in the Tucson Sector. During this training, new connections were made and messages shared. This program will be delivered in Border Patrol stations beginning November 2004 by the SCA interns and a BLM Park Ranger. Border Patrol Agents agreed to assist in clean-up of the litter left by immigrants. Over 1,000 lime-green trash bags have been provided to agents in the Tucson Sector.

### **Youth Corps of Southern Arizona**

Under the existing statewide assistance agreement with the Youth Corps of Southern Arizona (YCOSA), \$67,000 was obligated for 10 weeks of work by youth crews. These crews fill a special niche in the remediation of impacts left by smugglers and illegal immigrants. These YCOSA crews are able to travel to distant, remote locations on rough roads and spend several days working in the area. Because they are self sufficient and camp in these areas, they can rehabilitate many places that are virtually logistically impossible to rehabilitate using volunteers.

With funds carried over from FY2003, three weeks of work were performed on the Ironwood Forest National Monument during FY2004 by one YCOSA crew—October 14-17, 2003 (see pages 32-36, Southeast Arizona 2003 Project End-of-Year Report), November 10-14, 2003, and December 1-5, 2003.

During the November and December efforts, the YCOSA crew picked up 227 bags of trash (113.5 cubic yards), 41 tires and other large items in the Ironwood Forest National Monument. They also rehabilitated 14 illegal routes and five expanding pull-outs. (See Appendix B).

Another YCOSA crew worked in Las Cienegas National Conservation Area on April 26-30, 2004. This crew removed waste (approximately 10 cubic yards), installed bilingual signs, rehabilitated and reseeded and mulched two damaged areas, and cut grass and took other fire prevention measures at the historic Empire Ranch House. They also removed trash from the Audubon Research Ranch. (See Appendix C).

And, YCOSA crews worked 17 days in the San Pedro Riparian National Conservation Area between February 27 and September 22, 2004. During this time, they cleaned up 373 bags of trash (186 cubic yards). (See Appendix D).

### **Town of Marana**

The Town of Marana has been a strong partner for the Ironwood Forest National Monument. Again and again, their willingness to assist and their quality of work exceeded all expectations. As the gateway community to one of this nation's newest National Monuments, the Town of Marana has been nothing but supportive in their efforts to rehabilitate the area from the impacts of smuggling controlled substances and illegal immigrants.

Under an Assistance Agreement with BLM, the Town of Marana received \$35,000 in FY2003, some of which was carried over into FY2004. An additional \$30,000 was obligated to the Town of Marana in FY2004 for labor, supplies, tools, equipment and work performed to remediate the impacts of illegal immigration on the lands in and around Ironwood Forest National Monument. As part of this partnership, the Town performed weekly clean-up work (except in the summer) on lands within and bordering the Monument. Their average weekly collection was 1,200 to 1,500 pounds of litter. This waste was collected and delivered to the Tangerine Landfill. This landfill is owned by the Town of Marana, thus no disposal fees were incurred under this partnership agreement. Since October 2003, the Town of Marana disposed of over 41,000 pounds of trash.

The sites regularly used by illegal immigrants are typically in mesquite bosques, with roads that are brushy, overgrown and hard to get full size vehicles into. The Town of Marana was able to purchase a 4x4 dump truck that is not much larger than a golf cart to assist in the collection of the trash in these sites.

The Town of Marana also filled and disposed of an entire 30-cubic yard roll-off dumpster of tires. They have voluntarily taken on the task of removing the tires from the rims, as required for disposal. They perform this not only on the tires they collect, but on the many truck loads of tires collected by SCAs and BLM staff from Ironwood Forest National Monument (see Appendix B for more information).

### **Waste Collection Contract**

On Ironwood Forest National Monument, there are two 30-cubic yard roll-off dumpsters located in areas of high illegal immigrant traffic. One is on the southern end of Ironwood Forest National Monument, three miles north of the Tohono O’odham boundary, and one is located just south of Avra Valley Road, near the Waterman Mountains. These roll-offs provide a place for volunteer clean-up crews to dispose of waste without having to drive to a landfill and pay fees for their service. Although the closest landfill to the Monument is the Tangerine Landfill, it is not all that close when working in remote areas of the Monument. It is a tremendous help to have a place in these areas of high use to drop trash collected at any hour of the day or night, especially during multi-day work with crews. They are a necessity for BLM staff, SCAs, YCOSA crews, and volunteers. Since October 1, 2003, seven 30-cubic yard roll-off containers have been filled and removed. The total waste collected in these containers was 18.61 tons.

### **Volunteer Service Projects**

Several organizations have provided volunteer hours to remediate the impacts caused by smugglers and illegal immigrants on public lands. For example, Humane Borders provided regularly scheduled project work and 630 volunteer hours to clean up 148 cubic yards of trash from the Ironwood Forest National Monument. (See Appendix B).

On February 3, 2004, ten students and staff from the Southwest Open School from outside Durango, Colorado, provided 60 volunteer hours to reclaim four illegal routes, and cleanup about three cubic yards of trash in Ironwood Forest National Monument and adjacent lands owned by ASARCO. This effort was organized by the Arizona Wilderness Coalition. (See Appendix B).

In March, April and September 2004, the Sky Island Alliance provided over 554 volunteer hours of work in the vicinity of “The Narrows” within Las Cienegas National Conservation Area to build vehicle barriers, rehabilitate illegal routes and clean up trash left by smugglers and illegal immigrants. (See Appendix C).

On May 3-7, 2004, a crew from the Northwest Youth Corps and two SCA Interns collected 23 cubic yards of trash from the San Pedro Riparian National Recreation Area and Zacatecas Canyon near Old Bisbee, Arizona. (See Appendix D).

## **Yuma Field Office**

The Yuma Field Office was provided \$69,000 in FY2004. With this funding, it restored border areas affected by illegal immigrant activities along the Colorado River. Field Office Staff and contracted crews from the Coconino Rural Environment Corps planted 250 cottonwood and willow poles scattered within a 14-acre area to replace trees that were destroyed by a wildfire (C936) that occurred on June 17, 2001 and believed to be caused by illegal immigrants. An open top wire cage consisting of wire mesh anchored to a T-post and rebar was placed around each planted pole for protection from beavers and other wildlife.

For the cleanup phase, Field Office Staff and contracted crews from the Coconino Rural Environment Corps picked up approximately 40 cubic yards of trash and 43 vehicle tires along nine miles of the river levee road on BLM administered land in the border area from Morelos Dam and south along the entire stretch of the Colorado River to San Luis, Arizona.

During the project, crewmembers were contacted by some of the recreating public who expressed their appreciation for cleaning up the area. It was noted that in addition to the importance of the entire project area for bird hunting, the area near Morelos Dam receives a fair amount of weekly day-use for fishing and boat launching.

See Appendix E for additional details and photos.

## **National Park Service**

In FY2003, BLM entered into an Assistance Agreement with the National Park Service at Chiricahua National Monument/Fort Bowie National Historic Site for \$20,000. Since that funding was transferred late in the year, a portion of it was carried over for use in FY2004. With this funding, nine illegal immigrant activity sites were monitored for trash accumulation over the fiscal year. These were all sites that had been used by illegal immigrants to different degrees in FY2003. Only one site (Site 8), in the mouth of Siphon Canyon, continued to show heavy illegal immigrant use. The location was checked weekly for additional trash build up. The trash was bagged and brought into the Fort Bowie maintenance area where it was inventoried and weighed. It was disposed of in a trash compactor and later taken to the landfill in Willcox.

During FY2004, Site 8 produced over 228 pounds of trash including, 33 backpacks, food and water containers and discarded clothing. Approximately half of the backpacks contained personal items. The rest were empty. Many of them were new and in good condition. Site 8 and Apache Pass also produced four automobile bench seats and five bucket seats that had been discarded along the road and at the pick up point. The park also recorded two illegal immigrant-related traffic accidents. Both were vehicles leaving the roadway, one hitting a tree and the other high-centered on some boulders. One of the vehicles had to be towed away. Both accident scenes had to be rehabilitated.

See Appendix F for additional details and photos.

An additional \$20,000 was added to the Assistance Agreement in FY2004, but was not received by Fort Bowie National Historic Site until September 2004 due to administrative delays. A total of \$21,510 will be carried over and used in FY2005.

## **U.S. Fish and Wildlife Service**

BLM entered into an Assistance Agreement with FWS at San Bernardino and Leslie Canyon National Wildlife Refuges for \$20,000 in FY2003 and added another \$20,000 in FY2004. All of this funding was used in FY2004.

The two refuges continue to have their border and boundary fences cut or damaged by smugglers and illegal immigrants. Cut and damaged fences allow livestock to trespass onto the refuges causing damage to sensitive wetland habitat in addition to that caused by the migrants and smugglers themselves. Four thousand dollars (\$4,000) was used for fence repair.

Five thousand dollars (\$5,000) was used along with FWS funding to hire a term position employee that monitored the refuges for damaged fences and trash concentrations and to clean up trash during the year. This funding has allowed FWS to make a concerted effort to clean up the tremendous amounts of trash left by illegal immigrants on the refuges.

Drug smugglers mix with illegal immigrants to bring marijuana into the United States. At camping sites, rest areas and lay-up areas, marijuana seeds are discarded or dispersed and begin to grow when conditions are right. During trash clean up efforts, marijuana is also eradicated before it can be harvested. About \$1,000 was used for marijuana eradication on the refuges.

In the past, smugglers were driving into remote areas of Leslie Canyon National Wildlife Refuge to pick up illegal immigrants. This resulted in damage to sensitive riparian areas and has lead to the take of Federally-listed endangered species.

Thirty thousand dollars (\$30,000) was used to install 550 feet of Corten Steel vehicle guardrail on the refuge to prevent vehicle access. Vegetation is healing and the potential for stream contamination has been diminished.

See Appendix G for additional details and photos.

## **Tohono O'odham Nation**

BLM entered into an Assistance Agreement with the Tohono O'odham Nation in July 2004 for \$50,000. This Agreement provided funding to the Nation to repair damage caused by smugglers and illegal immigrants crossing their lands and to clean up trash left by them. Final approval by the Nation's Legislative Council to receive the money is still pending. Work will be performed in FY2005.

## **Cochise County**

In FY2003, BLM entered into an Assistance Agreement with Cochise County for \$43,600. About \$31,660 was carried over into FY2004. BLM provided Cochise County with an additional \$20,000 in FY2004, making a balance of \$51,660. In FY2004, a total of \$7,290 was used. The balance of \$44,370 has been carried over into FY2005.

Cochise County picked up trash left by illegal immigrants in January 2004 along Escapule Wash and on May 4 on Ruth Cowan property. Adults and juveniles on probation provided the workforce for the cleanup of the Touchstone Trail near Benson on May 29. They picked up 2.08 tons of trash.

On June 14-18, YCOSA crews picked up over two tons of trash from the Ogurek, Hargis, and Misty Ranches and along the Touchstone Trail. Trash consisted of backpacks, plastic bottles, food containers, personal items, clothes and shoes. Useable backpacks were salvaged, cleaned, restored and donated to local schools.

During their nine days of work on the Cowan Ranch, October 14-22, 2004, YCOSA crews picked up over six tons of trash.

See Appendix H for photos of trash and cleanup efforts.

## **Graham County**

In FY2003, BLM entered into an Assistance Agreement with Graham County for \$10,000. In FY2004, an additional \$30,000 was provided. As was reported at the end of 2003, the county built a trash trailer and established a citizens committee—Southeastern Arizona Clean and Beautiful (SEACAB)—to identify sites and plan for cleanup and restoration projects.

The trailer has been used by a crew of about five prison inmates and one supervisor to clean up illegal immigrant trash sites along and near county roads one day per week for a period of about eight months during 2004.

About sixty volunteers, including SEACAB volunteers, Safford 4-H and BLM personnel, worked four hours on May 15, 2004 on a Gila River cleanup. Two large roll-off dumpsters and several smaller containers were filled with trash picked up by hand and with a large front-end loader. Both sides of the river were cleaned up at the Eighth Avenue Bridge in Safford and the Pima Bridge in Pima, Arizona. See Appendix I for additional information and photos.

Costs charged against the Assistance Agreement for this cleanup effort and the work performed by the prison inmates have been nominal. A balance of \$36,800 has been carried over to FY2005.

In November 2004, the County began assisting an Eagle Scout with a project cleaning sites along the Gila River north of the Town of Thatcher which includes illegal immigrant sites.

The County, perhaps assisted by the City of Safford, will be tearing down a house by the Gila River which is being used by many undesirables, including illegal immigrants, passing through the valley.

Additionally, the County is planning a concerted effort, along with volunteers from SEACAB, to clean up Haekel Road in January 2005. The County also plans to use the prison labor crew along with Highway Department Employees to do several major cleanup projects.

The County and SEACAB will be scheduling more volunteer cleanup days for 2005.

## **Santa Cruz County**

In the summer of 2003, BLM entered into an Assistance Agreement with Santa Cruz County for \$35,000 to clean up illegal immigrant trash throughout the county. This funding was carried over into FY2004, but no cleanup work occurred. Thus, the funding was carried over into FY2005.

In November 2004, the Santa Cruz County Workforce Development Program began in earnest to develop a partnership with the Border Patrol to clean up illegal immigrant trash. Under this partnership the Border Patrol will identify heavy concentrations of trash and volunteers in the Border Patrol's Youth Explorer program, in concert with Santa Cruz County staff, will clean up the identified areas. The above funding along with County funds and perhaps Border Patrol funds will be used.

The first areas to be inventoried and cleaned up will be along Cienega Creek in Las Cienegas National Conservation Area. Other problem areas within Santa Cruz County will follow.

Although it has taken considerable time to initiate this effort in Santa Cruz County, significant progress is expected in 2005.

## **Malpai Borderlands Group**

In FY2003, BLM entered into an Assistance Agreement with the Malpai Borderlands Group for \$90,000. A balance of \$36,100 was carried over to FY2004. In FY2004, BLM provided the Malpai Borderlands Group with an additional \$40,000 giving them a total of \$76,100. However, the Group only used about \$24,000 in FY2004, leaving a balance of \$52,100 that has been carried over to FY2005.

Smugglers and illegal immigrant traffic have created many unwanted trails and roads and have caused creek banks to collapse. Border Patrol and other law enforcement four-wheel All Terrain Vehicles and four-wheel drive vehicles tracking the smugglers and illegal immigrants further expand the trails and roads. These trails and roads concentrate runoff during storms and have resulted in erosion problems. About \$25,500 of the above funds went towards 7.2 miles of watershed erosion control treatments in southeast Arizona in 2004. See Map 1 in Appendix J.

The watershed erosion control is a treatment to stop the erosion and heal the cuts that were trails. If the treatment doesn't extend up the watersheds to the surrounding areas, the time and money spent on the single spots that are damaged will be wasted.

At this time all the watershed restoration work has been in tributaries that eventually run into the San Bernardino National Wildlife Refuge.

The Malpai Borderlands Group obtained other grant money to continue the watershed work. See Appendix J for a detailed report on the watershed restoration project and examples of the completed work before the rains and the effects of the rains and flooding.

The Malpai Borderlands Group also replaced one mile of fence between two ranches that was torn down by illegal immigrants. See Map 1 in Appendix J.

The Malpai Borderlands Group hired a person to pick up trash left by illegal immigrants on ranchlands in southeast Arizona. See Map 2 in Appendix K for the area covered and for additional details and photos.

The contractor picked up from two to fifteen 45-gallon garbage bags of trash each day, averaging about eight bags per day. He then loaded them in his truck and hauled them to local land fills. Many times he walked a mile or two away from roads covering many miles of open country. A detailed listing of items found and picked up can be found in Appendix K, page K-1.

In FY 2005, clean up efforts will continue and fences, gates, roads and other improvements damaged or destroyed by illegal immigrants will be repaired. Certain illegal roads also may be closed. The clean-up is a never ending job, covering country where there are no roads and the trash has to be gathered by hand and bags hauled out by hand to the nearest road.

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# Appendices



**Appendix A**  
**Sonoran Desert National Monument**  
**FY 2004 Border Project**  
**BLM—Phoenix Field Office**

**Project Name:** Operation and Maintenance of Roads - Vekol Valley Road and Bates Well Road.

**Unit Name:** Sonoran Desert National Monument and Bates Well Road (Ajo)

**Date of Project:** August, 2004

**Location:**

Sonoran Desert National Monument *Township: 7S. Range: 1E. Section: 22* (beginning point). 15 miles (2 miles S of I-8 to Table Top Trailhead)

Ajo *Township: 12S. Range: 6W. Section: 35* (beginning point) 10 miles (Bates Well to Organ Pipe Cactus NM boundary)

**Participants:** Bureau of Land Management, Phoenix Field Office Force Account crew

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** Because of heavy use by drug and illegal immigrant smugglers, regardless of weather, and the subsequent law enforcement effort (Border Patrol, BLM Rangers and others), these roads had deteriorated in condition. Some spots were unsafe to travel at night; others were on the verge of becoming so. Both roads were bladed with a road grader as necessary to make them usable and safe for law enforcement and public land visitors.

**Results:** BLM Law Enforcement Rangers, Border Patrol and other agencies, as well as the visiting public, are now able to traverse these two roads in comparative safety.

No photos available of this operation.

## FY 2004 Border Project BLM—Phoenix Field Office

**Project Name:** Road Maintenance and Operation – Vekol Valley Road Culverts

**Unit Name:** Sonoran Desert National Monument

**Date of Project:** September 2004

**Location:** *Township:* 8S *Range:* 1E *Section:* 26  
GPS data: 10S 0384680 / 3619200

**Participants:** BLM Phoenix Field Office Force Account crew

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** Culverts were installed in two wash crossings. These washes flood with each rainfall, making the road impassable. This presented a safety hazard for visitors, but also made it extremely difficult for BLM law enforcement officers and Border Patrol to work in the area. This put illegal immigrants and visitor lives in danger during times of inclement weather.

**Results:** These culverts make the crossings usable in wet weather, enhancing safety.



Before



After



After



After

## **FY 2004 Border Project BLM—Phoenix Field Office**

**Project Name:** Vekol Valley Cattleguard

**Unit Name:** Sonoran Desert National Monument

**Date of Project:** September, 2004

**Location:** *Township: 9 S. Range: 1 E. Section: 14*  
GPS data: 10S 0384585 / 3611505

**Participants:** Bureau of Land Management, Phoenix Field Office Force Account crew

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** The main road south through Vekol Valley on the Sonoran Desert National Monument leaves the monument and enters the Tohono O’odham Nation’s reservation at the above location. Until this project was completed, there was only a simple wire gate in the fence at the road. Illegal immigrant and drug smugglers sometimes drove vehicles through the gate without opening it, and when they did open the gate, they seldom closed it. The gate would often remain in this “destroyed” or open condition for several days at a time. This allowed livestock from the reservation to enter the monument, and vice versa. Installation of a cattleguard prevents this from occurring. This facilitates grazing management and resource protection on both sides of the fence.

**Results:** Installation of the cattleguard, replacing the wire gate, helps improve resource conditions on both sides of the fence.

Three additional cattleguards have been acquired and will be installed in similar situations on the monument in FY2005.



Installed cattleguard

## **FY 2004 Border Project BLM—Phoenix Field Office**

**Project Name:** Trash Removal and Road Rehabilitation

**Unit Name:** Sonoran Desert National Monument

**Date of Project:** 2004/2005

**Location:** Throughout affected areas of the monument and surrounding BLM-administered public lands.

**Participants:** Bureau of Land Management Phoenix Field Office, Student Conservation Association

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** Ongoing border related activity by illegal immigrants and smugglers has several impacts, including the deposition of trash and waste on the public land and the creation of new roads and/or vehicle trails where the smugglers have driven off road and often were pursued by law enforcement personnel. The trash and waste would remain until it naturally degrades without some effort to remove it, and the vehicle trails potentially become roads if other public land users drive over them after the smugglers create them. Additionally, fences are often cut and other minor impacts occur.

To alleviate these impacts, the Phoenix Field Office has “employed” two Student Conservation Association (SCA) Interns through an existing Assistance Agreement with the SCA. The interns are picking up and removing trash and waste and rehabilitating vehicle paths. They will repair fences and signs and do other border related restoration and reclamation work. They will remain with BLM from early October 2004, when they started, through May, 2005.

**Results:** Many hundreds of pounds of trash have already been removed, and significant portions of nine illegal roads have been rehabilitated within the first month of work. Over the course of their appointment, the Interns will remove or coordinate the removal of tons of trash and waste as well as rehabilitate roads and carry out other needed work.



Before



After



Before



After



Before



After



Before



After

## FY 2004 Border Project BLM—Phoenix Field Office

**Project Name:** Abandoned Vehicle Towing

**Unit Name:** Sonoran Desert National Monument

**Date of Project:** 2004/2005

**Location:** Throughout the eastern part of the monument, and in the Ajo area.

**Participants:** BLM Phoenix Field Office and contracted towing company

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** Illegal immigrant and drug smugglers often abandon (and sometimes burn) their vehicles. In FY2004, over 200 abandoned vehicles were removed from the monument and other BLM-administered public lands in the area. The company doing the towing terminated its volunteer relationship with BLM because it was losing money on the work. Therefore, BLM entered into a contract arrangement with a towing company so that abandoned vehicles could continue to be removed from the monument.

**Results:** Abandoned smuggler's vehicles will continue to be removed from the monument and surrounding lands over the next year.



Before



After



Before



After



## FY 2004 Border Project BLM—Phoenix Field Office

**Project Name:** Public Warning Signs

**Unit Name:** Sonoran Desert National Monument

**Date of Project:** Ongoing

**Location:** Various locations on Sonoran Desert National Monument and other border-affected BLM-administered public land.

**Participants:** Bureau of Land Management Phoenix Field Office

**Project Coordinator(s):** Eugene A. Dahlem, Manager, Sonoran Desert National Monument

**Description of Project:** To inform the public of the possible danger in the areas of BLM-administered public land affected by border activity, signs were designed and ordered, to be placed at strategic locations where needed. The wording of the signs is as follows: **CAUTION Smuggling activity is common in this area because of the proximity to the international border. Be aware of your surroundings at all times.** Additionally, agency identifying logos and telephone contact information is on the signs.

**Results:** The signs have been installed on roads commonly used by the public when entering affected public lands.



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**Appendix B**  
**Ironwood Forest National Monument**  
**FY 2004 Border Project**  
**BLM—Tucson Field Office**

**Project Name:** Town of Marana weekly clean-up work

**Unit Name:** Ironwood Forest National Monument

**Date of Project:** October 2003-December 2004, every Wednesday morning

**Location:** Areas within and along the eastern portion of the Monument, bound by the Tohono O’odham Nation on the south, Sasco Road on the north, and the Silverbell Mountains on the west.

**Participants:** One to two work crews from the Town of Marana

**Project Coordinator(s):** Dennis Dolan, Town of Marana

**Description of Project:** Collection, removal, and disposal of waste left from illegal immigrants. The work primarily occurs near the El Paso Gas Pump Station at Pump Station Road and Avra Valley Road. Other regular sites along Avra Valley road and along Pump Station road are the bulk of the work load for these crews. The Town of Marana Community Response Manager Dennis Dolan scouts out the clean-up sites every Tuesday afternoon. The crew works every Wednesday morning to clean-up regularly used lay up sites within the Monument. The crew collects, then transports debris to the local land fill. The Town of Marana also provides assistance with removal of rims from tires and tire disposal, as needed, in support of other BLM clean-ups on the Monument.

**Results:** Over 15,000 pounds of debris were collected, removed and disposed of, from October 1, 2003 through December 17, 2003. Nearly 15 cubic yards of tires were collected and disposed during this time period. One illegal smuggling route was revegetated.



Town of Marana’s 4X4 dump truck

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Town of Marana weekly clean-up work

**Unit Name:** Ironwood Forest National Monument

**Date of Project:** January 2004-April 2004 every Wednesday morning, and July 14, 2004

**Location:** Areas within and along the eastern portion of the Monument, bound by the Tohono O'odham Nation on the south, Sasco Road on the north, and the Silverbell Mountains on the west.

**Participants:** One to two work crews from Town of Marana

**Project Coordinator(s):** Dennis Dolan, Town of Marana

**Description of Project:** Collection, removal, and disposal of waste left from illegal immigrants. The work primarily occurs near the El Paso Gas Pump Station at Pump Station Road and Avra Valley Road. Other regular sites along Avra Valley road and along Pump Station road are the bulk of the work load for these crews. The Town of Marana Community Response Manager Dennis Dolan scouts out the clean-up sites every Tuesday afternoon. Crew works every Wednesday morning to clean-up regularly used lay up sites within the Monument. The crew collects, then transports debris to the local land fill. The Town of Marana also provides assistance with removal of rims from tires and tire disposal, as needed, in support of other BLM clean-ups on the Monument.

**Results:** 1200-1500 pounds of debris were collected, removed and disposed of, on average per week, for a total of over 26,000 pounds. Over 15 cubic yards of tires were collected and disposed during this time period.

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** Oct 11, 2003

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 15 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 67.5 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O'odham Nation. The power lines run north for 3 miles through a portion of the Monument. The BLM's Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 27 bags of trash were collected

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Dos Titos, Trico, and Manville Roads

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** Nov 10-14, 2003

**Location:** *Township(T), Range(R), Section:* T13S, R8E, Sec. 17, 19, 20, 29, 31, 32, 34, & 35; T13S, R9E, Sec. 17, 18, 19, 24, 25, 34 & 35; T14S, R8E, Sec. 1, 3, 4, 5, & 6

**Participants:** Youth Corp of Southern Arizona (YCOSA) crew, Maile Adler (BLM) and Jeff Lark (SCA)

**Project Coordinator(s):** Jeff Lark (SCA) and Maile Adler (BLM)

**Description of Project:** One YCOSA crew spent five days working on a section of the IFNM, removing trash and rehabilitating illegal cross country vehicle routes. Half of this project week was focused on a section of the IFNM that borders the Tohono O’odham Nation in the southwest portion of the Monument. This area is difficult to access because of its remoteness and the condition of the access roads. It is an area that receives very heavy use from smugglers and migrants traveling from the southwest, through the Monument, heading in a northeastern direction. Prior to this work week, this area near Dos Titos had never been intensively cleaned up. Abandoned items were piled along the roads, along with car parts and even a vehicle frame. Over time, the deposited trash had traveled with the flow of water into the nearby washes.

The rest of the week, the crew focused on the Trico and Manville Roads area. This area receives heavy use in established lay-up sites used by illegal immigrants. Most of the vehicle routes to get to the scattered “lay-up” sites were illegal cross-country routes, and were not in existence at the time of the *Ironwood Forest National Monument Access, Travel Route Inventory and Visitor Use Study* (Gimblett, 2003).

**Results:** The YCOSA crew, working under the direction of BLM Park Ranger Maile Adler and SCA intern Jeff Lark, successfully rehabilitated three illegal two-track routes. Under rainy conditions and rugged road access, the crew also removed 87 bags full of trash, 22 tires and one rim.

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Pump Station, Avra Valley and Silverbell Roads

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** Dec. 1-5, 2003

**Location:** along Silverbell, Pump Station, Avra Valley and the pipeline roads

*Township:* 11 S *Range:* 10 E *Section:* 19, 20 & 30

*Township:* 11 S *Range:* 9 E *Section:* 23, 24, 25, 26 & 29

*Township:* 12 S *Range:* 9 E *Section:* 3, 10, 11, 23 & 24

*Township:* 12 S *Range:* 10 E *Section:* 6, 7 & 8

**Participants:** Youth Corp of Southern Arizona (YCOSA) crew, Maile Adler (BLM) and Jeff Lark (SCA)

**Project Coordinator(s):** Jeff Lark (SCA) and Maile Adler (BLM)

**Description of Project:** One YCOSA crew spent five days working on a section of the IFNM, removing trash and rehabilitating illegal cross country vehicle routes. This section of the IFNM borders urban areas and is accessed by two paved roads and one well maintained gravel road. This area receives heavy use by local residents. It is also an area with scattered “lay-up” sites used by illegal immigrants. These lay-up sites are typically located just off the main roads, in areas of vegetation cover. Most of the vehicle routes to get to the “lay-up” sites were illegal cross country routes, and were not in existence at the time of the *Ironwood Forest National Monument Access, Travel Route Inventory and Visitor Use Study* (Gimblett, 2003).

**Results:** The YCOSA crew, working under the direction of BLM Park Ranger Maile Adler and SCA intern Jeff Lark, successfully rehabilitated 11 illegal two-track routes and 5 expanding pull-outs along these roads. The crew also removed 140 bags full of trash, 1 air conditioning unit, 1 television, 1 water heater, 1 sofa, and 19 tires.



Before



After



Before



After



Before



After

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Remediation of vegetation impacts and scattered litter removal

**Unit Name:** Ironwood Forest National Monument

**Date of Project:** January 26, 2004

**Location:** GPS data: 458739 x 3576934

**Participants:** Jeff Lark (SCA) and Maile Adler (BLM)

**Project Coordinator(s):** Jeff Lark (SCA) and Maile Adler (BLM)

**Description of Project:** On patrols and while in route to site evaluations, Lark and Adler performed various tasks including removal of litter, tires, identifying hazardous waste (car batteries, containers of fuel, etc) materials and rehabilitating the lands from the impacts of smugglers and illegal immigrants.

**Results:** This particular day resulted in one route rehabbed and one bag of litter removed.



Before



During



After

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Southwest Open School volunteer service project

**Unit Name:** Ironwood Forest National Monument

**Date of Project:** Feb. 3, 2004

**Location:** *Township(T), Range(R), Section:* T12S, R8E, Sec. 21, 22, 27, 28, & 29, along Agua Dulce and Waterman Roads

**Participants:** 10 volunteers and 1 BLM employee

**Project Coordinator(s):** Jason Williams (Arizona Wilderness Coalition) and Maile Adler (BLM)

**Description of Project:** 10 students and staff from Southwest Open School and the Arizona Wilderness Coalition cleaned up undocumented immigrant litter and reclaimed associated illegal cross-country routes within Ironwood Forest National Monument on Tuesday, Feb. 3, 2004. The school, located outside of Durango, Colorado, provides semesters focusing on the southwest for at risk youth. The youth are performing the service project as part of their class, while en route to Rocky Point, Mexico. Jason Williams, of the Arizona Wilderness Coalition, was instrumental in coordinating this event with the Tucson Field Office. Litter was also collected from the adjacent lands owned by ASARCO. Although these lands are privately owned, they lie within the Ironwood Forest National Monument boundary. The clean-up project focused on the private and public lands south of Avra Valley Road off the Agua Dulce and Waterman Mountain Roads.

**Results:** Sixty hours of service were donated by volunteers organized by the Arizona Wilderness Coalition. Four routes were reclaimed and six bags of trash were collected and disposed of.



Before



After

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** March 12, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Sections:* 34, 35, 2, 3, 10 & 11

**Participants:** 20 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 90 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for 3 miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 40 bags of trash were collected.

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** April 10, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 20 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 90 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for 3 miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 40 bags of trash were collected

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** May 8, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 5, 2, 3, 10 & 11

**Participants:** 21 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 94.5 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for three miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 40 bags of trash were collected

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** June 12, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 15 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 67.5 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for three miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 34 bags of trash were collected

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** July 2, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 25 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 87.5 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O'Odham Nation. The power lines run north for three miles through a portion of the Monument. The BLM's Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 40 bags of trash were collected

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** July 10, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 14 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 49 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for three miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 28 bags of trash were collected.

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** Undocumented Immigrant (UDI) Impacts Remediation along Trico Road power lines

**Unit Name:** Ironwood Forest National Monument (IFNM)

**Date of Project:** August 14, 2004

**Location:** *Township:* 13S & 14S. *Range:* 9E. *Section:* 34, 35, 2, 3, 10 & 11

**Participants:** 24 volunteers from Humane Borders

**Project Coordinator(s):** Humane Borders in coordination with Maile Adler (BLM)

**Description of Project:** Humane Borders provided 84 volunteer work hours removing trash resulting from UDIs traveling along the power lines running north/south through the IFNM. This route is regularly used by immigrants traveling north on foot from the Tohono O’Odham Nation. The power lines run north for three miles through a portion of the Monument. The BLM’s Tucson Field Office provided volunteers with lime green trash bags and some pick-up sticks to assist with the clean-up efforts. A waste collection roll-off was also provided by the BLM for the volunteers to dispose of the trash collected.

**Results:** 47 bags of trash were collected



Bilingual Ironwood Forest National Monument Boundary Sign

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**Appendix C**  
**Las Cienegas National Conservation Area**  
**FY 2004 Border Project**  
**BLM—Tucson Field Office**

**Project Name:** The Narrows of Cienega Creek closure (from north side)

**Unit Name:** Las Cienegas National Conservation Area (LCNCA)

**Date of Project:** March 19-21, 2004

**Location:** *Township(T), Range(R), Section:* T18S, R17E, Sec. 1 & 12; T18S, R18E, Sec. 6 & 7

**Participants:** 15 volunteers from Sky Island Alliance (SIA), Maile Adler (BLM), Jeff Lark (SCA)

**Project Coordinator(s):** Trevor Hare (SIA), Maile Adler (BLM), Karen Simms (BLM), Jeff Lark (SCA)

**Description of Project:** The Narrows is an area in Cienega Creek where, previously, motor vehicles had been traveling in and through the creek. The creek is home to two species of endangered fish. One of the decisions of the *Approved Las Cienegas Resource Management Plan and Record of Decision* (2003) was to close the Narrows to motor vehicle use. First a closure was attempted from the south with the placement of very large boulders with heavy equipment. With an apparently closed route through the Narrows from the south, this project was intended to secure the closure by placing vehicle barriers on the access roads from the north side of the creek. Railroad ties were deposited with heavy equipment. Volunteers constructed a vehicle barrier by cementing in two of the steel ties and mounted another horizontally. Native vegetation was planted along the creek to help rehabilitate the impacts from the vehicle damage. Trash was collected in and around the site. The other access roads were closed using surrounding materials and then naturalized. All routes were signed with posts instructing visitors that the area is closed to motor vehicles.

**Results:** Fifteen volunteers provided 180 hours of labor to assist in the closure of the Narrows to motor vehicles. Three access roads from the north side of Cienega Creek were closed with vehicle barriers. Three bags of trash were collected. Unfortunately, this project will need to be redone. Vehicles continue to circumnavigate the extensive barriers constructed on the south side of the creek. This area will remain posted as closed, but no more project work will be attempted until the southern access is effectively closed to motor vehicles.



Before



After

## **FY 2004 Border Project BLM—Tucson Field Office**

**Project Name:** The Narrows of Cienega Creek closure

**Unit Name:** Las Cienegas National Conservation Area (LCNCA)

**Date of Project:** April 23-25, 2004

**Location:** GPS data: 54200072 / 352715375

**Participants:** 19 volunteers from Sky Island Alliance (SIA), Maile Adler (BLM) and Jeff Lark (SCA Intern)

**Project Coordinator(s):** Trevor Hare (SIA), Maile Adler (BLM), Karen Simms (BLM), and Jeff Lark (SCA)

**Description of Project:** The Narrows is an area in Cienega Creek where, previously, motor vehicles had been traveling in and through the creek. The creek is home to two species of endangered fish. One of the decisions of the *Approved Las Cienegas Resource Management Plan and Record of Decision* (2003) was to close the Narrows to motor vehicle use. The first closure was attempted with the placement of large boulders. Unfortunately, this route was breached and again, vehicles were driving in and through the creek. Many of the vehicles impounded from this particular area were associated with the smuggling of illegal immigrants and drugs. This service project was another attempt to close the route to motor vehicles, using several methods and tactics. Metal C-posts were planted along places without sturdy natural barriers, angled towards the potential violator. A natural cliff was emphasized using hand-tools. A natural drainage in the road was dug out to provide a steeper deterrent for vehicles. Several large boulders were moved to provide a naturalized barrier. Native vegetation was planted along the creek to help rehabilitate the impacts from the vehicle damage. Trash was collected in and around the site. Signs were placed that indicated the route ahead was closed to motor vehicles.

**Results:** A crew of volunteers from Sky Island Alliance worked for 228 hours reclosing the Narrows to motor vehicles. After a full day's work at "closing" the route to motor vehicles, the volunteers were camped out within miles of the site. That night, a vehicle rearranged the area in order to pass through the closure and through the creek. In the morning, the volunteers returned to the site to find most of their hard work undone. Despite the apparent defeat, they gathered their tools and creative ideas and went to work for another full day to create an even more challenging closure for the unlawful visitors.

## **FY 2004 Border Project Tucson Field Office**

**Project Name:** The Narrows of Cienega Creek closure

**Unit Name:** Las Cienegas National Conservation Area (LCNCA)

**Date of Project:** September 24-26, 2004

**Location:** GPS data: 54200072 / 352715375

**Participants:** 18 volunteers from Sky Island Alliance (SIA), Emily Hertz (SCA) and Donna Myers (SCA)

**Project Coordinator(s):** Trevor Hare (SIA), Maile Adler (BLM), Karen Simms (BLM), Donna Myers (SCA), and Emily Hertz (SCA)

**Description of Project:** The Narrows is an area in Cienega Creek where, previously, motor vehicles had been traveling in and through the creek. The creek is home to two species of endangered fish. One of the decisions of the *Approved Las Cienegas Resource Management Plan and Record of Decision* (2003) was to close the Narrows to motor vehicle use. The first closure was attempted with the placement of large boulders. Unfortunately, this route was breached and again, vehicles were driving in and through the creek. Most of the vehicles impounded in this particular area are associated with the smuggling of illegal immigrants and drugs. This service project was another attempt to close the route to motor vehicles, using several methods and tactics. A natural drainage in the road was dug out to provide a steeper deterrent for vehicles. Eight very large boulders were moved with heavy equipment to block the route. Native vegetation was planted along the creek to help rehabilitate the impacts from the vehicle damages. Trash was collected in and around the site.

**Results:** A total of 18 volunteers from Sky Island Alliance worked for 146.5 volunteer hours on reclosing a route designated closed by the recently approved Las Cienegas RMP. The project work was led by Student Conservation Association Interns Donna Myers and Emily Hertz. The closure consisted of placement of 8 large boulders, 7 angle irons cemented into the ground, and digging out the cliff drop-off. The area was then revegetated using native plants from the area including grasses and willows along the creek. An illegal motorized route (2-track) above the creek was also naturalized. Border Patrol and BLM law enforcement agents contacted the volunteers during the project. Five bags of trash were collected at the site.



Before



After

## **FY 2004 Border Project Tucson Field Office**

**Project Name:** Bilingual Signing, clean-up and rehabilitation to mitigate UDI impacts at Las Cienegas National Conservation Area

**Unit Name:** Sites throughout the Las Cienegas National Conservation Area (LCNCA) and Audubon Research Ranch

**Date of Project:** April 26-30, 2004

**Location:** *Township:* \_\_\_\_ . *Range:* \_\_\_\_ . *Section:* Not Available  
GPS data: Not available

**Participants:** One Youth Corps of Southern Arizona (YCOSA) crew, Jeff Lark, Amanda Webb, and Chris Hartman (Student Conservation Associate Interns)

**Project Coordinator(s):** Jeff Lark (Student Conservation Associate) and Catie Fenn (BLM)

**Description of Project:** One YCOSA crew spent one week mitigating the impacts from UDI smuggling operations. YCOSA removed waste, installed signs, rehabilitated and reseeded damaged soils and vegetation, and enacted fire prevention methods at the Empire Ranch House. All of these projects were located within the borders of the Las Cienegas National Conservation Area. YCOSA also participated in a clean-up of lands surrounding the Audubon Ranch in Elgin, Arizona.

**Results:** Six 2' x 3' and one 3' x 4' metal bulletin boards were installed; one large and one small area were rehabilitated from smuggling and illegal off-road driving by reseeding and vertically mulching; "weed eaters" were used to reduce the fire hazard and other fire prevention measures were taken around the Empire Ranch House; and 15-20 lime green bags of litter were removed from the Audubon Ranch and within the LCNCA. Over 200 lime green trash bags and one dozen trash pick-up sticks were provided to the Audubon Research Ranch to assist in future volunteer clean-up projects on LCNCA.

**Appendix D**  
**San Pedro Riparian National Conservation Area**  
**FY 2004 UDI Funded Projects**  
**BLM—Tucson Field Office**

**Project Name:** UDI Impact Remediation at Hereford

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** November 7, 10, 12, 2003

**Location:** *Township:* T. 23. *S Range:* R. 22. *E Section:* Sec. 9 SE ¼ SW ¼ to the NE ¼ SW ¼ SE ¼ of section 8

**GPS data:** 12 R 0584119 UTM 3478445, 12 R 0570864 UTM 3489083

Linear route extending between these two GPS coordinates along boundary running parallel with Hereford Road, approximately 40 yards wide.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** On these days in November, SCAs provided 16 hours of waste removal at this site.

**Results:** Collected 13 bags of trash equaling approximately 6.5 cubic yards removed from this site. Trash was disposed in dumpster at Palominas.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation South of Hereford Bridge.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** November 18, 2003

**Location:** *Township:* T. 23S. *Range:* R. 22E. *Section:* E ½, E ½, SE ¼ Sec. 21, W ½, W ½, SW ¼ Sec. 22.

*GPS data:* 12 R 0584118 UTM 3478445

Starting at this northern most point moving south along both sides of the river to BLM boundary near Casa de San Pedro Bed & Breakfast.

**Participants:** Two Student Conservation Associates working for the BLM and seven community volunteers.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Seven volunteers provided 3 hours in addition to the work of the project coordinators.

**Results:** Collected 13 bags of trash totaling approximately 6.5 cubic yards plus eight tires, a shopping cart and various other metal refuse. Bagged trash disposed in dumpster at Palominas.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation North of Charleston Road

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** November 21, 2003

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Section:* S ½, SE ¼, NW ¼ Sec. 1, N½, NE ¼, SW ¼, Sec. 1.

*GPS data:* 12 R 0573092 UTM 3523437

Clean up started in area surrounding road access to wash including both sides of the wash and then moved southwest through the wash approximately ¼ mile including clean up along the south rim of the wash.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** The project coordinators worked a combined total of 12 hours on trash removal in and around wash.

**Results:** Collected 13 bags of trash totaling approximately 6.5 cubic yards plus two car seats and 18 bags of pre-mixed concrete. Trash disposed in dumpster at Charleston Bridge.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation South of Charleston Bridge.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** November 22, 2003

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Section:* Sec. 11 SE ¼ NE ¼ NE ¼  
GPS data: 12 R 0578559 UTM 3498900

Traveled south from Charleston ridge parking area east of river, west of railroad tracks to this point and the surrounding area, and in washes east of railroad.

**Participants:** Two Student Conservation Associates working for the BLM and 15 young people fulfilling probation obligations.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Group spent four hours at the site for a total of 68 hours of waste removal.

**Results:** Collected 21 bags of trash totaling approximately 10.5 cubic yards disposed in BLM dumpster at Charleston Bridge.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation South of Charleston Road East Cattle Guard

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** December 2, 2003

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Section:* W ½ SW ¼ SW ¼, Sec. 1.  
GPS data: 12 R 0578559 UTM 3498900 From this point following road access up the hill and entire area surrounding both sides of the road.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Associates each spent two hours equaling a total of four hours of trash removal at this site.

**Results:** Collected five bags of trash totaling approximately 2.5 cubic yards as well 13 tires. Trash was disposed in BLM dumpster at Charleston Bridge and tires taken to Boquillas.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation South Millville trail walk-through.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** December 3, 2003

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Sec.:* N ½ SW ¼ SW ¼, Sec. 1.  
GPS data: 12 R 0578972 UTM 3499220, 12 R 0578969 UTM 3499220. From these two points we worked North to Charleston Road along the 2-track and along UDI trails.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Associates each spent five hours equaling a total of 10 hours of trash removal at this site.

**Results:** Collected 16 bags of trash totaling approximately eight cubic yards. Trash was disposed in BLM roll-off dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along Del Valle Road

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** December 17, 2003

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 33 NW ¼, SE ¼, SW ¼,  
*GPS data:* 12 R 0584121 UTM 3481993

In culverts, areas surrounding both ends of culverts and along railroad.

**Participants:** One Student Conservation Associate working for the BLM.

**Project Coordinator(s):** Chris Hartman (Student Conservation Associate).

**Description of Project:** Project coordinator spent 1 hour removing UDI trash.

**Results:** Collected one bag of trash totaling approximately .5 cubic yards. Trash was disposed in dumpster at San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Hunter Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** December 17, 2003

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 33 NE ¼, NW ¼, NW ¼  
*GPS data:* 12 R 0583760 UTM 3483047

At the end of Hunter Wash where it flows into river.

**Participants:** One Student Conservation Associate working for the BLM.

**Project Coordinator(s):** Chris Hartman (Student Conservation Associate).

**Description of Project:** Project coordinator spent 3 hours removing UDI trash.

**Results:** Collected seven bags of trash totaling approximately 3.5 cubic yards. Trash was disposed in dumpster at San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation Escapule Wash near Moson Road.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 8-9, 2004

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Section:* Sec. 23 NE ¼ SW ¼ and SW ¼ SW ¼

GPS data: 12 R 0577216 UTM 3495194

Area along southern rim of Escapule Wash extending from this point to Moson Road.

**Participants:** One Student Conservation Associate working for the BLM.

**Project Coordinator(s):** Amanda Webb (Student Conservation Associate) and Jim Mahoney (BLM Outdoor Recreation Planner).

**Description of Project:** One SCA provided 11 hours of UDI waste removal.

**Results:** Collected 13 bags of trash equaling approximately 6.5 cubic yards removed from the site.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at the Pipe Gate on Highway 90

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 15, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 5 NE ¼, NE ¼, NW ¼,  
*GPS data:* 12 R 0583275 UTM 3490944  
South of Highway 90 near Pipe Gate entrance.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators spent one hour removing UDI trash.

**Results:** Collected two bags of trash totaling approximately one cubic yard. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Palominas

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 16, 2004

**Location:** *Township:* T. 24 S. *Range:* R. 22 E. *Section:* 3 NW ¼, NW ¼  
Remediation at Palominas parking area in the southeast corner of the circle drive.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators both spent two hours removing UDI trash.

**Results:** Collected three bags of trash totaling approximately 1.5 cubic yards. Trash was disposed in dumpster at Palominas.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Garden Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 20, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 7 SW ¼, NE ¼, NE ¼  
GPS data: 12 R 0581383 UTM 3489425

On north rim of Garden Wash and in wash between this point and Del Valle Road.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** On this day in January, both project coordinators worked for two hours on trash removal.

**Results:** Collected two bags of trash equaling approximately one cubic yard removed from this site. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along Fairbank loop trail

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 26, 2004

**Location:** *Township:* T. 20. S *Range:* R. 21. E *Section:* Sec. 3, NW ¼, NW ¼, SE ¼  
We picked up trash along the Fairbank loop trail and also the trail to Contention.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Both project coordinators worked for six hours on trash removal.

**Results:** Collected two bags of trash equaling approximately one cubic yard removed from this site. Trash was disposed in dumpster at Fairbank.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along Escapule Wash near Escapule Rd

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** January 28, 2004

**Location:** *Township:* T. 21. S *Range:* R. 21. E *Section:* Sec. 13, W ½, NW ¼, SW ¼. Trash removed from the north rim of Escapule wash where it is crossed by Escapule Road. Participants continued west of the road in a northwesterly fashion about 150 yards and east of the road about 50 yards.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Both project coordinators worked for four hours on trash removal.

**Results:** Collected five bags of trash equaling approximately 2.5 cubic yards removed from this site. Trash was disposed in dumpster at Charleston .



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Entrance to Lewis Spring

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** February 9, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 5 SW ¼, NW ¼, NW ¼  
Included area on both sides of entrance gate and surrounding dumpster.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators spent a total of five hours of trash removal at this site.

**Results:** Collected five bags of trash equaling approximately 2.5 cubic yards removed from this site. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects Tucson Field Office

**Project Name:** UDI Impact Remediation just North of Hunter Wash along river

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** February 9, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 33 NE ½, NW ¼, NW ¼  
*GPS data:* 12 R 0583760 UTM 3483047

North of Hunter Wash, at east end of old agricultural field, just inside mesquite grove.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Both project coordinators worked for four hours on trash removal.

**Results:** Collected four bags of trash equaling approximately two cubic yards removed from this site. Trash was disposed in dumpster at San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along river just South of Ramsey-Carr wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** February 9, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 20 SW ¼, NE ¼  
*GPS:* 12 R 0583692 UTM 3483096

Trash site located along river about 100 yards South of Ramsey-Carr wash.

**Participants:** Two Student Conservation Associates working for the BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Both project coordinators worked for four hours on trash removal.

**Results:** Collected two bags of trash equaling approximately one cubic yard removed from this site. Trash was disposed in dumpster at San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at South of Highway 90

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** February 12-13, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 5 SW ¼, SE ¼, NW ¼  
GPS data: 12 R 0582584 UTM 3489872

South of Highway 90 west of railroad tracks, at least one half mile south from the highway in area of prescribed burn north to bridge.

**Participants:** Two Student Conservation Associates working for BLM.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators worked a combined total of 14 hours of trash removal.

**Results:** Collected 19 bags of trash equaling approximately 9.5 cubic yards removed from this site. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Parking Area North of Charleston Bridge

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** February 27, 2004

**Location:** *Township:* T. 21. S *Range:* R. 21. E *Section:* Sec. 2 SE ¼, SE ¼, SE ¼  
Cleaned area from parking lot entrance, east of the railroad and extending to Charleston Road.

**Participants:** Two Student Conservation Associates working for the BLM, one leadership training crew of Youth Corps of Southern Arizona (YCOSA) employees.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Crew spent two hours removing trash at this site.

**Results:** Collected 11 bags of trash equaling approximately 5.5 cubic yards removed from this site. Trash was disposed in dumpster at Charleston Bridge.



Before



After

\* This picture depicts household dumping found at the same site as UDI waste.

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at “Pipe Gate” road washout

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 8, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 5, NW ¼, SW ¼, SE ¼  
*GPS data:* 12 R 0582736 UTM 3489843

Down “Pipe Gate” road to washout. We worked up two washes to the east as well as the major wash that parallels the railroad tracks

**Participants:** Two Student Conservation Associates working for the BLM and an 11-person YCOSA crew.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators and YCOSA crew spent eight hours removing UDI trash.

**Results:** Collected 31 bags of trash totaling approximately 15.5 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at former Highway 90 pickup spot

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 9, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 21 E. *Section:* 1 SE ¼, NE ¼, SE ¼  
Site at large pull off area on Highway 90 between Moson Road and San Pedro House. Located on the South side of the road as it makes big curve to the North and heads down hill. We worked in this area and along a trail that meets up with this site from Garden wash.

**Participants:** Two Student Conservation Associates working for the BLM and an 11-person YCOSA crew.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators and YCOSA crew spent 12 hours removing UDI trash.

**Results:** Collected 33 bags of trash totaling approximately 16.5 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Garden Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 9, 2004

**Location:** *Township:* T. 22. S *Range:* R. 22. E *Section:* Sec. 7 SW ¼, NE ¼, NE ¼  
GPS data: 12 R 0580671 UTM 3489305

Traveled from Del Valle Road west in Garden Wash and along rims to this GPS point.

**Participants:** Two Student Conservation Associates working for the BLM, one crew of Youth Corps of Southern Arizona (YCOSA) employees.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Participants worked two hours of trash removal.

**Results:** Collected four bags of trash equaling approximately two cubic yards removed from this site. Trash was disposed in dumpster at the San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at “Border Patrol Beacon” Wash.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 10, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* Sec. 27 NW ¼, SE ¼, NW ¼  
GPS data: 12 R 0585552 UTM 3484160

We worked up the wash from the railroad tracks to this point at the boundary fence picking up trash along the way. We used the access road for the Border Patrol distress beacon to retrieve the trash

**Participants:** BLM Student Conservation Associates and an 11-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about eight hours picking up UDI trash.

**Results:** Collected 19 bags equaling approximately 9.5 cubic yards of trash.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation off Hargis Ranch access.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 11, and May 3, 2004

**Location:** *Township:* T. 22. *S Range:* R. 22. *E Section:* Sec. 7, SW ¼, NE ¼, NE ¼  
GPS data: 12 R 0582881 UTM 3479742 and 12 R 0583208 UTM 3479691

Worked in mesquite grove near these two GPS points. As well as along the western SPRNCA boundary from Hereford Road to ¼-mile North of Hargis access.

**Participants:** Two Student Conservation Associates working for the BLM, one crew of Youth Corps of Southern Arizona employees (March 11) and one crew of 10 from Northwest Youth Corps (May 3).

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Participants worked 11.5 hours of trash removal.

**Results:** Collected 17 bags of trash on March 11<sup>th</sup> and 24 bags on May 3<sup>rd</sup> totaling approximately 20.5 cubic yards. 17 bags disposed of in dumpster at Lewis Spring, 16 at Palominas, and eight at the San Pedro House.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation in wash on East side of river nicknamed Donna Wash.

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 12, 2004

**Location:** *Township:* T. 23 S. *Range:* R. 22 E. *Section:* Sec. 3 NE ¼, NW ¼, NW ¼  
GPS data: 12 R 0585161 UTM 3481455

From this point we worked east and beyond the boundary fence by approximately ¼-mile.

**Participants:** BLM Student Conservation Associates and an 11-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about 4 hours picking up UDI trash.

**Results:** Collected 17 bags of trash equaling approximately 8.5 cubic yards removed from the site.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Lewis Spring Culverts

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** March 19, 2004

**Location:** *Township:* T. 21 S. *Range:* R. 22 E. *Section:* SW ¼, NE ¼, NE ¼, Sec.30.  
*GPS data:* 12 R 0581362 UTM 3494141

In culverts, areas surrounding both ends of culverts and along railroad. Also up spring east of culverts and south along railroad tracks and road to entrance.

**Participants:** Two Student Conservation Associates working for the BLM and a crew of 10 YCOSA members.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project coordinators and crew spent six hours removing UDI trash.

**Results:** Collected 17 bags of trash totaling approximately 8.5 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Charleston

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** April 13, 2004

**Location:** *Township:* T. 21. S *Range:* R. 21. E *Section:* Sec. 1, SW ¼, SW ¼, NE ¼  
GPS data: 12 R 0579322 UTM 3500277

Traveled from this point on Charleston Road south in the wash that corresponds with the series of culverts.

**Participants:** One Student Conservation Associates working for BLM.

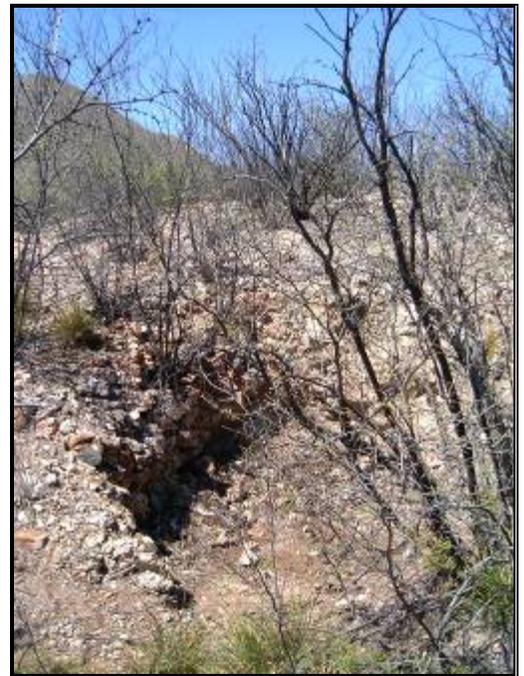
**Project Coordinator(s):** Chris Hartman (Student Conservation Associates).

**Description of Project:** Participant worked 2.5 hours of trash removal.

**Results:** Collected ten bags of trash equaling approximately five cubic yards. Trash was disposed in dumpster at Charleston Road.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Escapule Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** April 16, 2004

**Location:** *Township:* T. 21S. *Range:* R. 21E. *Section:* Sec. 23 NE ¼ SW ¼ and SW ¼  
GPS data: 12 R 0577216 UTM 3495194

I worked in this area, in the wash itself, and north of the wash near the old road grade.

**Participants:** One Student Conservation Associate working for the BLM.

**Project Coordinator(s):** Chris Hartman (Student Conservation Associate).

**Description of Project:** Participant worked 2.5 hours of trash removal.

**Results:** Collected eight bags of trash equaling approximately four cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## **FY 2004 UDI Funded Projects BLM—Tucson Field Office**

**Project Name:** UDI Impact Remediation at St. David

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** April 21 & 23, 2004

**Location:** *Township:* 18 S. *Range:* 21 E. *Section:* 29 NE  $\frac{1}{4}$ , NW  $\frac{1}{4}$ , NW  $\frac{1}{4}$   
Clean-up extended from St. David parking area traveling south covering a wide area on both sides of the railroad, in mesquite bosques and nearby washes.

**Participants:** BLM Student Conservation Associates and an 11-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for nine hours.

**Results:** Collected 30 bags of trash equaling approximately 15 cubic yards removed from the site.

\* Photographs unavailable.

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation from U.S. / Mexico Border to Highway 92

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** April 22, 2004

**Location:** *Township:* T. 24 S. *Range:* R. 22 E. *Section:* 19 NW ¼, NE ¼, NW ¼  
From the International border, the crew worked northward on the East and West sides of the river to Highway 92.

**Participants:** Two Student Conservation Associates working for the BLM and a crew of 10 YCOSA members.

**Project Coordinator(s):** Chris Hartman and Amanda Webb (Student Conservation Associates).

**Description of Project:** Project coordinators and crew spent 9.5 hours removing UDI trash.

**Results:** Collected 23 bags of trash totaling approximately 11.5 cubic yards. Trash was disposed in dumpster at Palominas.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along river from Black Phoebe Pond to Miller Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 3 and 5, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* Sec. 8. NE ¼, SE ¼, NW ¼,  
*GPS data:* 12 R 0582915 UTM 3488071

From Black Phoebe Pond we worked south along both sides of the river to just beyond Miller Wash. GPS point corresponds with major camp found along this route.

**Participants:** Two Student Conservation Associates working for BLM and a crew of 10 from the Northwest Youth Corps.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associate).

**Description of Project:** Project coordinators and crew spent 12 hours removing UDI trash.

**Results:** Collected 26 bags of trash totaling approximately 13 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation in Garden Wash

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 4, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 21 E. *Section:* SW ¼, SE ¼, NE ¼, Sec.12.  
*GPS data:* 12 R 0579547 UTM 3488597

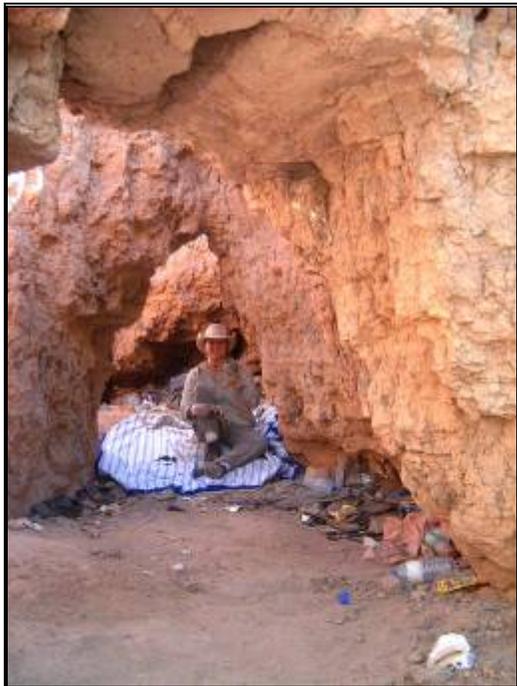
Cleaned up area around this GPS point where major UDI trail intersects Garden wash.

**Participants:** Two Student Conservation Associates working for the BLM and a crew of 10 from the Northwest Youth Corps.

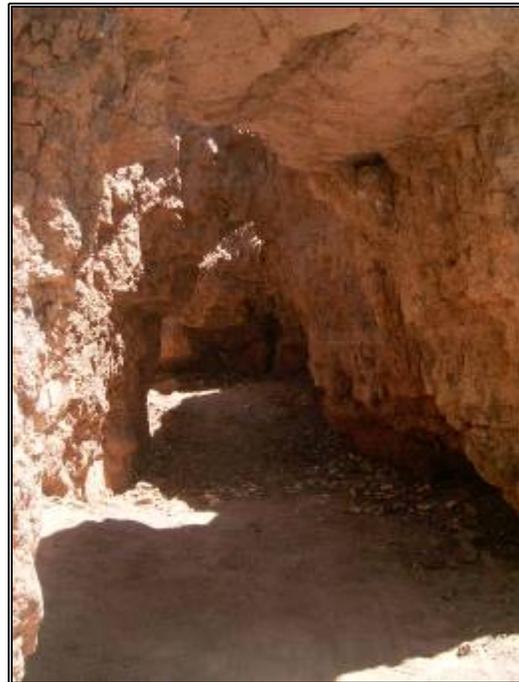
**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Coordinators and crew spent six hours bagging and hauling UDI trash.

**Results:** Collected 22 bags of trash totaling approximately 11 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Lewis Springs

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 6, 2004

**Location:** *Township:* T. 23 S. *Range:* R. 24 E. *Section:* Sec. 9 NE ¼, E ¼, NE ¼  
*GPS data:* 12 R 0602221 UTM 3480315

In culverts, areas surrounding both ends of culverts and along railroad.

**Participants:** One Student Conservation Associate working for the BLM.

**Project Coordinator(s):** Amanda Webb (Student Conservation Associate).

**Description of Project:** Project coordinator spent three hours removing UDI trash.

**Results:** Collected three bags of trash totaling approximately 1.5 cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Banning Creek

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 7, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* SE ¼, NWE ¼, Sec. 9.  
*GPS data:* 12 R 0584749 UTM 3485751

Starting from Tylers Trek access moving south along boundary, then moving west in Banning and the two low-lying areas immediately to the south approximately ¾ of a mile.

**Participants:** Two Student Conservation Associates working for BLM and a crew of ten from the Northwest Youth Corps.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project coordinators and crew spent three hours removing UDI trash.

**Results:** Collected 12 bags of trash totaling approximately six cubic yards. Trash was disposed in dumpster at Lewis Springs.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at Wash south of Copper Glance Road / Railroad Crossing

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 17, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* Sec. 21 NE ¼, SW ¼, SW ¼  
GPS data: 12 R 0584614 UTM 3484850

The crew worked from this Township and Range point at railroad through wash and surrounding area, through this GPS point at a site of high concentration, to the NCA boundary and then south to boundary road access.

**Participants:** Two BLM Student Conservation Associates and an eight-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about five hours picking up UDI trash.

**Results:** Collected eight bags equaling approximately four cubic yards of trash.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation along railroad at Terrenate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 18, 2004

**Location:** *Township:* T. 21 S. *Range:* R. 19 E. *Section:* Sec. 28 NE ¼, NW ¼, SE ¼  
GPS data: 12 R 0575399 UTM 3513854

The crew spread out on both sides of the railroad and worked north to where access road crosses tracks.

**Participants:** Two BLM Student Conservation Associates and a 9-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about 3 hours.

**Results:** Collected seven bags equaling approximately 3.5 cubic yards of trash.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation at trestle north of Terrenate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 18, 2004

**Location:** *Township:* T. 21 S. *Range:* R. 19 E. *Section:* Sec. 20 SE ¼, SE ¼, NW ¼  
GPS data: 12 R 0573623 UTM 3514837

Crew hiked to site and cleaned under trestle along old railroad grade and surrounding area.

**Participants:** Two BLM Student Conservation Associates and a nine-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about 2.5 hours.

**Results:** Collected 11 bags equaling approximately 5.5 cubic yards of trash.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation between Hunter and Miller Washes

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** May 20, 2004

**Location:** *Township:* T. 21 S. *Range:* R. 19 E. *Section:* Sec. 29 E 1/2, SE ¼  
The crew traveled from this area at Miller Wash south to Hunter Wash along both sides of the river.

**Participants:** Two BLM Student Conservation Associates and a nine-person YCOSA crew.

**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project Coordinators and YCOSA crew worked at site for about 5 hours.

**Results:** Collected 20 bags equaling approximately ten cubic yards of trash.



Before



After

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation on fence line from High Knolls Road to Tyler's Trek Gate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** September 21, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 22 SW $\frac{1}{4}$ , SW $\frac{1}{4}$ , NW  $\frac{1}{4}$

GPS data: 12 R 0584102 UTM 3490048

Crew hiked south along fence line across Highway 90 from High Knolls Road to NCA gate at end of Tyler's Trek

**Participants:** Two Student Conservation Associates working for BLM and an eight-person YCOSA crew

**Project Coordinator(s):** Kim Whorrall and Dan Baumbach (Student Conservation Associates)

**Description of Project:** Project Coordinators and YCOSA crew spent ten hours hiking fence line performing trash removal

**Results:** Collected 35 bags of trash and disposed of it in Lewis Springs roll off.



Before



After

## **FY 2004 UDI Funded Projects Tucson Field Office**

**Project Name:** UDI Impact Remediation in wash along NCA border fence between High Knolls Road to Tyler's Trek Gate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** September 21, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 4 SW<sup>1</sup>/<sub>4</sub>, NE<sup>1</sup>/<sub>4</sub>, SW <sup>1</sup>/<sub>4</sub>

GPS data: *12 R 0584102 UTM 3490048*

Crew hiked south along border fence on the south side of Highway 90 across from High Knolls Road to NCA gate at end of Tyler's Trek encountering 3 major campsites along hike

**Participants:** Two Student Conservation Associates working for BLM and an eight-person YCOSA crew

**Project Coordinator(s):** Kim Whorrall and Dan Baumbach (Student Conservation Associates)

**Description of Project:** Project Coordinators and YCOSA crew spent 4 hours performing trash removal along NCA border fence and wash in this area

**Results:** Collected 15 bags of trash and disposed of it in Lewis Springs roll off

\* Photographs unavailable.

## **FY 2004 UDI Funded Projects Tucson Field Office**

**Project Name:** UDI Impact Remediation in wash along fence line between High Knolls Road to Tyler's Trek Gate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** September 21, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 9 NE<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>, NW <sup>1</sup>/<sub>4</sub>

GPS data: 12 R 05843 utm 3489088

Crew hiked south along border fence on the south side of Highway 90 across from High Knolls Rd. to NCA gate at end of Tyler's Trek encountering 3 major campsites along hike

**Participants:** Two Student Conservation Associates working for the BLM and an eight-person YCOSA crew

**Project Coordinator(s):** Kim Whorrall and Dan Baumbach (Student Conservation Associates)

**Description of Project:** Project Coordinators and YCOSA crew spent two hours performing trash removal along NCA border fence and wash in this area

**Results:** Collected ten bags of trash and disposed of it in Lewis Springs roll off

\* Photographs unavailable.

## FY 2004 UDI Funded Projects Tucson Field Office

**Project Name:** UDI Impact Remediation in wash along NCA border fence between High Knolls Road to Tyler's Trek Gate

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** September 21, 2004

**Location:** *Township:* T. 22 S. *Range:* R. 22 E. *Section:* 16 SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>, NE <sup>1</sup>/<sub>4</sub>  
GPS data: 12 R 0584102 utm 3490048

Crew hiked south along border fence on the south side of Highway 90 across from High Knolls Rd. to NCA gate at end of Tyler's Trek encountering 3 major campsites along hike

**Participants:** Two Student Conservation Associates working for the BLM and an eight-person YCOSA crew

**Project Coordinator(s):** Kim Whorrall and Dan Baumbach (Student Conservation Associates)

**Description of Project:** Project Coordinators and YCOSA crew spent four hours performing trash removal along NCA border fence and wash in this area

**Results:** Collected 15 bags of trash and disposed of it in Lewis Springs roll off



Before



After

## **FY 2004 UDI Funded Projects Tucson Field Office**

**Project Name:** Charleston Rd South parking area and vicinity

**Unit Name:** San Pedro Riparian National Conservation Area

**Date of Project:** September 22, 2004

**Location:** *Township:* T 21 S *Range:* R 21 E *Section:* Sec. 11 NE ¼, NE ¼, NE ¼  
GPS data: 12 R 0578393 utm 3499104

**Participants:** Two Student Conservation Associates and an eight-person YCOSA crew

**Project Coordinator(s):** Dan Baumbach and Kim Whorrall (Student Conservation Associates).

**Description of Project:** Participants worked two hours of trash removal and flipping up dumpster

**Results:** Collected four bags of trash. Trash was disposed in dumpster at Charleston Road.

\* Photographs unavailable.

## Random Bags Collected SPRNCA

<u>Date</u>	<u>No. of Bags</u>	<u>From Whence</u>
10/1/03	1	Murray Springs
10/1/03	1	On river near San Pedro House trail
10/26/03	1	Along Copper Glance south of where railroad crosses road
12/17/03	1	Near Shooting Range
1/28/04	1	Wash before Lewis culverts
2/9/04	1	S of 90 from Lewis
2/10/04	3	Log jam N of SP House Hereford N of bridge Lewis Springs
3/2/04	7	Along Hwy 90 @ old dumpster site
3/18/04	1	Along Del Valle
3/24/04	1	Palominas along river
3/25/04	1	Banning Creek
3/29/04	1	Terrenate recreation area, along Kellar road and near railroad
4/27/04	2	Lewis
4/27/04	1	East of tracks near 90
6/4/04	1	Along Del Valle
8/25/04	1	Palominas parking area

## FY 2004 UDI Funded Projects BLM—Tucson Field Office

**Project Name:** UDI Impact Remediation in Zacatecas Canyon

**Unit Name:** Old Bisbee

**Date of Project:** May 6, 2004

**Location:** *Township:* T. 23 S. *Range:* R. 24 E. *Section:* NE ¼, SE ¼, SE ¼, Sec. 9.  
*GPS data:* 12 R 0602221 UTM 3480315

Starting in Brewery Gulch we worked up Zacatecas Canyon to the saddle.

**Participants:** Two Student Conservation Associates working for the BLM and a crew of ten from the Northwest Youth Corps.

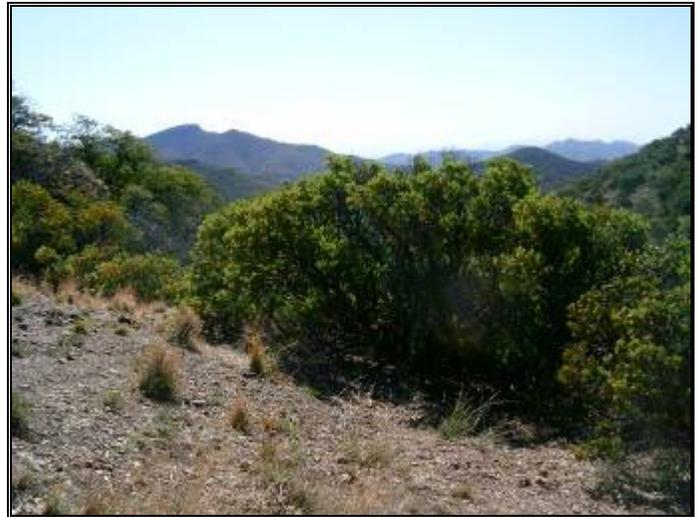
**Project Coordinator(s):** Amanda Webb and Chris Hartman (Student Conservation Associates).

**Description of Project:** Project coordinators and crew spent three hours removing UDI trash.

**Results:** Collected eight bags of trash totaling approximately four cubic yards.



Before



After

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## **Appendix E**

### **FY 2004 Border Project**

### **BLM—Yuma Field Office**

**Project Name:** Yuma border cleanup & fire restoration

**Unit Name:** Lower Colorado River

**Date of Project:** February 4 to April 11, 2004

**Location:** Fire restoration - *Township:* 8 South, *Range:* 24 West, *Section:* west ½ 28 (within). Gila and Salt River Meridian, Yuma County, Arizona.

Cleanup – *Township.* 8 South, *Range* 24 West, *Sections:* 28, 32, 33 (within); *Township* 9 South, *Range* 24 West, *Sections:* 5, 7, 8, 18, (within); *Township* 10 South, *Range* 25 West, *Sections:* 13, 14, 22, 23, 26, 27, 34, 35 (within) *Township* 11 South, *Range* 25 West, *Sections:* 27, 28, 33, 34 (within). Gila and Salt River Meridian, Yuma County, Arizona.

**Participants:** Ron Morfin, Fred Wong, Dave Heithaus, Coconino Rural Environment Corps,

**Project Coordinator(s):** Ron Morfin

#### **Description of Project:**

The Yuma Field Office restored border areas affected by undocumented immigrant activities along the Colorado River. Field Office Staff and contracted crews from the Coconino Rural Environment Corps planted 250 cottonwood and willow poles scattered within a 14-acre area to replace trees that were destroyed when a wildfire (C936) occurred on June 17, 2001. An open top cage consisting of wire mesh anchored to a T-post and rebar was placed around each planted pole for protection from beavers and other wildlife.

For the cleanup phase, Field Office Staff and contracted crews from the Coconino Rural Environment Corps picked up trash along nine miles of the river levee road on BLM administered land on the border area from Morelos Dam and south along the entire stretch of the Colorado River to San Luis, Arizona.

#### **Results:**

During the project, crewmembers were contacted by some of the recreating public who expressed their appreciation for cleaning up the area. It was noted that in addition to the importance of the entire project area for bird hunting, the area near Morelos Dam receives a fair amount of weekly day-use for fishing and boat launching.



Before



After



Planted pole with wire mesh protection

## **Appendix F**

### **FY 2004 Border Project**

### **National Park Service**

**Project Name:** Illegal immigrant clean-up

**Unit Name:** Fort Bowie National Historic Site

**Date of Project:** FY2004

**Location:** *Township: 15 S. Range: 28 E. Section: 1*  
GPS data: N 3559426 / E 646791

**Participants:**

Lana Moore  
Phil Tapia, Jr.  
Adalberto Mercado

**Project Coordinator(s):**

Larry Ludwig, Unit Manager  
Alan Whalon, Superintendent

**Description of Project:**

Nine illegal immigrant activity sites were monitored for trash accumulation over the fiscal year. These were all sites that had been used by illegal immigrants to different degrees in FY2003. Only one site (Site 8), in the mouth of Siphon Canyon, continued to show heavy illegal immigrant use. The location was checked weekly for additional trash build up. The trash was bagged and brought into the Fort Bowie maintenance area where it was inventoried and weighed. It was disposed of in a trash compactor and later taken to the landfill in Willcox.

**Results:**

During FY2004, Site 8 produced over 228 pounds of trash including, 33 backpacks, food and water containers and discarded clothing. Approximately half of the backpacks contained personal items. The rest were empty. Many of them were new and in good condition. Site 8 and Apache Pass also produced four automobile bench seats and five bucket seats that had been discarded along the road and at the pick up point. The park also recorded two illegal immigrant related traffic accidents. Both were vehicles leaving the roadway, one hitting a tree and the other high-centered on some boulders. One of the vehicles had to be towed away. Both accident scenes had to be rehabilitated.



Spring 2004. Illegal immigrant Site #8 before cleanup. Packs, clothing and containers represent just one of many clean-ups at Site 8. Many plastic water containers are partially obscured by vegetation.



Spring 2004. Illegal immigrant Site #8 after cleanup.

# Appendix G

## FY 2004 Border Project

### U.S. Fish and Wildlife Service

**Project Name:** Border Fence Repair

**Unit Name:** San Bernardino / Leslie Canyon National Wildlife Refuges

**Date of Project:** Fiscal Year 2004

**Location:** *Township:* T24S *Range:* R30E. *Section:* 14  
GPS data: *Not available*

**Participants:** U.S. Fish & Wildlife Service (\$10,000 toward term FTE)  
Border Funding (\$4,000 toward fence repair)

**Project Coordinator(s):** William R. Radke, Refuge Manager

**Description of Project:** Due to illegal immigration and smuggling, border and boundary fences are commonly damaged. Open fences allow livestock trespass, which further damages sensitive wetland habitat.

**Results:** Routine fence repair is conducted on both refuges. Illegal activity can be monitored and stopped. The photos below are representative of the effort.



Before



After

## **FY 2004 Border Project U.S. Fish and Wildlife Service**

**Project Name:** Debris Cleanup

**Unit Name:** San Bernardino / Leslie Canyon National Wildlife Refuges

**Date of Project:** Fiscal Year 2004

**Location:** *Township:* T24S *Range:* R30E *Section:* 14  
GPS data: *Not available*

**Participants:** U.S. Fish & Wildlife Service (\$25,000 for term position)  
\$5,000 (Border funding helped pay for a position)

**Project Coordinator(s):** William R. Radke, Refuge Manager

**Description of Project:** Tremendous amounts of trash disposed of by illegal immigrants have been impacting the National Wildlife Refuges. Border funding has allowed a concerted effort to clean up this mess.

**Results:** The photos below are representative of the clean up effort on both refuges.



Before



After

## **FY 2004 Border Project U.S. Fish and Wildlife Service**

**Project Name:** Marijuana Eradication

**Unit Name:** San Bernardino / Leslie Canyon National Wildlife Refuges

**Date of Project:** Fiscal Year 2004

**Location:** *Township:* T24S *Range:* R32E. *Section:* 2

GPS data: *Not available*

**Participants:** U.S. Fish & Wildlife Service (\$10,000 toward effort)  
U.S. Customs Service ( 1,000 toward effort)  
BLM Border Funding (\$1,000 toward effort)

**Project Coordinator(s):** William R. Radke, Refuge Manager

**Description of Project:** Drug smugglers mix with illegal immigrants to bring marijuana into the United States at camping sites, rest areas and lay-up areas, marijuana seeds are discarded or dispersed and begin to grow under the right conditions. During trash clean up efforts, marijuana is also eradicated before it can be harvested.

**Results:** Removal of trash and exotic plant species (marijuana) is being conducted on Federal land. The photos below are representative of this effort.



Before



After

# FY 2004 Border Project

## U.S. Fish and Wildlife Service

**Project Name:** Vehicle Guardrail Installation

**Unit Name:** San Bernardino / Leslie Canyon National Wildlife Refuges

**Date of Project:** Fiscal Year 2004

**Location:** *Township: T21S Range: R28E. Section: 20*  
GPS data: *Not available*

**Participants:** U.S. Fish & Wildlife Service  
Border Funding: \$30,000 (Installation); FWS: \$15,000 (Materials)

**Project Coordinator(s):** William R. Radke, Refuge Manager

**Description of Project:** A total of 550 feet of Corten Steel vehicle guardrail was installed at Leslie Canyon National Wildlife Refuge to prevent vehicles from accessing remote areas to pick up illegal immigrants. This trend has resulted in damage to sensitive riparian areas by illegal immigrants, and has led to the take of Federally-listed endangered species.

**Results:** Illegal vehicle access has been stopped along a portion of Leslie Creek previously used by smugglers. Vegetation is healing and the potential for stream contamination has been diminished.



Before



After



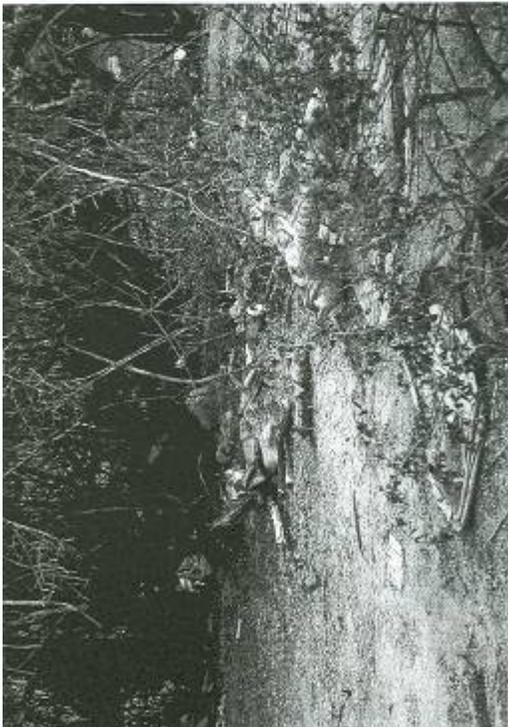
End result

**Appendix H  
FY 2004 Border Project  
Cochise County**

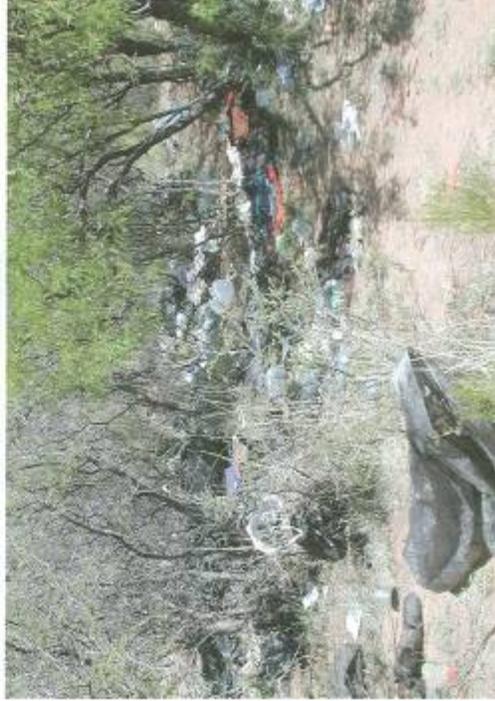
**Illegal Immigrant Trash at Escapule Wash  
January 2004**



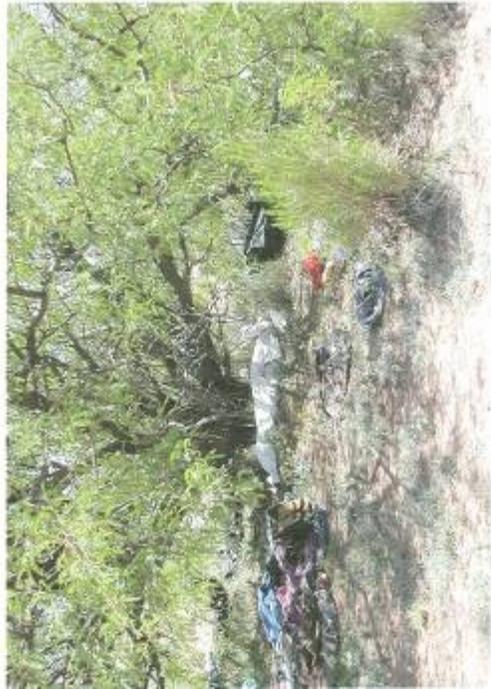
**Illegal Immigrant Trash at Escapule Wash (cont.)  
January 2004**



**Illegal Immigrant Trash on Ruth Cowan Property  
May 4, 2004**



**Illegal Immigrant Trash on Ruth Cowan Property (cont.)  
May 4, 2004**



**Illegal Immigrant Trash on Ruth Cowan Property (cont.)  
May 4, 2004**

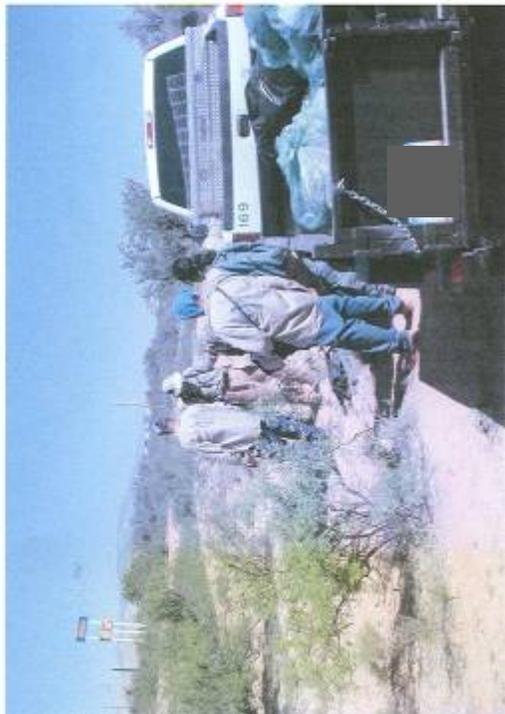
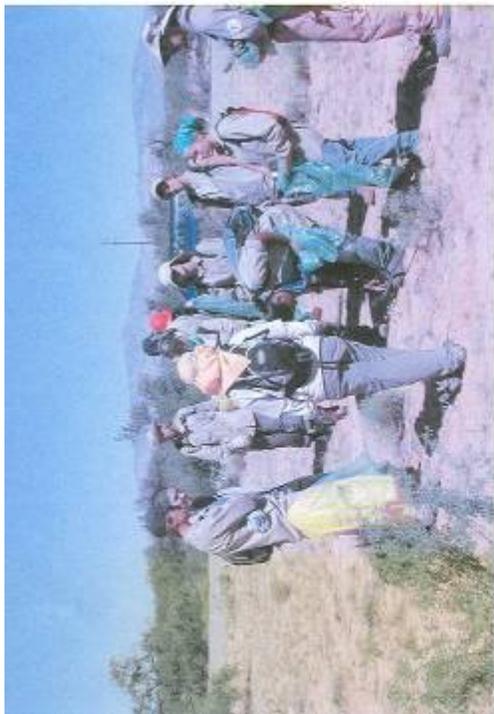
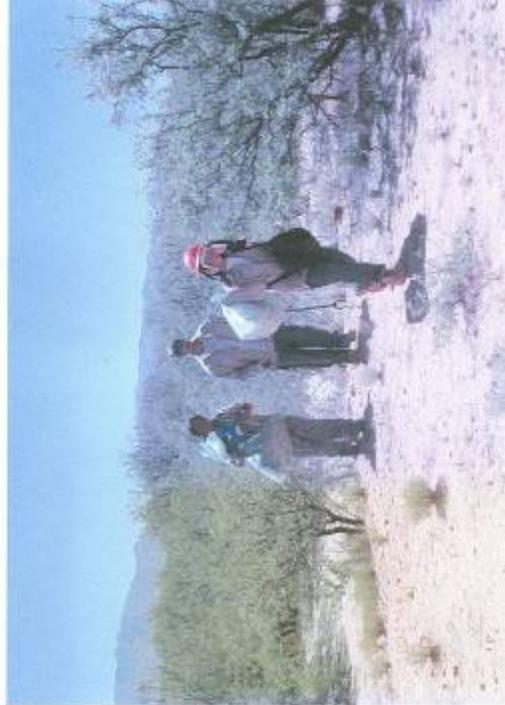


**Illegal Immigrant Trash at Touchstone Trail, Benson  
May 29, 2004**



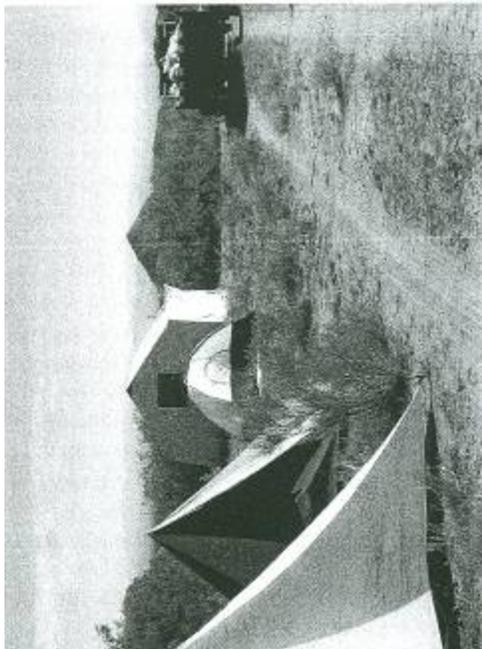
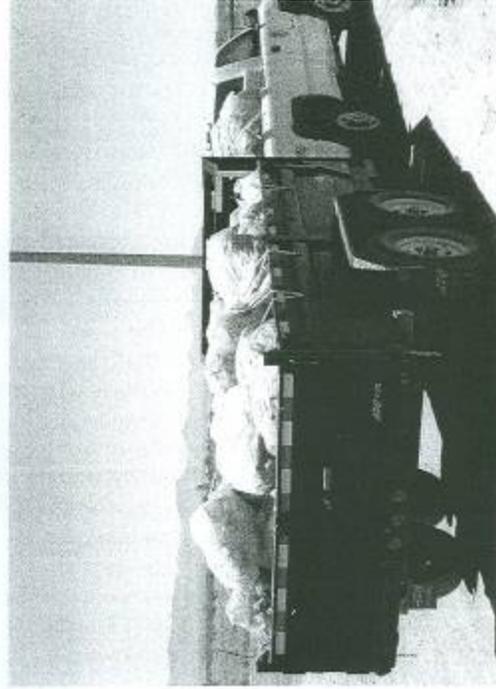
Adults and juveniles on probation assisted in picking up 2.08 tons of trash

**Touchstone Trail Area  
June 14-18, 2004**



YCOSA Crew cleaning up trash

**Ogurek Ranch, Hargis Ranch,  
Misty Ranch and Touchstone Trail  
June 14-18, 2004**



**Cowan Ranch  
October 14-18, 2004**



Before



After

**YCOSA Crew Cleanup of Illegal Immigrant Trash  
Cowan Ranch  
October 18-22, 2004**



YCOSA Crew with trash



YCOSA Tent Camp on Cowan Ranch

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# Appendix I

## FY 2004 Border Project

### Graham County

**Project Name:** Gila River Cleanup

**Unit Name:** Graham County Board of Supervisors

**Date of Project:** May 15, 2004

**Location:** *Township:* \_\_\_\_ *Range:* \_\_\_\_ *Section:* \_\_\_\_\_  
GPS data: \_\_\_\_\_

**Participants:** BLM personnel, SEACAB volunteers, Safford 4H and other volunteers

**Project Coordinator(s):** Bonnie Winslow and Jay Rasco

**Description of Project:** Cleanup of both sides of the Gila River at the Eighth Avenue Bridge, Safford Arizona and the Pima Bridge, Pima Arizona.

**Results:** Two large Roll-off dumpsters and a couple of smaller containers were filled with trash picked up by hand and with a large front end loader. The sites were cleared of trash by the end of the project.



Before



Before



During cleanup



After



After

**Appendix J**  
**Malpai Borderlands Group**  
**Watershed Restoration Project**

**April 14, 2004**

**By**  
**Van Clothier**

**OVERVIEW AND SUMMARY**

This watershed restoration project is unique in that it is a landscape scale effort, treating erosion problems in a natural and unobtrusive way, using native materials to help the watercourses achieve dynamic stability. Using deflectors and weirs made of sticks and stones, we intend to put the wiggle back into the long, straight gullies by harnessing the hydraulic power of a gully washer to carve meanders into the terraces, slowing the water down, allowing it to soak into the ground, and producing the needed sediment to aggrade the channel. For this to work properly, we must discern the harmonic spatial frequency of each reach of each arroyo. It's about going with the flow.

In other areas that are threatened but not yet gullied, we are attempting to protect the valley bottoms with cobble mulch placed along contour lines. The whole idea here is to create stability in the soil and to provide a seedbed to help native grass establish itself in key areas. By creating an episode of deposition in the valley bottoms, we are creating an ideal environment to germinate seed. Native grasses are living, self-repairing erosion control organisms. In order to get grass to take root in the valley bottoms we need to temporarily reverse the natural pattern of erosion and deposition with these man-made structures.

It's also about methodically working all of the first order, or headwater watercourses in the drainage network so that there will be a cumulative effect. We began work in the Astin Spring watershed that lies entirely within the boundaries of the Malpai Ranch and directly upstream of the San Bernardino Wildlife Refuge. The initial work in this drainage has now been completed and we are now working in the Hay Hollow Watershed that runs for several miles, through three ranches and roughly parallel with the Mexican Border. This is a long term project.

An important facet of the work is post-flood monitoring and maintenance. We need to go back to a treated area immediately after a flood event to see what happened. Did the structures really do what they were supposed to do? If not, why? We then need to correct any problems before the next runoff event. It is anticipated that, under ideal conditions it will take 5 years of follow-up and maintenance to insure that we are successful. In some cases promotion of healthy grass in the valley bottoms may require other management actions in addition to the gully restoration effort. These might include seeding of native grasses, use of fire or other brush control where possible, and/or changes in grazing management, to name a few.

I started the project on June 16, 2003 with a crew of 3 building arroyo erosion control structures in Sandy Arroyo. On July 3, I had 10 people working for me in Red Windmill Draw. On August 18 my crew went down to 5 or 6 for the remainder of this phase of the project. We finished the initial work in the Astin Draw drainage and moved to the Hay Hollow drainage on October 20. After the last day, which was February 6, 2004, my crew took a break from this project to complete a previously scheduled job for Larry Green at Sunglow. That project is scheduled to end on August 12, 2004 and they have committed to returning the crew to us at that time.

There have been two gully washers in watercourses treated by this project. The first time, I arrived at the project site an hour after a summer thunderstorm, and started making minor adjustments to some structures while the water was still flowing. We all excitedly walked in the arroyos the next morning to see how much of the work survived and, in most cases were pleasantly surprised to see that the structures had survived the flood, caused sediment to be deposited behind them, and raised the grade of the arroyo slightly. In the next few weeks we saw grass and annuals start to come up between the cracks in the rocks, and in the sediment collected behind the little dams. This is only the beginning. Given enough time, good management, and a whole lot of help from Mother Nature in the form of RAIN, well - well see.

## **THE GEOMORPHIC APPROACH**

The philosophy behind this project is based on fluvial geomorphology, or naturally occurring landforms that have been formed by moving water. A lot of important work has been done in this field by David Rosgen, Wildland Hydrology, Inc. The Rosgen stream classification system has been adopted by the U.S. Forest Service, and most other federal and state land management agencies. It is based on factors that can be measured in the field such as floodplain accessibility, channel shape and other channel dimensions and patterns. It is important to understand what is governing the dynamic stability of the watercourse we are dealing with before going about making improvements. This way we hope that our influence on the watercourse will be appropriate, and coordinated with the natural forces that shape it.

Bill Zeedyk is a locally famous stream restoration practitioner from New Mexico who has developed the technique of Induced Meandering. This is a subtle approach that helps an ailing watercourse fix itself by governing the patterns of sediment erosion and deposition that are caused by the hydraulic power of floodwaters. For this to work we must anticipate the natural meander pattern appropriate for our particular stream type and size and build structures designed to influence the flow of floodwaters to do the work of reshaping the impaired channel into one that is stable. A key factor here is the Meander Wavelength, which is the valley distance taken up by a pair of opposite curves or bends.

I am a student of both Rosgen and Zeedyk.

**TOTAL STRUCTURE INVENTORY FOR PROJECT TO DATE:**

Brush Fill	24
Post Baffle	1
Brush Head Cut Structure	3
Vanes	28
Rock Baffles	179
One Rock Dams	1247
Wicker Weir	29
Zuni Head Cut Structure	35
Meander Cutoff Plug	8
Contour Cobble Mulch	135, total length: 664 yards
Cobble Channel Liner	198, total length: 1439 yards
Tree Removal	39
Rolling Dips	15
Road Rut Fill	7
Blocked 4-Wheeler Roads	<u>2</u>
<b>TOTAL STRUCTURES</b>	<b>1950</b>

**TOTAL LENGTH OF TREATED REACHES: 37,870 feet, or 7.2 miles**

Note: this is a conservative estimate because it is based on the straight line distances between the beginning and ending points of each treated reach. The number of structures is also conservative because I probably missed a few tributaries when I was counting.

**TYPES OF STRUCTURES**

All of the structures used in this project were built from native materials: sticks, stones, and earth collected locally, on site where available. The structures are designed to blend in to the landscape over time and become covered with natural sedimentation as the bed of the gully is raised by their influence. Two general types of in-stream structures were built, Weirs and Deflectors, in addition, we did some Tree Removal and Road Work:

Weirs are used to stabilize bed elevation and channel slope. There were many types used on this project:

One Rock Dams - These are only one rock high, at least five rows of rock long. One Rock Dams are built to extend across the channel bottom to collect a bit of sediment, grow grass in the cracks in the rocks, and stabilize the grade by protecting the channel bottom from down cutting.

Cobble Channel Liner - In essence, this is just a very long one rock dam, built to armor the channel bottom in certain reaches to stabilize the grade.

Contour Cobble Mulch - a curved application of cobble mulch about one yard wide and of varying length placed on the ground along a topographic contour line.

This structure is intended to provide a seed bed for grasses to grow where they are needed to stem sheet erosion.

Wicker Weir - Posts driven to within a foot or so of the ground in a row perpendicular to the flow and extending from gully wall to gully wall. Long thin branches are then woven between the posts, stomped down and wired to the posts. This will catch flood debris and sediment.

Brush Fill - Cut brush and branches interwoven and staked to the channel bottom to cause deposition.

Brush Head Cut Structure - brush laid down perpendicular to the flow, stomped down and packed with soil. This is used in very low flow velocity areas.

Zuni Head Cut Structure - Cobble liner on the surface of a head cut, followed by a slightly taller one rock dam which is placed downstream a distance at least four times the height of the head cut.

Deflectors are used to direct stream flow to meander, increasing the distance water has to travel to get down valley. Several types were used:

Post Baffle - built by pounding a matrix of posts into the channel bottom and cutting them off about a foot above the ground.

Rock Baffle - Hand placement of rocks which are set in shallow trenches so that only part of the rock is exposed to the force of the floodwaters.

Vane - This is a linear structure that points upstream at an angle protruding from the bank. Designed to capture sediment and redirect the flow towards the opposite bank.

Meander Cutoff Plug - rock fill to block where the flow has gone across a point bar.

Tree Removal - this is sometimes done in conjunction with a baffle or a vane to eliminate the bank protection where a structure has been built to intentionally erode a particular section of bank. This is to make it easier for the stream to erode its terrace to accelerate meander development.

Road Work was done primarily to address how the road influences the flow of water, concentrating it in some areas and producing gullies there while simultaneously drying out other areas. The applications were:

Rolling Dips - a very low water bar made of compacted earth that is angled to send water off the road and prevent it from causing ruts.

Road Rut Fill - using cobble and soil. This is done in conjunction with rolling dips.

Blocked 4-Wheeler Roads - This was done by piling thorny brush in key areas to stem the network of maverick roads.

## **DRAINAGES TREATED**

### **Sandy Arroyo, Glenn's Malpai Ranch**

This is a tributary of Red Windmill draw that enters from the North just below the windmill. This is a sand and gravel bed arroyo that is cutting through an alluvial fan. The arroyo was unstable with meander cutoffs near the head, and very little sinuosity in the middle reaches. There was very little grass cover in the arroyo bottom.

The strategy here was to try to stabilize the grade slightly higher than the present elevation in the arroyo and all tributaries, induce meandering where applicable, and try to cause an episode of deposition that could be colonized by grass.

We corrected four meander cutoffs near the top of the drainage. We built many one rock dams and baffles to stabilize this channel and raise the grade slightly.

### Structure Inventory

#### Sandy Arroyo Tributary of Red Windmill Draw on Glenn's Malpai Ranch

UTM 0663054 / 3472592	Top of treated reach at Horse Pasture fence
Baffles	19
Cutoff Plugs	4
One Rock Dams	91
Cobble channel liner	4, total length: 15 yards
Zuni head cut str.	3

UTM 0663080 / 3472144      Confluence with Red Windmill Draw  
Treated reach: 1200 feet

This tributary had a gully washer last summer and the structures did quite well, filling in with sediment and, in places, grass. One rill we treated now has a very nice small stand of grass growing on the gully bottom. Now that they have filled in with sediment, we need to do maintenance on some of the one rock dams to secure the gains we have made. We should use cobble mined from the terraces instead of going up to the mesa for material, as we did during the initial construction.

## **Red Windmill Draw, Glenn's Malpai Ranch**

There is a lot to say about this tributary because we did a lot of work here and experienced two gully washers in one season. This was the first large area treated during the project. It is a 1 1/4 square mile drainage basin at the Windmill. The valley is broad and gently sloping, fill is silt. The head of the valley is gently sloping and is not yet Bullied. About halfway from the windmill to the horse pasture fence, there is an extensive network of erosional rills and galloping gully head cuts. Below the confluence with Bale Draw there is a dirt tank that blew out through its spillway and created several hundred feet of gullying downstream, although the tank had been causing deposition during its life.

The valley floor was previously a swale, but now is cut by a gully that has reached bedrock throughout some reaches. The bedrock is a very erodable sandstone material that falls apart in slabs, and therefore isn't really protecting the gully from further down cutting, and also is an impossible material for seeding.

The design problem for repairing the incised channel was deciding what width to depth ratio to use for the transitional bankfull channel. I would like to induce a channel evolution back to a non-incised swale, a channel type that is not in the Rosgen classification system, but one that Zeedyk thinks was once common in parts of Arizona and New Mexico. The challenge is to pick a meander wavelength that will initially have the stream power to carve sediment out of the terraces and deposit it on the inside of developing point bars, creating a meandering stream that can absorb the hydraulic power of a large gully washer without degrading. The unique combination of this broad, gently sloping valley filled with silt and a robust stand of grass growing on the ephemeral channel bottom will then have the potential to aggrade back into a swale. Most of the sediment coming from sheet erosion during smaller runoff events will be captured by the lush grass in the channel bottom and eventually fill the entire channel up with sediment, restoring the historic swale morphology.

Upstream of the gullied portion of the valley, we built several cobble contour mulch structures to try to get more grass to grow on the valley bottom and protect it from future gullying. We built small one rock dams wherever there was the slightest incipient head cut, or channeling, no matter how small. Every single one of the many gully head cuts were treated with Zuni Head Cut structures and one rock dams.

For the incised channel, I used the meanders in the spillway as a reference reach and installed one rock dams and baffles to try to continue this pattern all the way to the confluence with the main stem. Quite a few trees were removed to promote lateral bank erosion in key places.

To address the troublesome bedrock channel bottom, I decided to try to get some deposition of sediment on top of this sandstone bedrock by means of one rock dams.

### Structure Inventory

## Red Windmill Draw on Glenn's Malpai Ranch

UTM 0662742 / 3472805	Top of treated reach in Horse Pasture
Baffles	54
Vanes	3
One Rock Dams	286
Contour Cobble Mulch	3, total length: 10 yards
Zuni head cut str.	17
Tree removal	15 (est.)

UTM 0664096 / 3471769 Confluence with Aston Draw  
Treated reach: 5800 feet + 500 feet of tributaries, est. = 6300 feet

There were two gully washers in this tributary last summer, and all but 2 or 3 of the 360 structures in the mile long treated reach stayed put. The vast majority of the weirs have already collected quite a bit of sediment behind them which is now being colonized by grass and annuals. As time goes on, the sediment behind these weirs is expected to continue to aggrade the channel and provide an increasing seedbed area on the gully floor. The establishment of healthy stands of perennial native grass in the gully bottom is the key to successful restoration of these ephemeral watercourses. One structure a little way downstream from the spillway raised the grade a foot and grew in with lush grass in an incredibly short time. In another place a one rock dam that was too tall dug a hole in the channel bottom during the first runoff event. This was repaired. A one rock dam on the downstream side of a mesquite island in the channel caused a lot of deposition in this area.

Although the weirs seem to be doing their job of raising the grade in the gully bottom, I remain concerned that the deflectors are not causing as much lateral bank erosion as I had anticipated. Many of the baffles seem to be too close together to promote induced meandering effectively, especially considering the small scale of the system and limited stream power from the 0.8% valley slope. Maybe some of the baffles should be converted into one rock dams to extend the meander wavelength, giving the stream more drop between deflectors. This will put more power into lateral bank erosion which will increase the stream length and slow the floodwaters down. Some areas still need more tree removal opposite the baffles to increase their effectiveness. There is an over-extended meander at 900 feet that will need to be controlled with vanes in the future. We also need to do a bit of head cut repair on the main stem below the tank.

## **West Water, Glenn's Malpai Ranch**

This tributary of Astin Draw is in a steep area at the base of the Southwest end of Steer Pasture Mountain dominated by fine grain valley fill and volcanic cobble of very low specific gravity. We treated numerous tributary arroyos that have cut to bedrock at the base of the mountain, extending our treated area all the way to West Water trough.

### Structure Inventory

### Aston Draw at West Water on Glenn's Malpai Ranch

UTM 0662296 / 3476821	Top of treated reach
Baffles	7
One Rock Dams	68
UTM 0662288 / 3476761	Found Metate on left terrace, marked location with PVC pipe
UTM 0662529 / 3476303	West Water Trough
Treated reach: 1860 feet	

A thunderstorm last summer rained 2 inches in 45 minutes at this very spot and washed away 1/3 of the structures, but filled the rest of the structures with sediment. I think that the low specific gravity of the rocks we had to use had a lot to do with this. Most of the destroyed structures were subsequently replaced. At this time, there are many structures in good shape and filling up with sediment. Note: There are also a couple of dozen structures in the western most tributary that were marked with blue paint but were never constructed.

### **Aston Windmill Draw, Glenn's Malpai Ranch**

This drainage has a deep gully through fine grained material, very little grass cover and a mesquite and acacia invasion happening. Valley slope ranges from 1.4% to 1.8%. This gully is discontinuous, starting at the road to Aston Windmill at station 0+00 with a four foot head cut. This incised channel goes along with little sinuosity for 1900 feet where it suddenly becomes a swale. This swale has multiple cobble bed low flow channels through a shrub thicket, and then the channels drop into a rapidly migrating head cut at 2400 feet. From this point, it becomes an incised channel again until the confluence with the South Fork of Astin Draw. There is an old channel to the North of the gully, as well as quite a few erosional rills in this area that flow into the main gully.

At the top of the treated reach, we built a large rock head cut structure to protect the road by preventing the head cut from migrating upstream. Continuing on for 1900 feet this was an induced meander project with a combination of one rock dams, baffles and vanes, removing trees where they were preventing lateral bank erosion opposite induced meander bends.

We treated all of the several tributary head cuts near the top of this treated reach, one of which was initiated where the road captured flow of a hill slope for 220 feet then cut straight down valley, causing a deep side gully to migrate up from the main stem. This was addressed by putting this water in an old channel that had the capacity for this flow.

Between 1900 and 2400 feet we built very low one rock dams in the cobble low flow channels to try to maintain the swale morphology.



UTM 0663205 / 3473356 Confluence with Aston Draw  
Treated reach: 635 feet + 425 feet (tributary) = 1060 feet

To date there have been no channel forming flood events in this tributary, but the many rainstorms have had the effect of cementing the structures with soil as a mortar.

### **Aston Draw Main Stem below third crossing, Glenn's Malpai Ranch**

The channel here has incised 2 to 3 feet and has low sinuosity. There is lots of sand and gravel in the bed, but the banks are composed of silt. There is thick mesquite and acacia lining the banks.

The plan here was to prevent this reach from down cutting to protect the road crossing

#### Structure Inventory

Astin Draw on Glenn's Malpai Ranch, below third crossing

UTM 0664144 / 3472521	Road Crossing	
Baffles	1	
One Rock Dams	4	
Cobble channel liner	1	total length: 7 yards
Vanes	1	

UTM 0664217 / 3472564 End of treated Reach

UTM 0664425 / 3472431 Isolated Vane way downstream

Treated reach: 230 feet

No flood events have occurred since construction, but the structures are starting to come in with a little bit of grass and annuals from the rains.

### **Aston Draw Main Stem above second crossing, Glenn's Malpai Ranch**

This reach is an incised channel with low sinuosity. The channel is lined with well established mesquite and acacia trees that are protecting the banks from erosion and preventing the development of meanders.

This reach was treated with several baffles and some tree removal to help improve the sinuosity prior to the confluence of Red Windmill Draw.

#### Structure Inventory

Astin Draw on Glenn's Malpai Ranch, above second crossing

UTM 0664335 / 3472014	Upstream from crossing near Red Windmill Road	
Baffles	4	
One Rock Dams	1	
Tree Removal	12 (est.)	

UTM 0664096 3471769 Confluence with Red Windmill Draw  
Treated reach: 1120 feet

No flood events have occurred since construction, but the structures are starting to come in with a little bit of grass and annuals from the rains.

### **Aston Draw Main Stem below first crossing, Glenn's Malpai Ranch**

The valley has cut to volcanic bedrock in this reach and becomes a broad, stony channel. Below this crossing, the road is on valley right and within the flood prone area, capturing some of the stream for a few hundred feet before the water pours off the road in a small ditch. This area, between Geronimo Trail and the first crossing is where the cable and boulder check dam built by Warner Glenn in the summer of 1999 started the healing of this drainage by getting sediment to deposit on top of the lava bedrock and grow grass.

We built a few small one rock dams upstream of Warner's structure to help retain moisture in some of the over bank channels that have developed. We built one rock dams in the ditch to prevent it from head cutting and hopefully protecting the road from becoming rutted during the next big flood event.

### Structure Inventory

Astin Draw on Glenn's Malpai Ranch, below first crossing

UTM 0664387 / 3471399 First Road Crossing of Astin Draw near Geronimo Trail

One Rock Dams 7

UTM 0664421 / 3471363 End of treated reach

Treated reach: 160 feet

This treated reach is still waiting to be tested by the next flood.

### **Thomas Tank; McDonald Ranch, Peterson Ranch**

This is a broad, gently sloping valley dominated by very fine grained volcanically derived sediment. A half mile from the confluence with Hay Hollow the valley descends into a volcanic gorge. The lava flow and huge volcanic boulders appear to have prevented Thomas Tank Valley from becoming deeply gullied. The spillway from the tank has shifted the channel to the right of the valley bottom and caused gullying for a thousand feet as the channel was trying to find its way back to the valley bottom. Discontinuous gullying continues all the way except for the final reach where cobbles and boulders line the valley bottom near the boulder protected lip of the gorge.

The spillway was treated with a cobble head cut structure with wicker weirs and a rock spillway. The rest of the valley was treated with a combination of structures including

one rock dams, riffle weirs, baffles, contour cobble mulch, and cobble channel liners. All rock and cobble structures were seeded with native grass seed by February, 2004.

Structure Inventory

Thomas Tank Arroyo, starting at head cut spillway of tank. McDonald Ranch  
UTM 0676970 / 3478760

Wicker Weir	4	
One Rock Dams	92	
Contour cobble mulch	2,	total length: 12 yards
Zuni head cut str.	1	

UTM 0676871 / 3478477 McDonald/Peterson fence  
Treated reach: 830 feet + 320 feet of tributaries = 1150 feet

Thomas Tank Arroyo, starting at McDonald/Peterson fence. Peterson Ranch  
UTM 0676871 / 3478477 McDonald/Peterson fence

Baffles	7	
Wicker Weir	11	
One Rock Dams	204	
Contour cobble mulch	86,	total length: 398 yards
Cobble channel liner	62,	total length: 419 yards
Zuni head cut str.	8	
Brush Fill	1,	total length: 5 yards

UTM 0676222 / 3476935 End of treated reach  
Treated reach: 4630 feet (actual distance is slightly longer due to parallel channels)

As of March, 2004 this area is showing some positive response. There is lots of grass coming up between the spaces in the rocks and it is looking good so far.

**Thomas Tank Tributaries, McDonald Ranch**

There are several arroyos on the left side of the road 1/4 mile before you get to the tank, as well as numerous tributary arroyos that intersect downstream of the tank on valley left. These were treated with one rock dams, cobble liners in an effort to stabilize the gullies at their present depth, leaving the banks untreated to allow erosion to widen the gullies during flow events.

Structure Inventory

Gullies on the left side of the road into Thomas Tank 1/4 mile from tank, McDonald Ranch

UTM 0676966 / 3479264

One Rock Dams: 7  
Cobble Channel Liner 6, total length: 55 yards

UTM 0676875 / 3479121

Treated reach: 470 feet + 150 feet of small rills = 620 feet

Gully on the left side of the road into Thomas Tank 1/8 mile from tank, McDonald Ranch

UTM

One Rock Dams: 3  
Cobble Channel Liner 4, total length: 28 yards

UTM

Treated reach: 250 feet (est.)

Gully on the left side of road just past Thomas Tank, McDonald Ranch

UTM 0677266 / 3478754 Start of treated reach

One Rock Dams: 6  
Cobble channel liner 9, total length: 42 yards

UTM 0677160 / 3478753 Arroyo crosses road

UTM 0677061 / 3478729 End of treated reach Treated reach: 570 feet

Gullies to right of road just past Thomas Tank, McDonald Ranch

UTM 0677185 / 3478689 Upslope end of treated area

Baffles 1  
Wicker Weir 2  
One Rock Dams 27  
Cobble channel liner 20, total length: 187 yards

UTM 0676973 / 3478606 End of treated reach

Treated reach: 630 feet x 2 (to account for tributaries) = 1260 feet

To date there has been no channel forming event in this area, although generous spring rains have helped by watering in the structures, and grass is coming up in lots of places.

### **Thomas Tank Road, McDonald Ranch**

We tried to fix erosion problems on this road in the bad places all the way from Geronimo Trail to the Pendleton Tank by filling in ruts and protecting the road from water damage with lead-out ditches and rolling dips. Several renegade 4-Wheeler roads were sealed off with large piles of thorny mesquite branches. Where the road crosses over the Catclaw Tank dam, we corrected a minor drainage problem that was starting to erode at the dam.

### Structure Inventory

Road Work, Road to Thomas Tank, Catclaw Tank and Pendleton Tank, McDonald Ranch		
Rolling Dips	15	(some with water harvesting cobble mulch)
Rut Fill	7,	total length: 70 yards
Blocked 4 wheel road:	2	(Blocked with brush piles)

The road is a lot smoother to drive on in places now, but will need periodic maintenance depending on the amount of traffic during muddy conditions.

**Valle San Benito, McDonald Ranch, Peterson Ranch**

This is a moderately sloping headwater valley of Hay Hollow to the east of Thomas Valley where the fine grained alluvium has been cut deeply to bedrock by two main gullies near the head of the valley. There are three meander cutoffs halfway up the valley from the road. The road has contributed to the erosion problem in this valley by capturing runoff in shallow ruts and carrying it down slope. Near the McDonald/Peterson fence there are a half dozen small arroyos that cross both the road and the fence. Not too far down the valley after you cross the cross the fence into Peterson's, this valley turns to a swale that connects to the Thomas Tank drainage on the Peterson Ranch. In the swale area there was lots of bare ground and sheet erosion with some incipient head cuts.

Near the top of the valley we treated several meander cutoffs to extend the channel length. Many structures were built in the gully bottoms from the top of the valley on down to where it becomes a swale.

Every single little gully in the whole area was treated with one rock dams. Road treatments such as rolling dips with water harvesting cobble mulch were constructed to get the water off the road at more frequent intervals and to prevent the road from channeling water. In the swale portion of the valley we treated all of the incipient erosion problems we could identify with one rock dams and extensive cobble mulch structures.

Structure Inventory

Valle San Benito on McDonald Ranch

UTM 0677753 / 3478638	Top of treated reach	
Baffles		16
Vanes		3
Cutoff Plugs		3
One Rock Dams		164
Cobble channel liner		11, total length: 68 yards

UTM 0677554 / 3478287 McDonald/Peterson fence  
Treated reach: 1300 feet x 2 (to account for tributaries) = 2600 feet

Valle San Benito on Peterson Ranch

UTM 0677554 / 3478287 McDonald/Peterson fence

Baffles	11	
Vanes	1	
One Rock Dams	61	
Contour cobble mulch	28,	total length: 152 yards
Cobble channel liner	4,	total length: 16 yards
Zuni head cut str.	2	

UTM 0677405 / 3478124 Arroyo turns into a swale at this point  
 UTM End of treated reach  
 Treated reach: 3200 feet (est.)

To date there have been no channel forming events in this drainage.

### **Arroyo Hondo and Pendleton Tank Spillway, McDonald Ranch**

Arroyo Hondo is a very narrow and deep v-bottom gully, over 6-8 feet deep in some places where you can touch both side walls with your hands. It is a tributary of the Pendleton Tank watershed and flows to a confluence with the Pendleton Tank spillway gully where it is now cutting through the left terrace of the Pendleton valley. Downstream of here, where the old valley bottom has been isolated by the dam from flows I found an abandoned channel 18" above the present channel. Walking up Arroyo Hondo, there are many places where you can spot a little piece of shelf 18" above grade. After doing a longitudinal profile of these channel segments, my conclusion is that when the Pendleton Tank was constructed, the spillway overloaded the much smaller Arroyo Hondo tributary and caused a meander cutoff downstream. This caused an 18" head cut to proceed up the already deeply gullied watercourse.

The Arroyo Hondo valley has a severe case of Galloping Gullies with several parallel deep gullies and rapidly migrating head cuts all over the landscape. We tried to treat this with one rock dams to at least stabilize the grade both down in the trench and throughout all of the many erosional gullies in the area to try to get some grass growing in the gully bottom. We also built some brush and fill head cut structures to protect a nice stand of Sacaton. The treated area extends from a pasture fence at the upstream end to five hundred feet downstream of the tank spillway gully confluence. This should control the grade at the present elevation for a long time.

#### Structure Inventory

Arroyo Hondo Above Pendleton Tank Spillway, McDonald Ranch

UTM 0679189 / 3477083	Fence at top of treated reach
One Rock Dams	71
Brush head cut str.	3
UTM 0678882 / 3477094	Confluence with Pendleton Tank Spillway
Treated reach: 1000 feet x 2 (to account for several parallel arroyos) = 2000 feet	

Arroyo Hondo Below Pendleton Tank Spillway, McDonald Ranch

UTM 0678882 / 3477094 Confluence with Pendleton Tank Spillway

One Rock Dams 7

Baffles 3

UTM 0678753 / 3476995 End of treated reach

Treated reach: 530 feet

There has been one small gully washer in this drainage since we treated it. All of the structures survived and have retained sediment behind them.

**Valle Buena Vista, Peterson Ranch**

This is a minor headwater valley of the Hay Hollow drainage that has been cut steeply up into the mesa. The sediment here is sand and gravel with lots of cobblestones in places. The channel is only minimally gullied at the head of the valley, and then becomes deeply gullied towards the middle, with a series of head cuts and abandoned channels.

We concentrated our efforts where we thought it would do the most good at the top of the valley, building lots of structures out of cobblestones to increase grass cover. As there was lots of available cobble in the cut banks and valley slopes, it was relatively quick work and we tended to make the structures much longer than at other sites.

Several of the structures are very long cobble channel liners which were seeded with native grass, one of which is 140 feet long! We tried to slow the progress of the first few big head cuts with a series of rock drop structures and one rock dams at the bottom end of the treated reach.

Structure Inventory

Valle Buena Vista, starting at head of valley. Peterson Ranch

UTM 0676012 / 3477686

Baffles 2

One Rock Dams 67

Contour cobble mulch 13, total length: 70 yards

Cobble channel liner 31, total length: 336 yards

## Glenn's Malpai Ranch Red Windmill Draw



March 27, 2004



August 25, 2004



March 27, 2004



August 25, 2004

## Glenn's Malpai Ranch Red Windmill Draw



March 27, 2004



August 25, 2004

This contour cobbles structure worked pretty well.

## Glenn's Malpai Ranch Steer Pasture



March 27, 2004



September 14, 2004

Although this one-rock-dam survived a two-inch rain that fell in 45 minutes, over 25% of the structures in this reach were washed away and had to be replaced. Monitoring and maintenance are key.

## **McDonald Ranch Thomas Tank**



March 26, 2004



August 19, 2004

A cobble channel liner stopped this headcut from drying out this swale of grass

## **Peterson Ranch Valle Buena Vista**



August 19, 2004



September 15, 2004

The new grass facilitated by the contour cobble mulch has been shorn, but not uprooted



## **Appendix K**

### **Malpai Borderlands Group**

### **FY 2004 Border Project**

**Project Name:** UDI Trash Clean-up

**Unit Name:** Malpai Borderlands Group

**Date of Project:** October 2003 to September 2004

**Location:** Southeastern Arizona. (Please see map that follows).  
Beginning at Douglas, Arizona, go east--follow the US/Mexican border to the border of New Mexico. Go north on the New Mexico/Arizona border to the confluence of Township 21 S and 22 S. Go West to Highway 80 and south on highway 80 to Douglas, Arizona

**Participants:** Juan Rameriz, contractor

**Project Coordinator(s):** Malpai Borderlands Group with each area rancher/ property owner and lessee.

**Description of Project:** Mr. Rameriz reported daily to the area in which he was working. Each day he covered an area that he could walk to from established roads, often walking a mile or two from the roads, filling 45 gallon plastic garbage bags with trash as he went. He then returned to the truck picking up the filled bags and loading his truck. He averaged eight bags of trash per day. Some days he would fill the truck with 15 bags and some days he walked several miles and found scattered trash, amounting to two to four bags only. He covered many miles of open country. He used a "grabber" to reach into the bushes to extract the trash.

Mr. Rameriz worked with each individual rancher to learn the roads and he was given the combination for all of the locked gates. He drove 4,639 miles and walked many more. The total amount of trash cleaned up and taken to the land fill was not determined.

**Results:** An area covering more than 180 square miles was cleaned up. The trash that was removed consisted of razors, combs, shampoo, toothpaste, soap, makeup, toothbrushes, medications, (Naproxin, Advil, Aspirin, stomach meds, electrolytes), pants, underwear, shirts, jewelry, hats, caps, gloves, coats, high heeled shoes, shower shoes, boots, tennis shoes, thongs, thousands of plastic water bottles from 1 gallon size to pint size, food cans opened with a pocket knife leaving ragged edges, torn metal lids, tortillas, jars of food, broken glass jars, food cans from Safeway and Walmart in Douglas complete with receipts, unopened food, food from Mexico, ripped back packs, fanny packs, baby bottles, disposable diapers, used sanitary pads, fecal matter (he buries this), paper from maquiladore factories, airline tickets, bus ticket stubs, phone cards, batteries, occasional coins, blankets, towels, rags, rope, string, wire, lots of plastic bags used for

carrying food, large bags for use as raincoats, and many family photos and correspondence.

One day alone he picked up 80 discarded backpacks near Highway 80.

Although large areas that were trashed are now clean they will have to be revisited and cleaned up again.

The following are “Before” and “After” photos of typical sites littered with trash by smugglers and illegal immigrants on private ranchlands in southeast Arizona cleaned up by the Malpai Borderlands Group in 2004. These photos also show a few of the countless “wildcat” trails that have developed over the past several years by literally thousands of smugglers and illegal immigrants traveling in and along washes and cross-country in southeast Arizona.



“Wildcat” Trail

Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before



After



Before

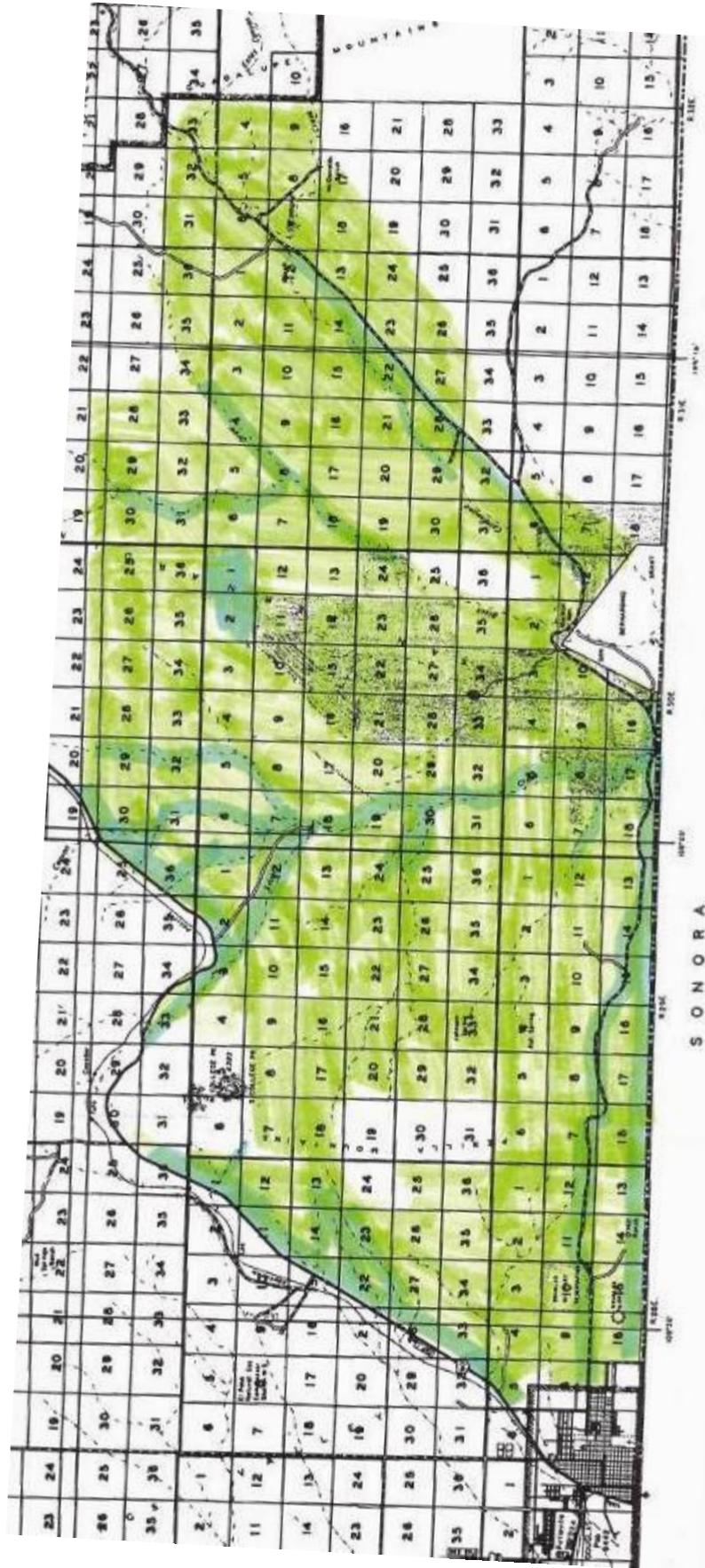


After



Two to five pickup loads, such as these, were picked up and hauled per week.

Map 2—Illegal Immigrant Trash Cleanup



Trash cleanup was done throughout colored area (green). Darker areas (blue) had heavy concentrations