

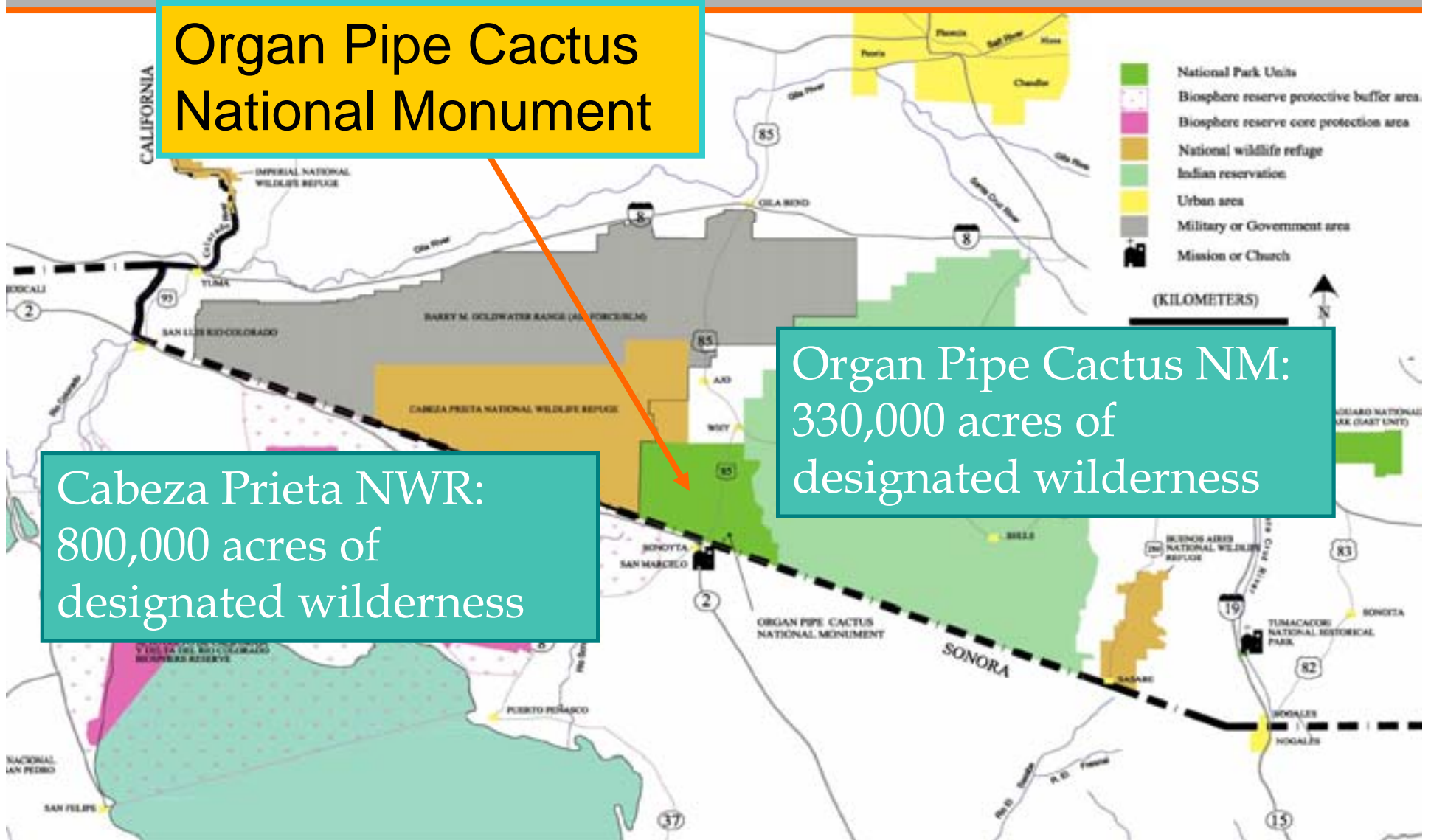
Border-related impacts to Sonoran desert wilderness in SW Arizona

A Presentation Developed by
The Resource Management
Staff of

*Organ Pipe Cactus National
Monument, Arizona*

National Park Service

Organ Pipe Cactus National Monument



SW Arizona border region.

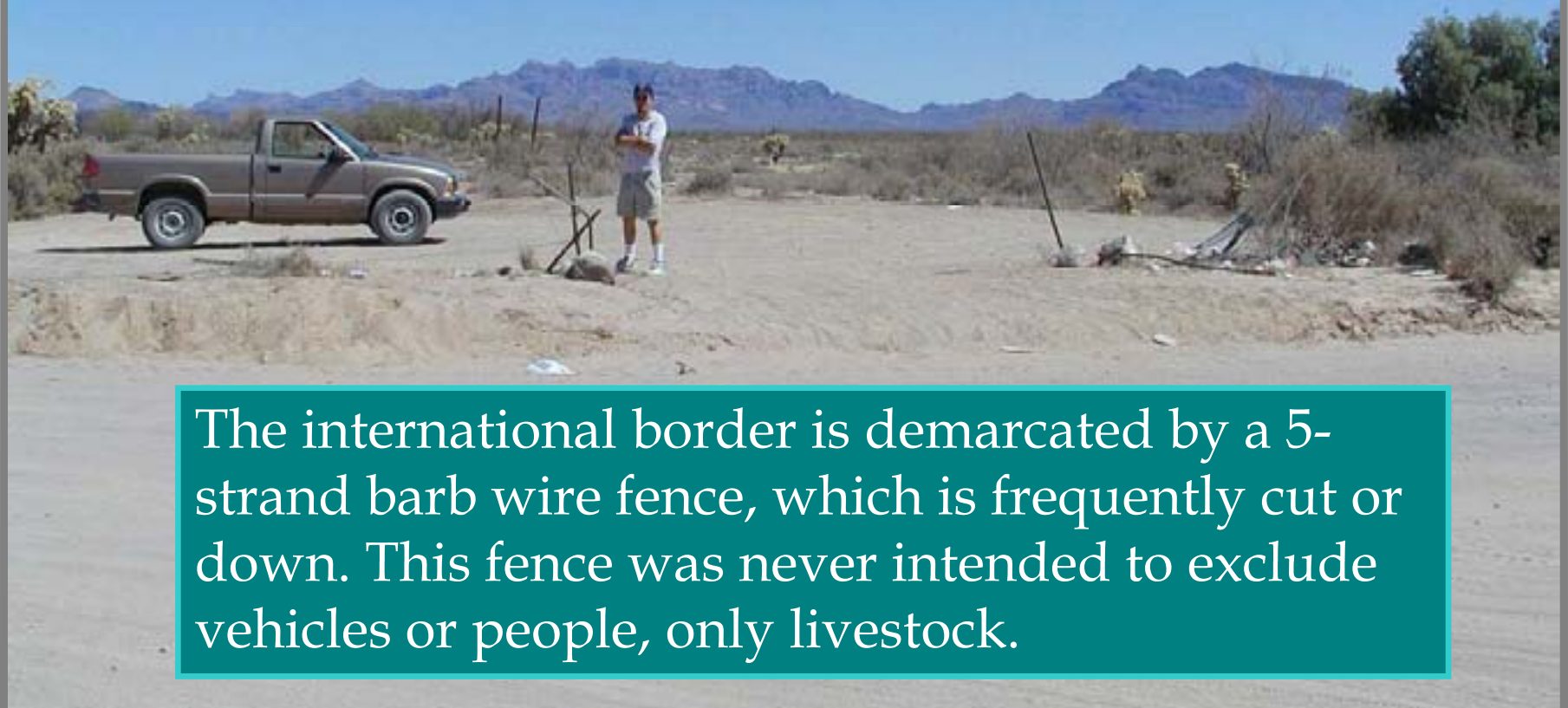
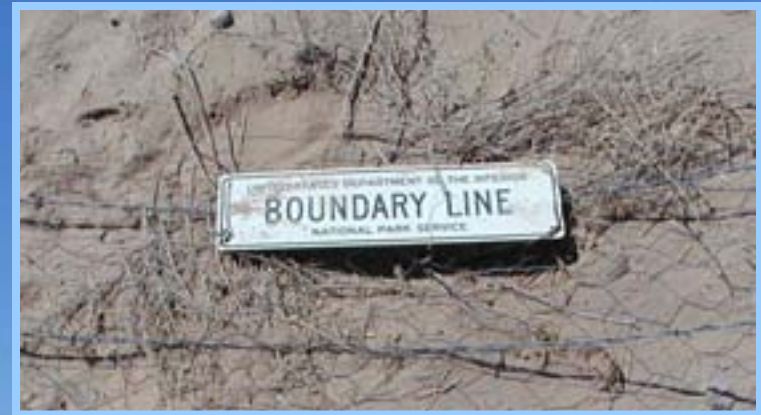
Organ Pipe Cactus National Monument



Mexico Highway 2 provides access to most of the southern boundaries of Organ Pipe and Cabeza Prieta.

Organ Pipe shares 30 miles of its southern boundary with a rural, lightly populated area of Sonora, Mexico.





The international border is demarcated by a 5-strand barb wire fence, which is frequently cut or down. This fence was never intended to exclude vehicles or people, only livestock.

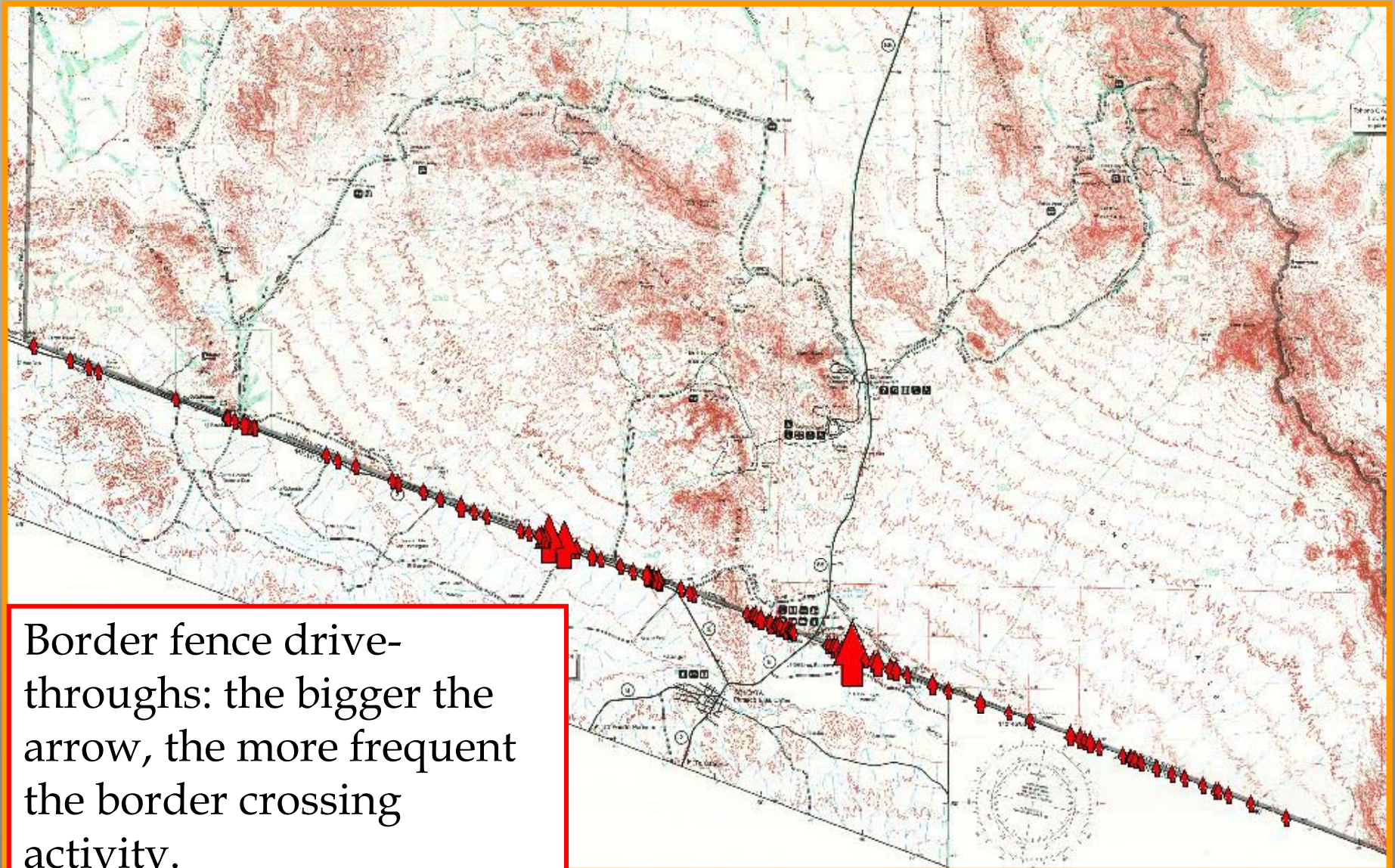


In one section,
a Mexican
farmer moved
the fence south
to his own
fields.



← USA Mexico →





Border fence drive-throughs: the bigger the arrow, the more frequent the border crossing activity.

A Porous Border

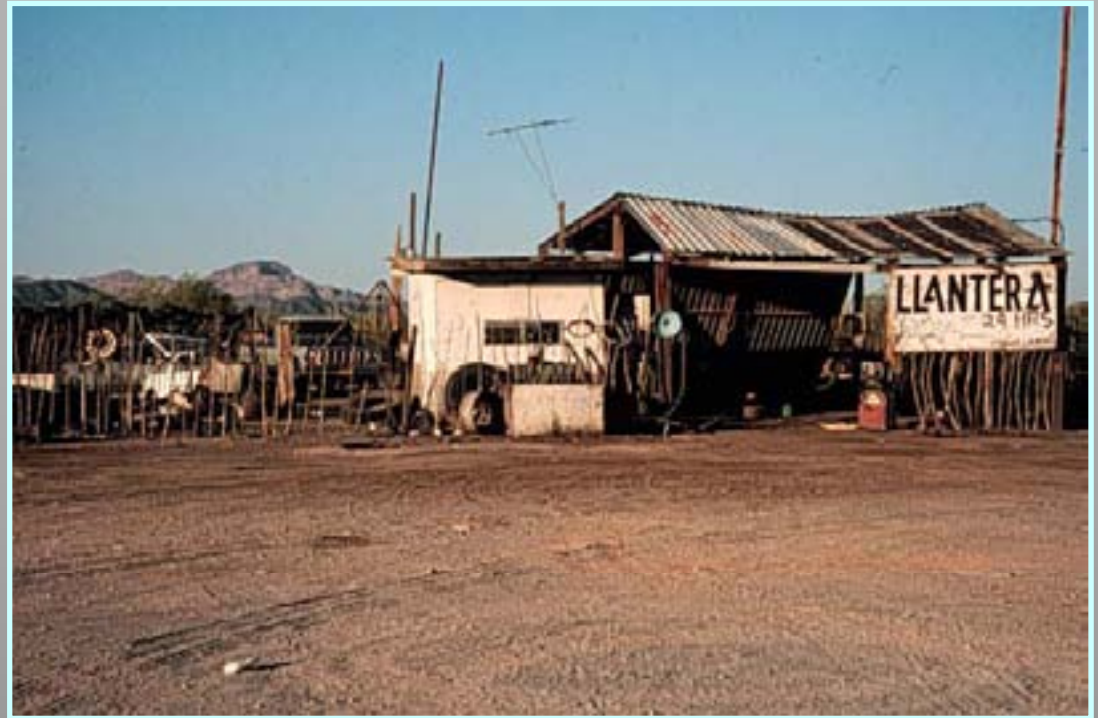
Sources of Border Wilderness Impacts

- Activity adjacent to border
- Illegal immigrants / “UDA’s”
(Undocumented Aliens)
- Drug smugglers
- Countermeasures/law
enforcement/search & rescue

Activity adjacent to border



Resource Impacts from Local Border Development and Opportunistic Crossers:



- wood-cutting and native plant theft
- theft and vandalism of historic structures
- wind-blown trash
- incursion of feral dog packs
- fence cuts and trespass livestock



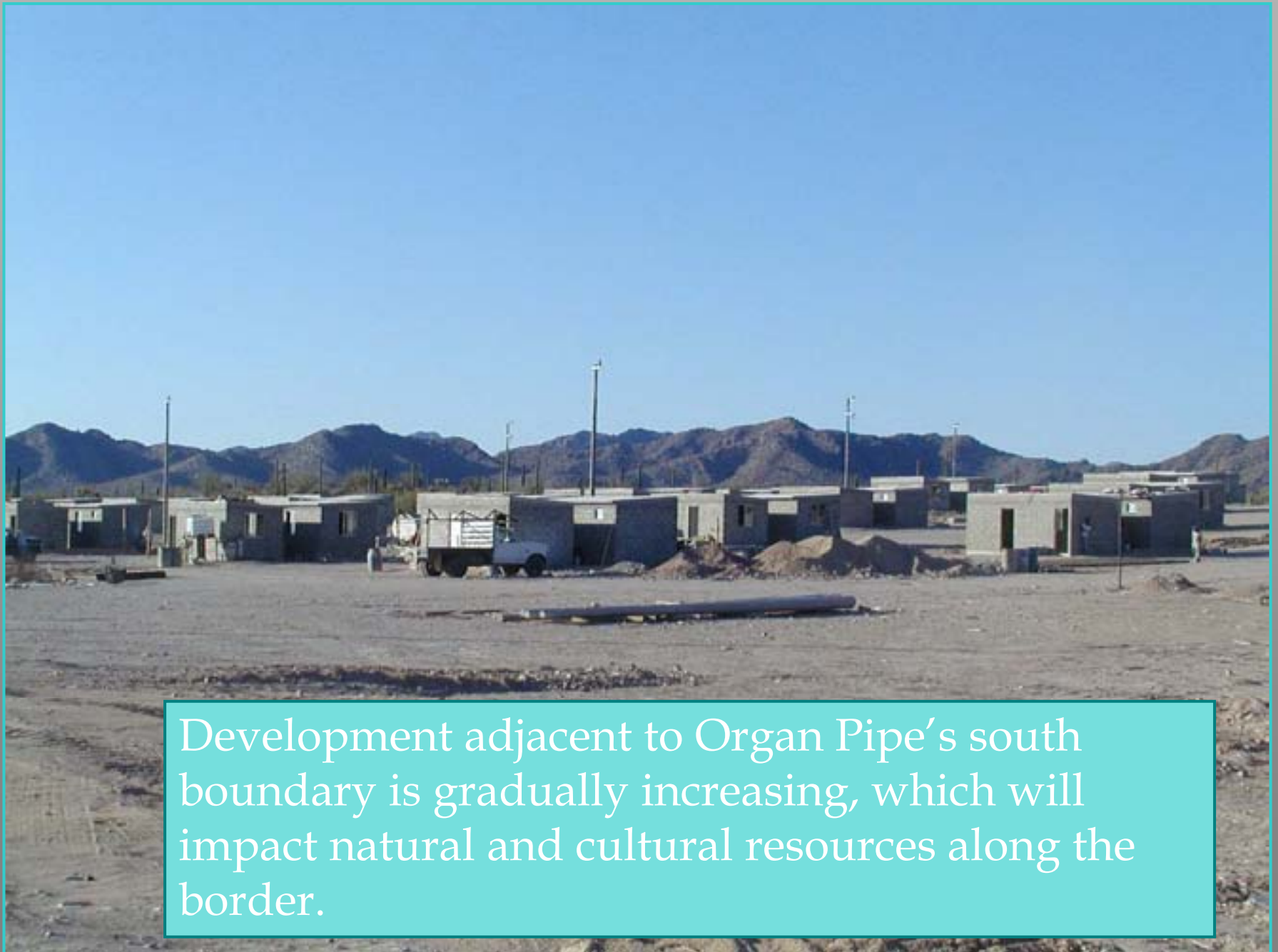
Wind-blown trash



Historic Blankenship Ranch, adjacent to the border, has been subject to vandalism and fire. Mesquite posts from the ranch corral have slowly disappeared over the years for firewood.



Two \$5,000 automated weather stations have been stolen in the past two years. On both occasions, they were recovered in Mexico by an Organ Pipe biological technician.



Development adjacent to Organ Pipe's south boundary is gradually increasing, which will impact natural and cultural resources along the border.

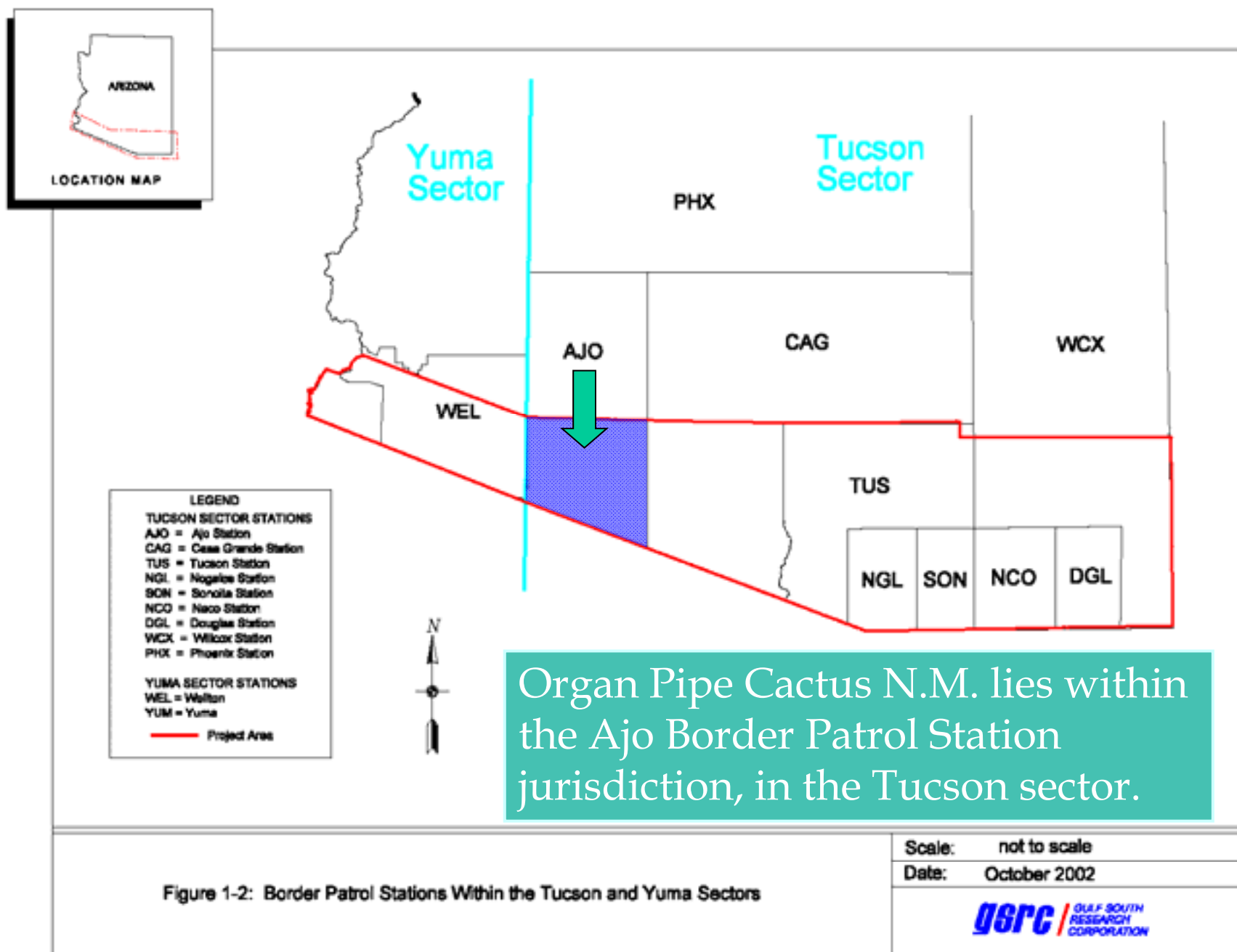


Illegal immigration



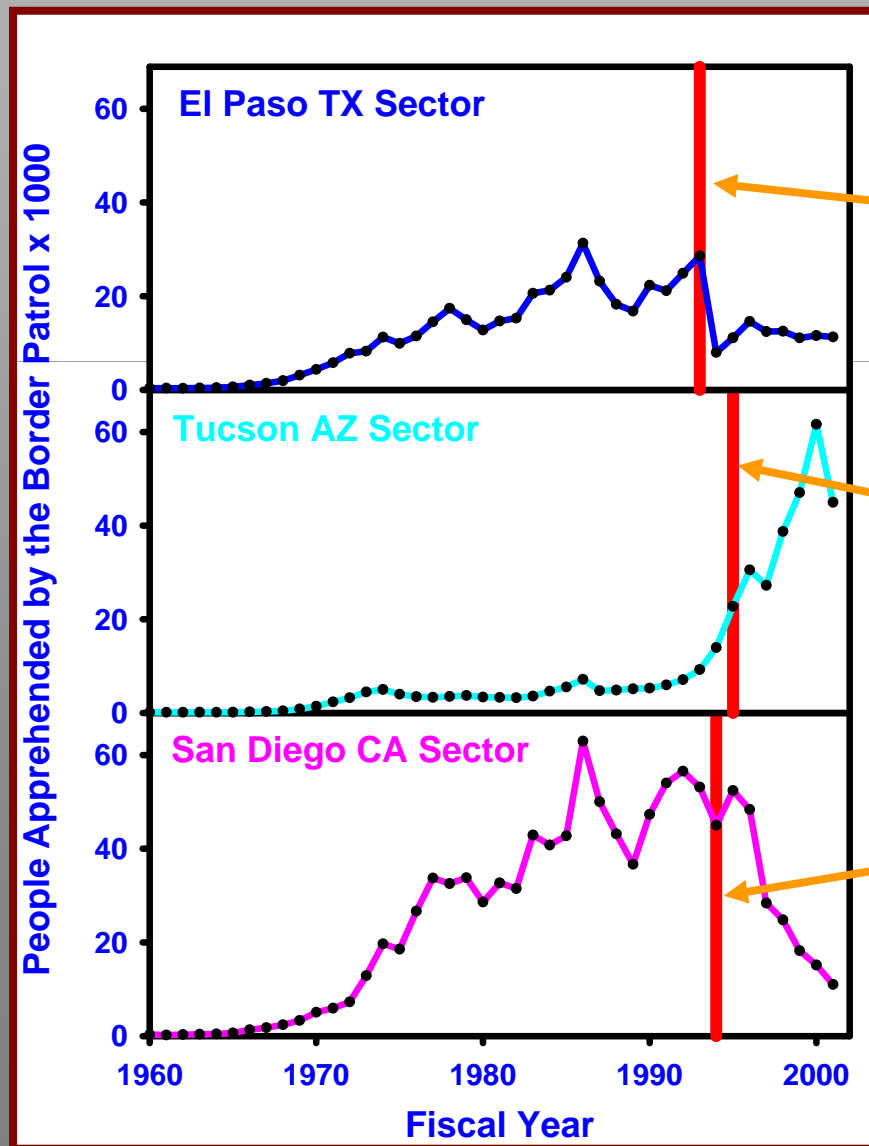


More aggressive Border Patrol enforcement strategies in the mid-1990s changed the geographic patterns of illegal immigration in the southwest.



Organ Pipe Cactus N.M. lies within the Ajo Border Patrol Station jurisdiction, in the Tucson sector.

Some Border Patrol enforcement efforts and effect on apprehension numbers.

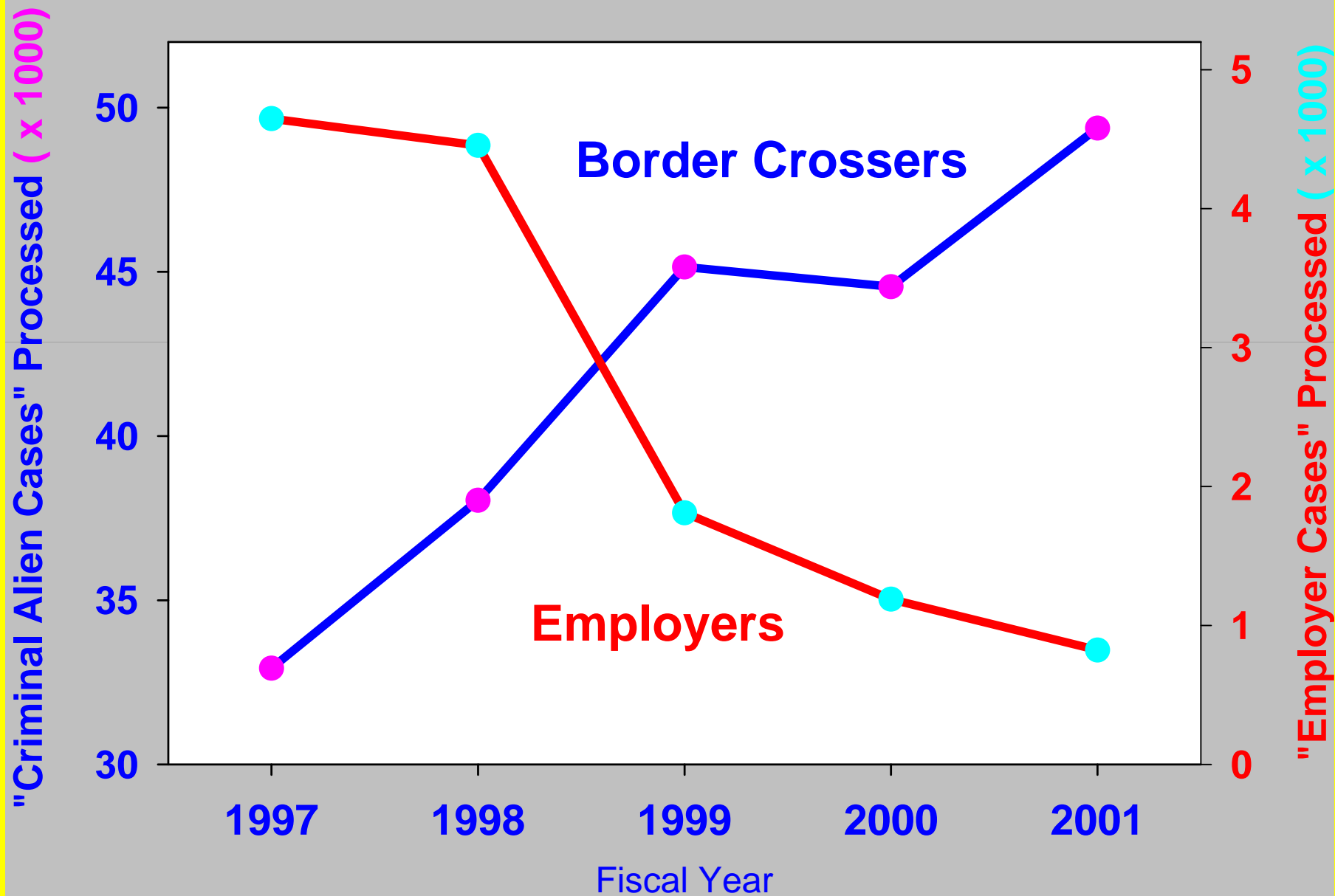


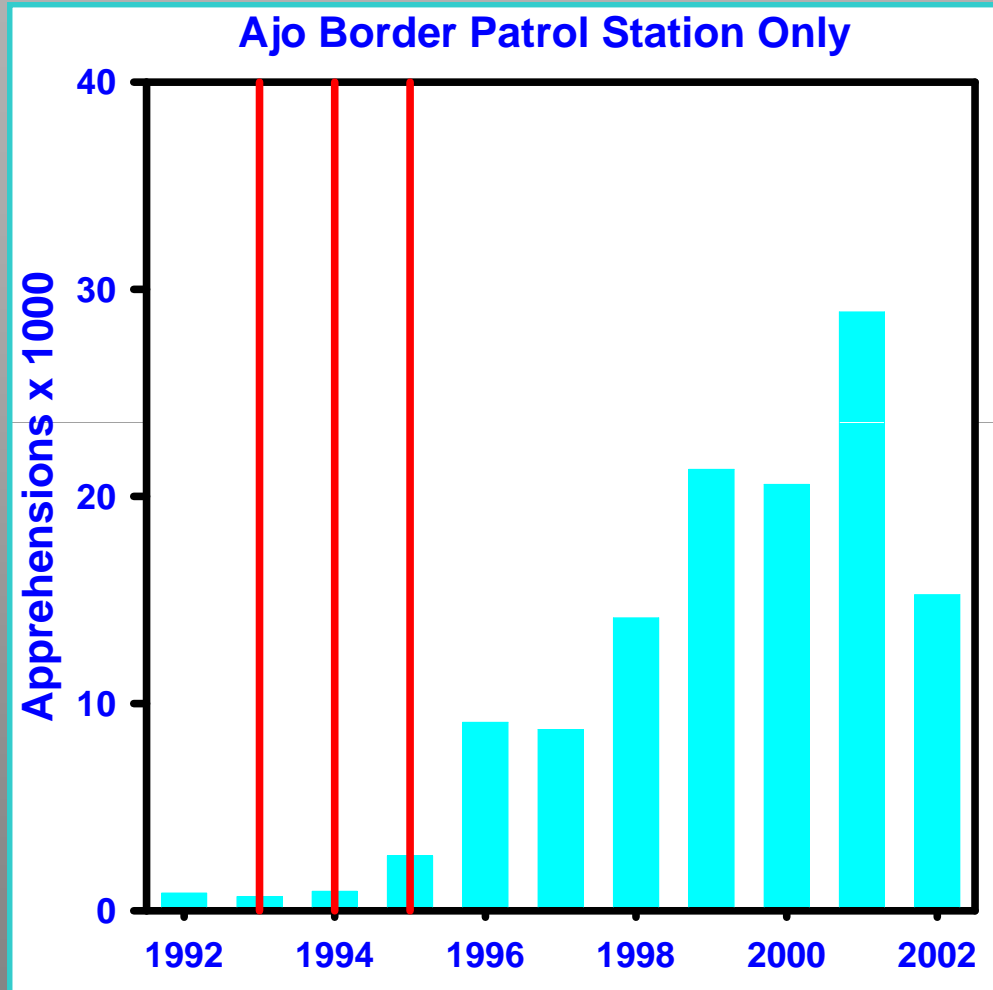
1993: Operation Hold the Line, El Paso TX

1995: Operation Safeguard, Nogales AZ

1994: Operation Gatekeeper, San Diego CA

Border Patrol Data From Their Website





1993: Operation Hold
the Line, El Paso TX

1994: Operation
Gatekeeper, San
Diego CA

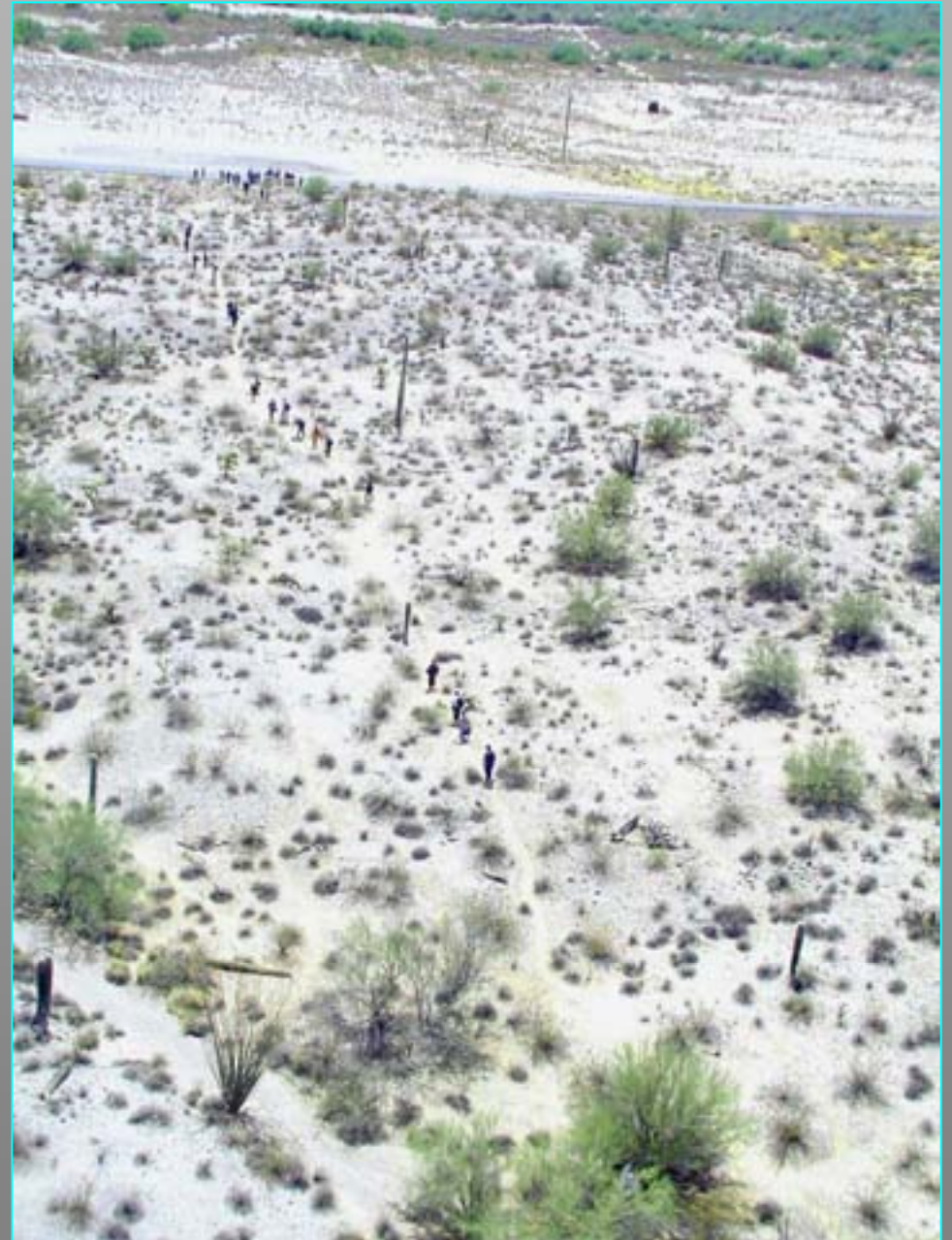
1995: Operation
Safeguard, Nogales
AZ



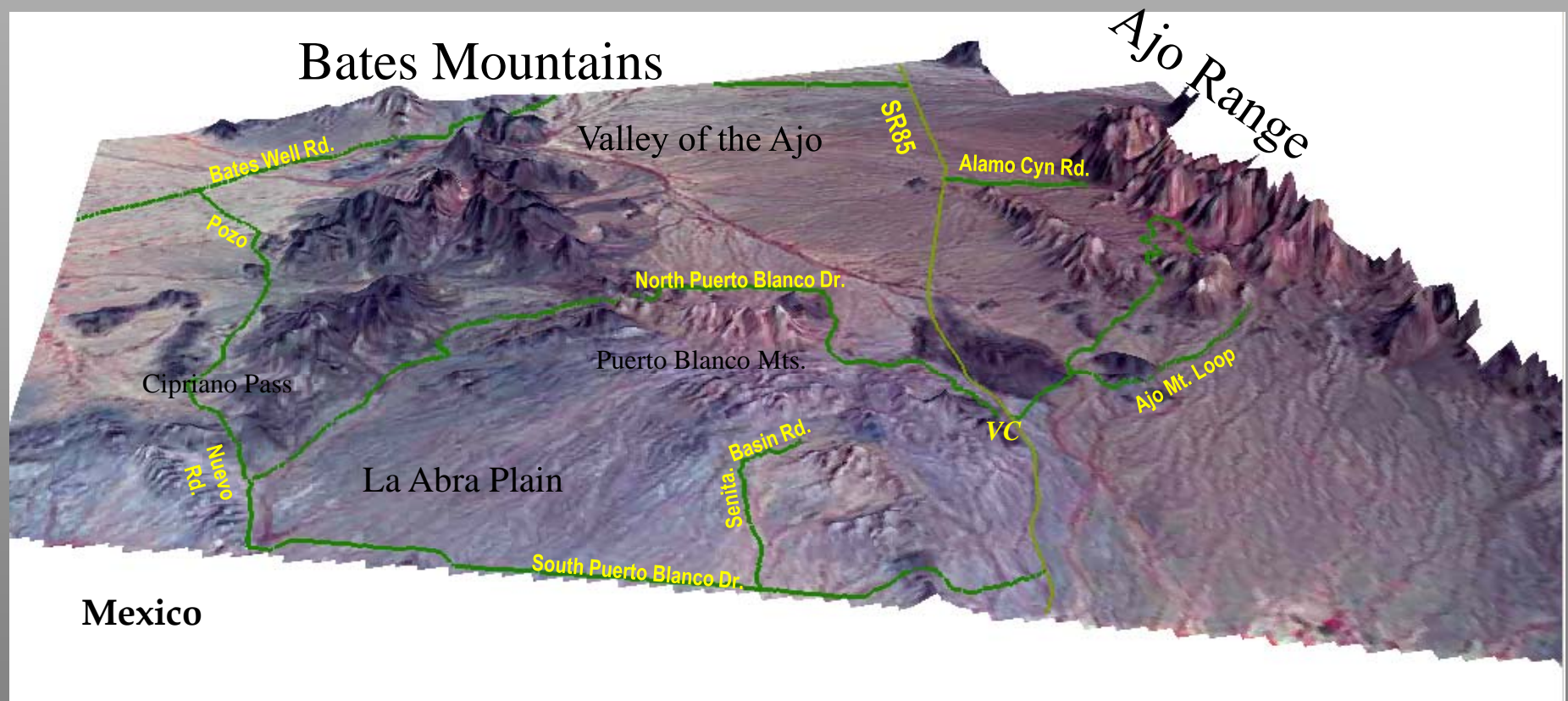




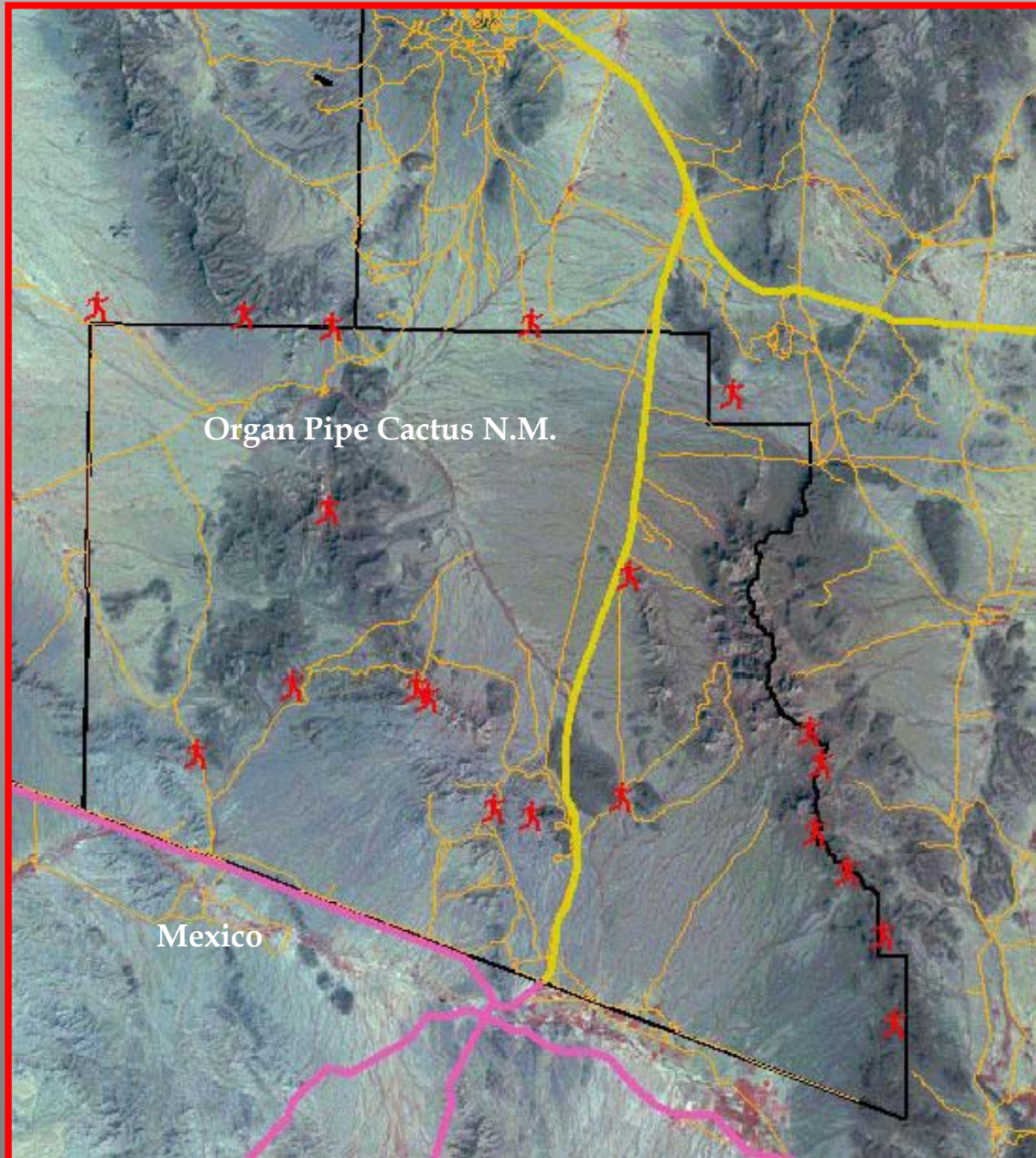
Mexican Highway 2 provides easy access to the southern borders of Cabeza Prieta NWR and Organ Pipe Cactus N.M.



Organ Pipe Cactus N.M.'s topography influences the routes chosen by illegal immigrants.



Digital Terrain Model of Organ Pipe Cactus National Monument (Vertical Exaggeration = 4)



Some of the
geographic
“funnel points”
in the monument.

Impacts to Backcountry Resources from Illegal Immigration

- trails (foot and bicycle)
- trash
- vegetation understory clearing
- fires
- graffiti and vandalism
- degradation of water sources
- collection of flora, fauna, and cultural resources

Trails









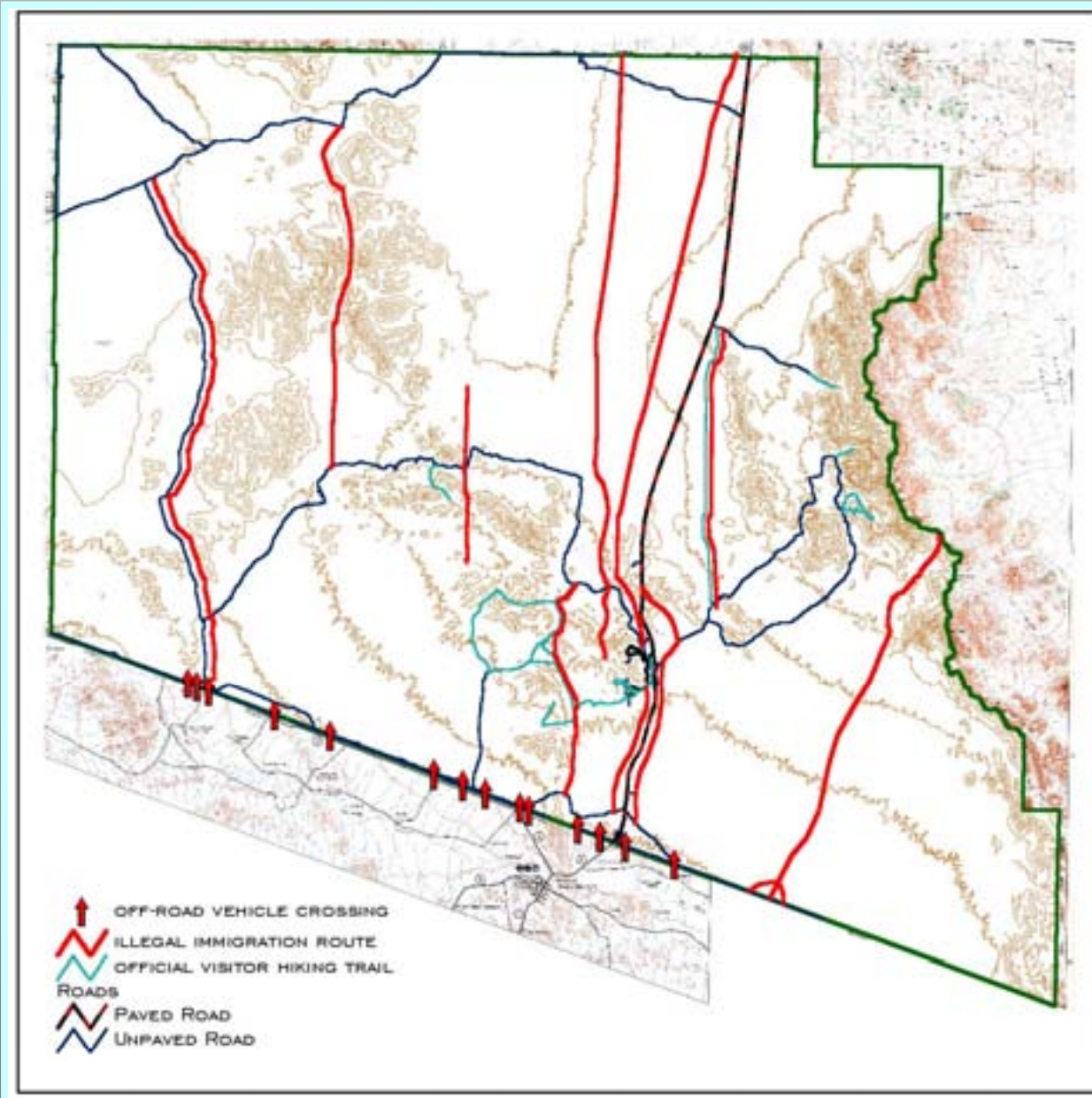
Many migrant trails follow old two-track jeep roads which were once used by ranchers and miners, but were closed after monument was designated wilderness in 1978. Most of these roads were recovering and well revegetated, before becoming used by migrants and smugglers.



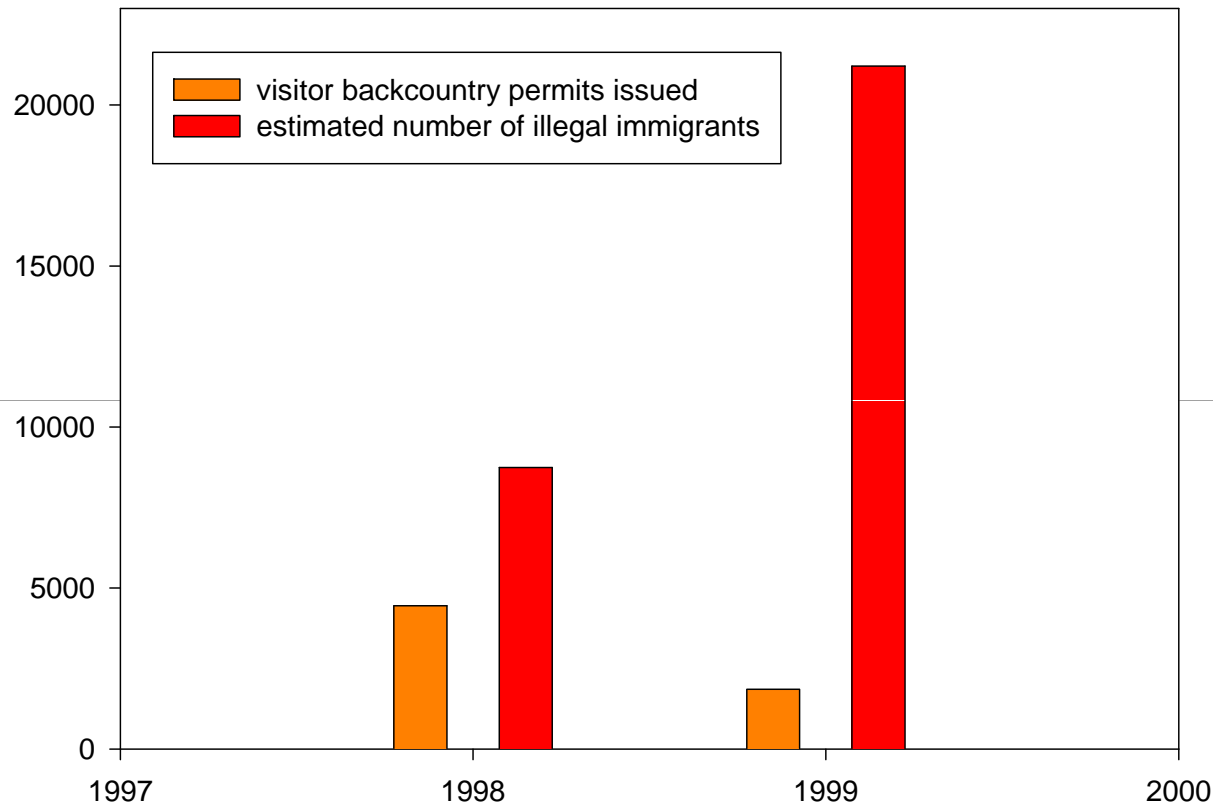
Bicycles are increasingly used by migrants, either ridden or pushed, in order to carry more water.



A 2000 comparison of official hiking trails (in aqua) and major illegal trails (in red). A 2002 map comparison would show at least double the amount of illegal trails.



Organ Pipe Cactus National Monument Backcountry permits / estimated illegal immigration traffic



A 2000 estimate of illegal migrants in the backcountry versus official backcountry overnight visitors. Again, 2002 illegal immigrant numbers would be much higher.

Trash





Discarded bottles, food containers, and clothing are the most common trash found in the backcountry.









Backcountry clean-ups are challenging due to the amount of trash and the long distances from the nearest roads.

Fires





Fires are set for
warming, cooking,
or rescue signals to
Border Patrol.



Shady rest areas are created by clearing the understory of large “nurse” trees, which protect cactus seedlings and small shrubs, and are important reptile and rodent habitat.





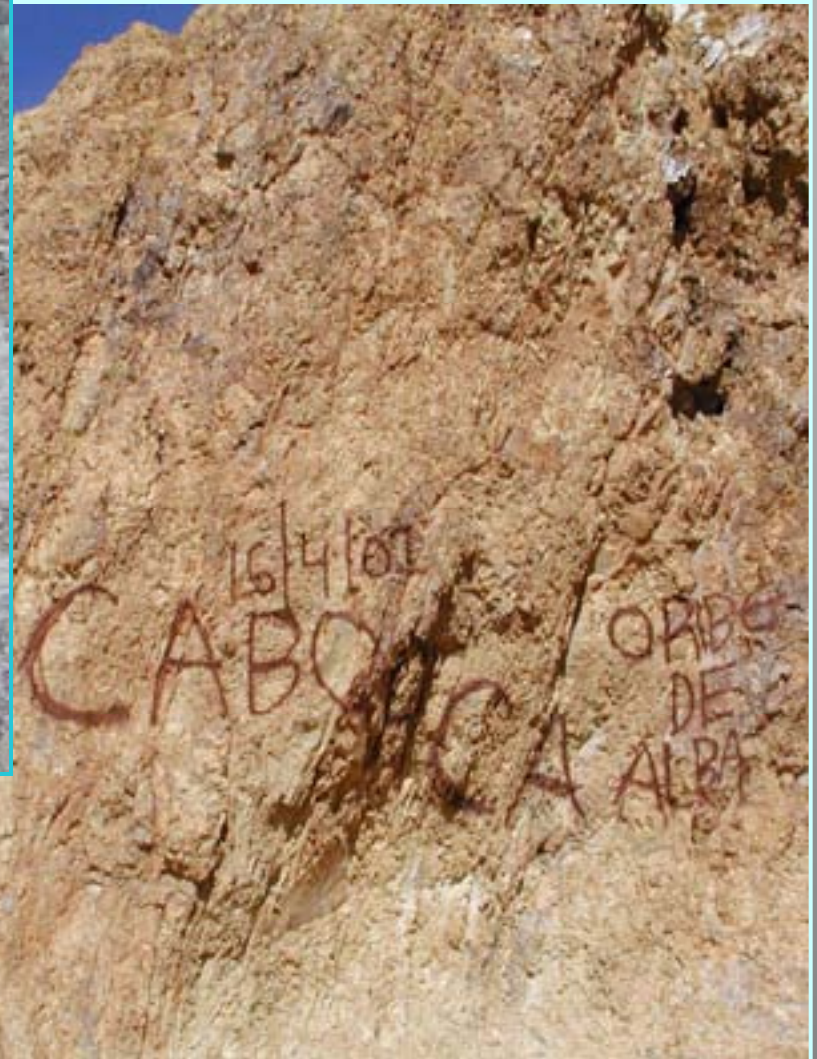
Cairns to mark the way



Vandalism to vegetation





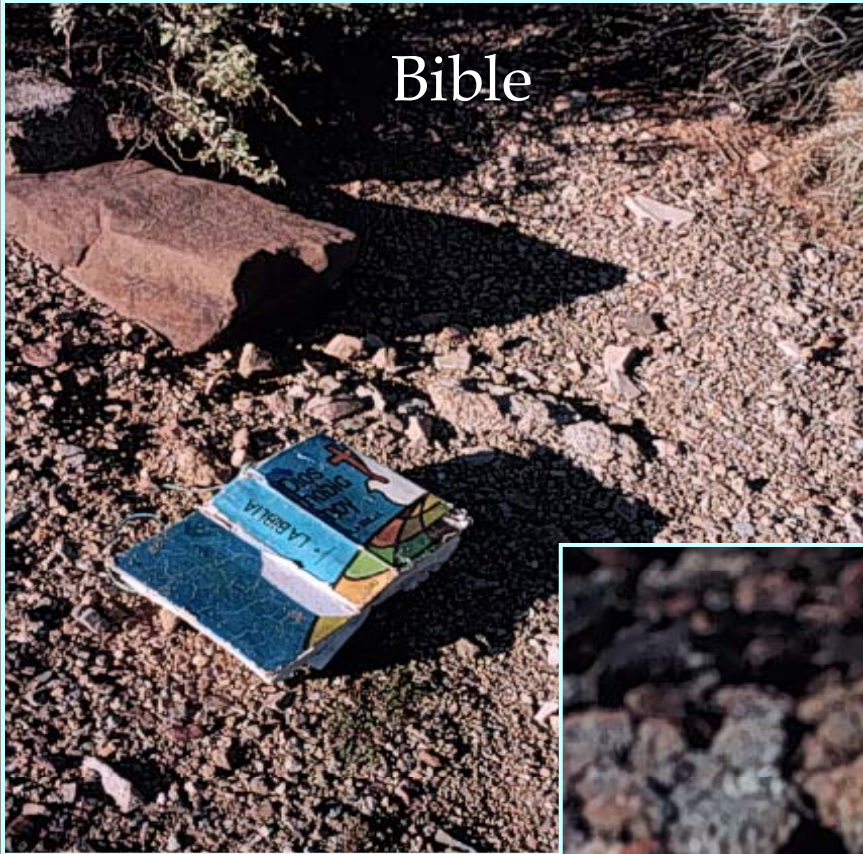


Graffiti



Many illegal migrant trails follow native american trails, where archeological resources (yet to be surveyed in the monument) are at risk. This pot was moved from its original location and placed next to the trail.

Bible



The types of articles carried by migrants illustrate the serious undertaking of their border crossing.

Rattlesnake antivenin





Illegal immigrants frequently come from south Mexico and central America, and are unfamiliar with the risks of hiking through remote and rugged desert landscapes.

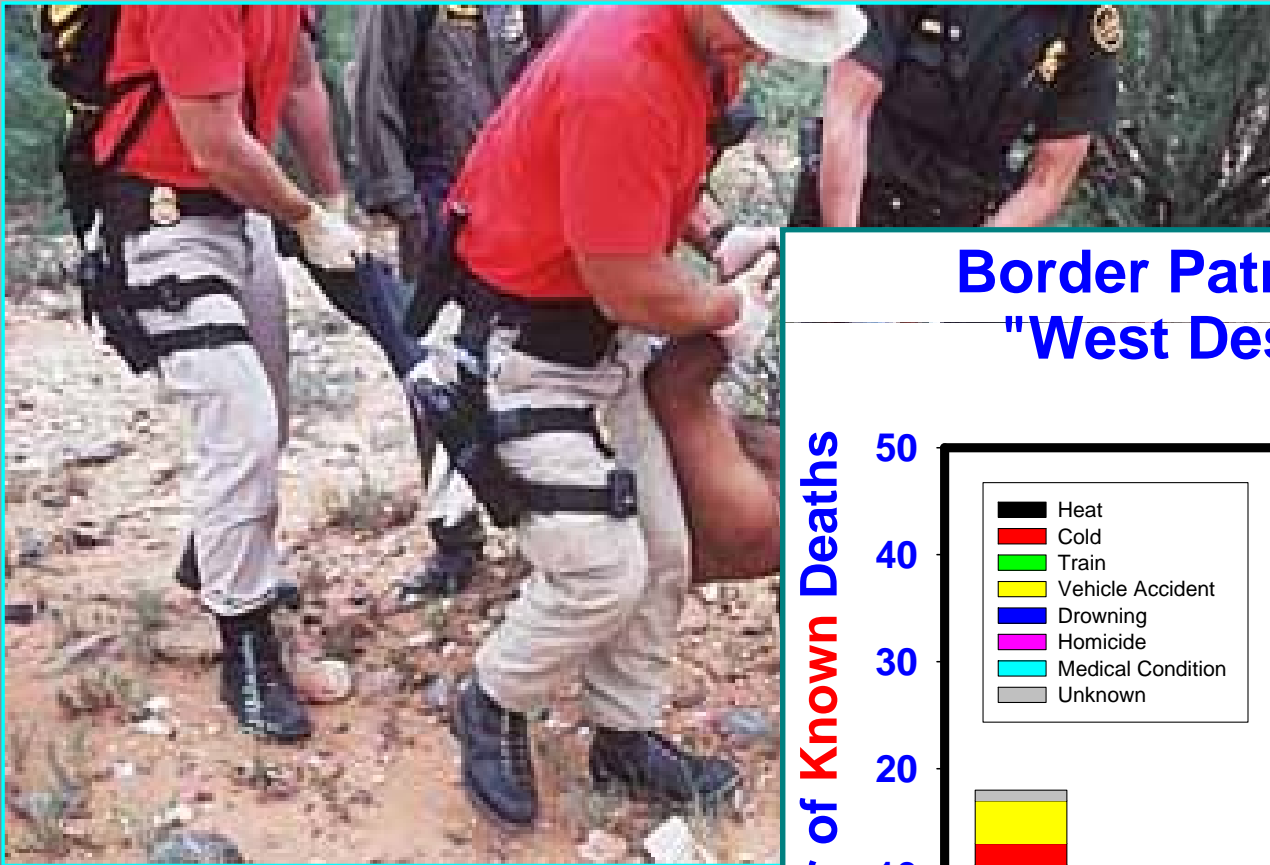
Besides the hardships of walking up to 60 miles in unfamiliar terrain with limited supplies, immigrants are at risk from unscrupulous guides who misrepresent the journey length and difficulty, and increasingly, bandits who prey upon groups of illegals.

Missing persons bulletin board

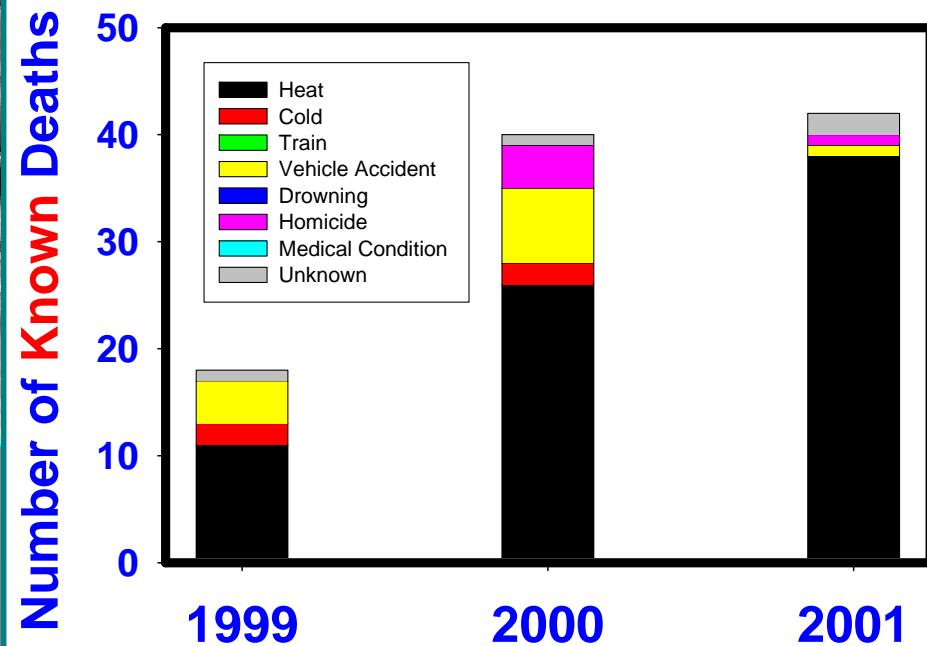


As illegal immigrants are forced into more remote sections of the Arizona desert, deaths are increasing each year.

There were 21 “known” deaths in and around Organ Pipe Cactus N.M. during 2001.



Border Patrol Data for the "West Desert Corridor"



Ariz. border grows deadlier

Migrant toll soars over 5 years; 'coyotes,' policy blamed



Tohono O'odham Officer Michael Seely (left, above and below), with Sgt. Elton Begay, looks at photos found on the body of a woman before the pair carried her to a truck Wednesday. The badly burned woman died in the desert east of Ajo.

By Susan Carroll
The Arizona Republic

DESERT WEST OF SELLS

Undocumented immigrants are seven times as likely to die crossing the U.S.-Mexican border through Arizona now than five years ago.

An Arizona Republic analysis of apprehensions and fatalities recorded by the Bureau of Customs and Border Protection indicated about 34 deaths for every 100,000 apprehensions this year, up from five per 100,000 five years ago. Apprehensions are considered a rough measure of immigrant flow by researchers.

The Border Patrol blames the increased rate of death on smugglers who lead immigrants into increasingly remote and treacherous areas of the border to evade

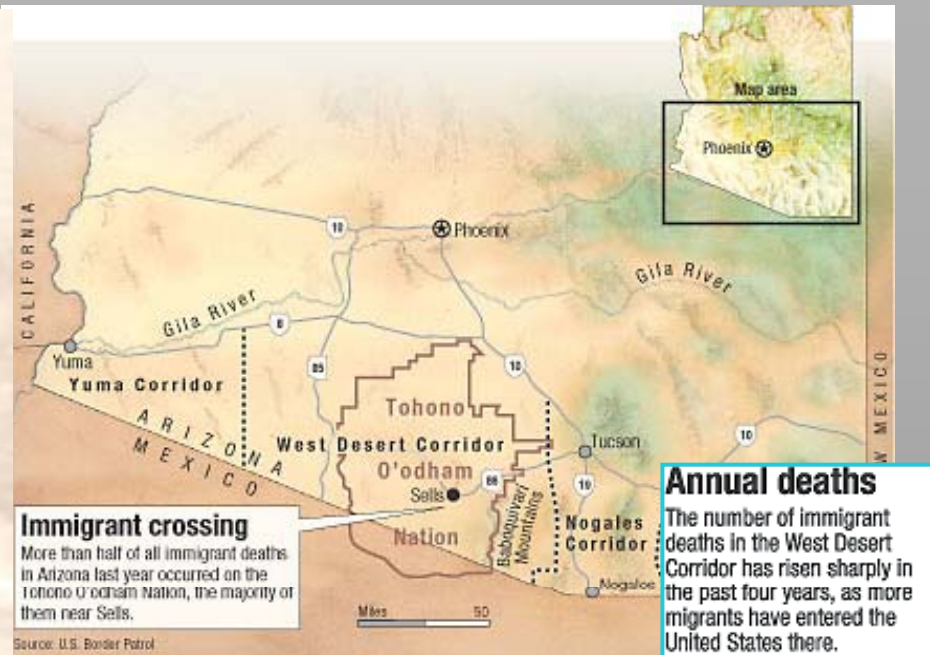


"What it tells you is ... there is no amount of search and rescue that can offset forcing migrants to cross these vast expanses of hell."

— Claudia Smith
Director of
California Rural
Legal Assistance

azcentral.com Read about border issues at border.azcentral.com.

See BORDER Page A2



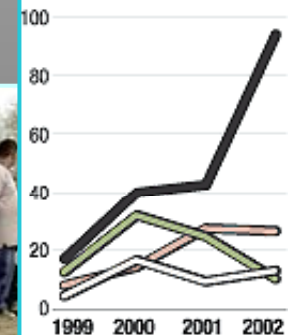
Increased recent media attention.

Annual deaths

The number of immigrant deaths in the West Desert Corridor has risen sharply in the past four years, as more migrants have entered the United States there.

By fiscal year:

West Desert Corridor
Nogales Corridor
Naco/Douglas Corridor
Yuma Corridor

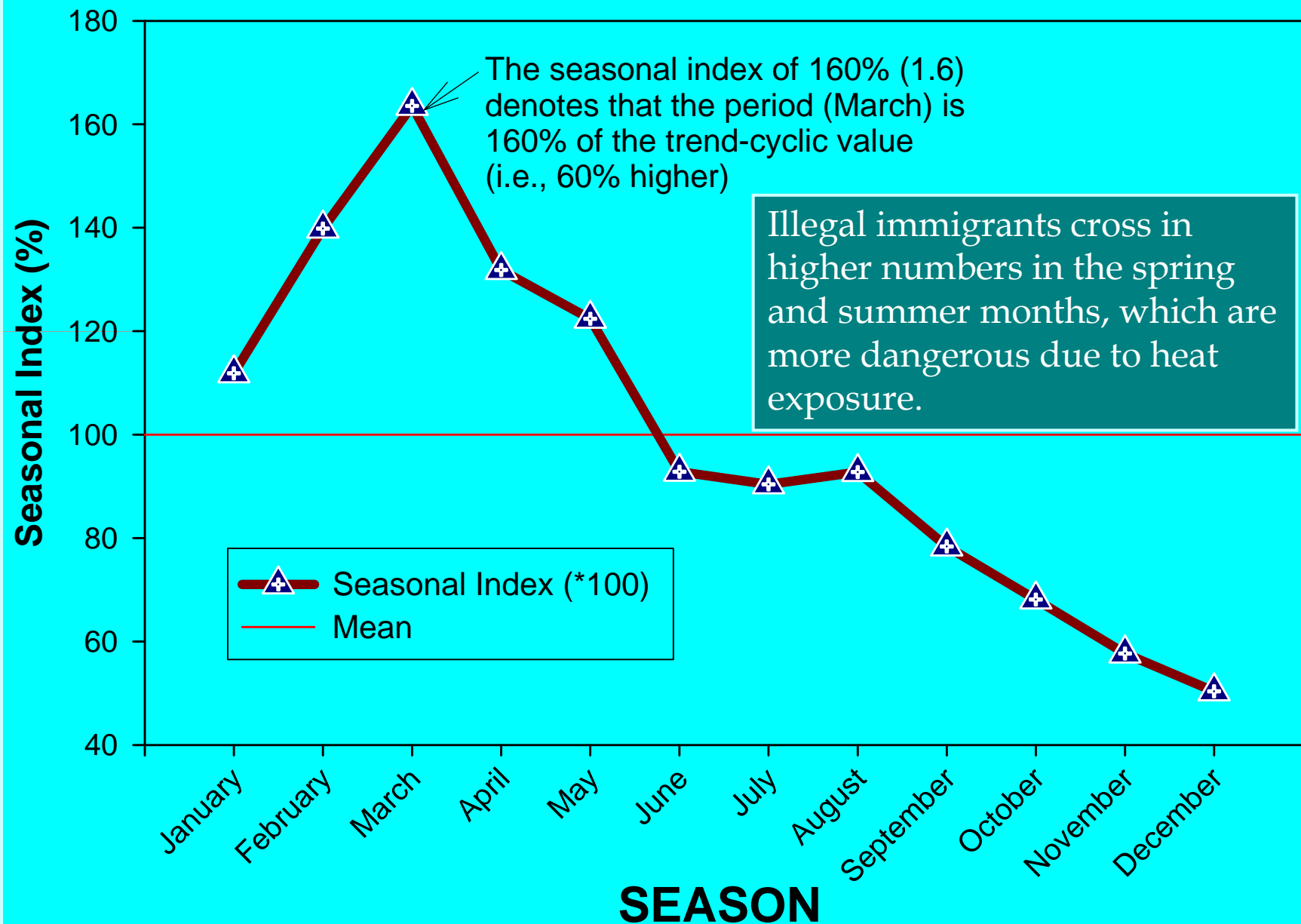


Source: U.S. Border Patrol

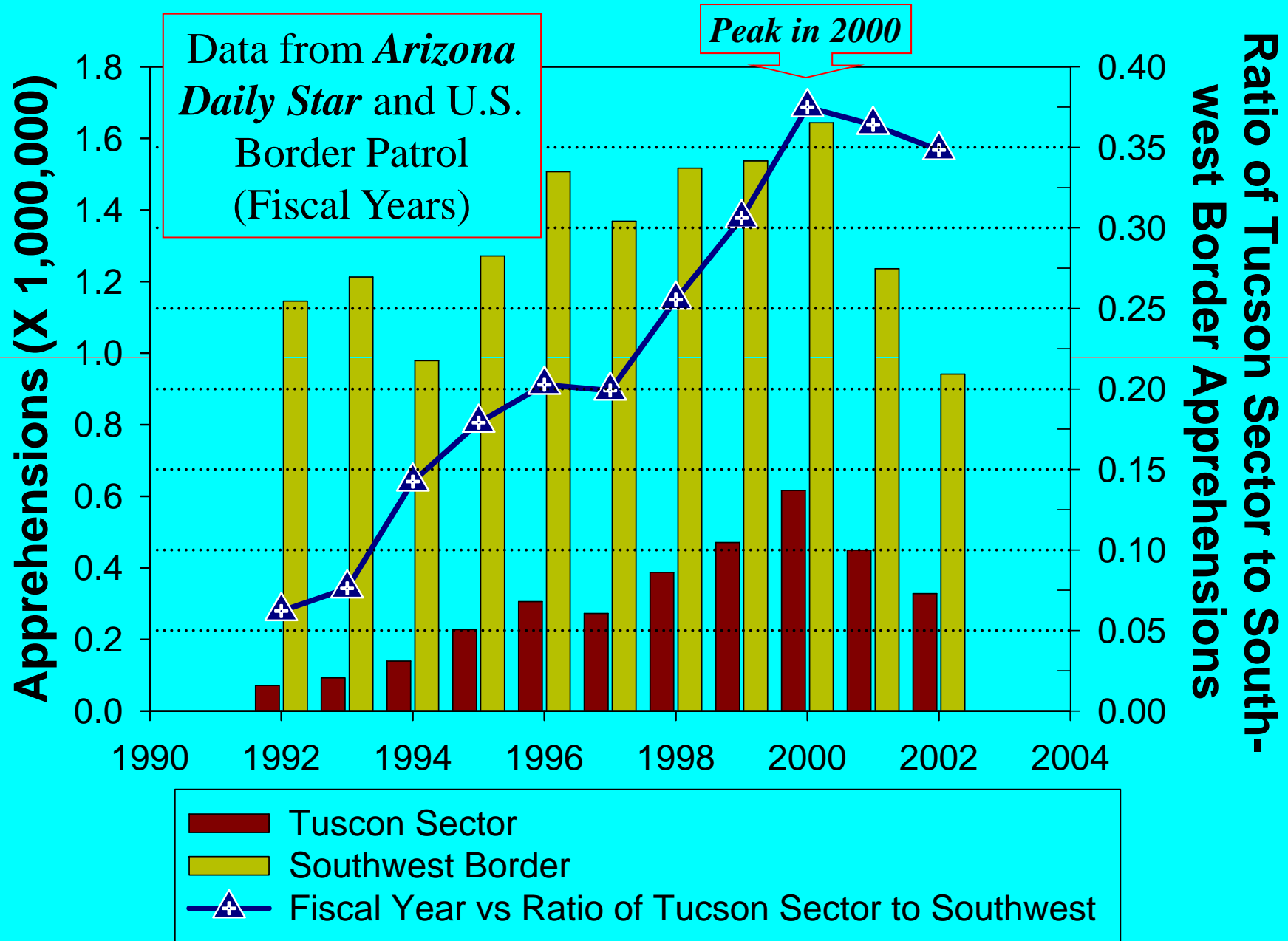
Eric Baker/The Arizona Republic



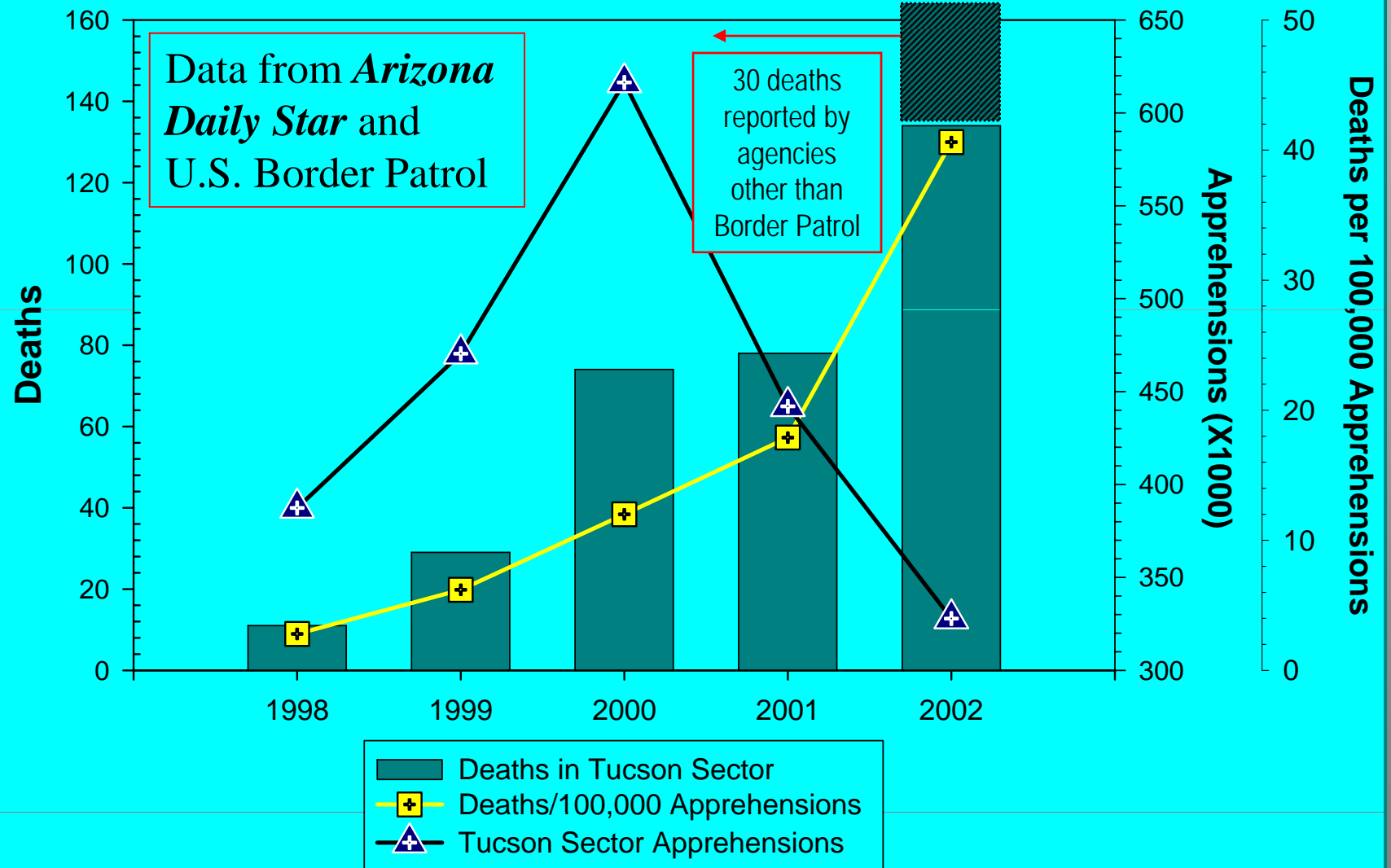
Seasonal Index of Monthly Apprehensions



Apprehensions by Border Patrol Drop



Border Crosser Deaths in Relation to Apprehensions (1998-2002)



Migrant safety measures

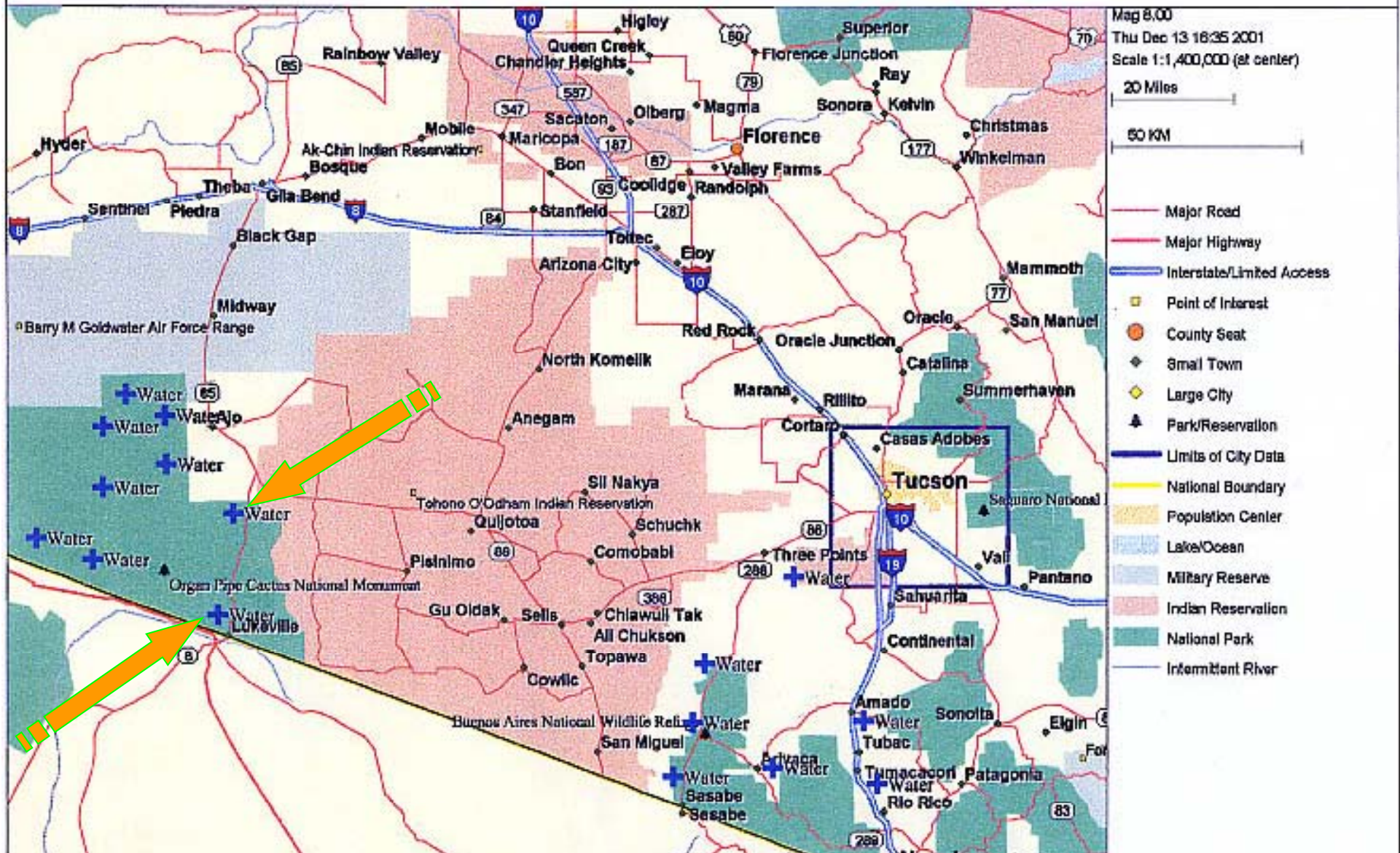


Warning signs placed at suspected crossing routes by Border Patrol and Organ Pipe Cactus N.M.



In Sonora, public service announcements warning migrants about the dangers of desert crossing are played on radio, TV, and border-bound bus videos.

Water Stations 12-12-01



ORPI is cooperating with *Humane Borders*



Humane
Borders water
station.

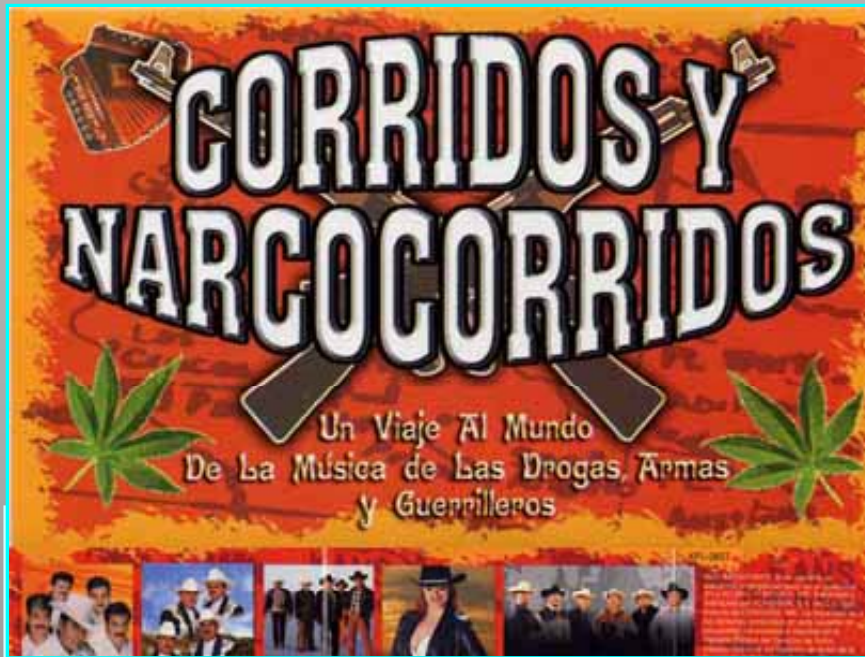


Border Patrol stations units at remote field camps in Organ Pipe and Cabeza Prieta, including staff from the specially trained search and rescue unit, BORSTAR.



Rescue beacons with flashing lights were installed at several locations in July 2003.





Drug Smuggling



Marijuana's flow through Tucson

Mexico is the United States' primary source of marijuana. It is grown in the west, where the main highway leads north to Tucson. Other

Tucson attractions: It's north of Border Patrol checkpoints and provides access to railroads, airports and highways.



\$163 MILLION

If Tucson's marijuana take is just \$88 million, then combined with law enforcement, then revenues total \$153 million. By comparison, the new Mars Polar Lander cost NASA \$165 million and the 500-room Hyatt Regency hotel at Dove Mountain cost \$161 million.

\$425 MILLION

If Tucson made \$350 million from marijuana revenues, then the total take would be \$425 million. That's the amount the state expects to make this year from Proposition 301, the 0.6 percent sales tax hike that voters approved last year to fund education.

\$1.4 BILLION

If Tucson made \$1.3 billion from marijuana, the approximately \$1.4 billion total revenue would be just about enough to make up Arizona's budget deficit this year - \$1.56 billion. You could also build the Downtown Rio Nuevo project twice

The price of pot

Prices for marijuana vary widely, based on the existing supply, the quality, the quantity purchased and whether it's being bought with cash or on credit. Some typical prices:

\$50
per pound
in Mexico

\$600
per pound
in Tucson

\$1000
per pound
in Florida
or New York

Arizona's unpopulated protected lands on the border are attractive to drug smugglers.



Park rangers with
captured loads of
marijuana.





2002 Drug Seizures: Arizona

- marijuana: 196,000 lbs.
- cocaine: 5,600 lbs.
- amphetamines: 400 lbs.
- arrests: 1,364 people

2002 Drug Seizures: Sonora

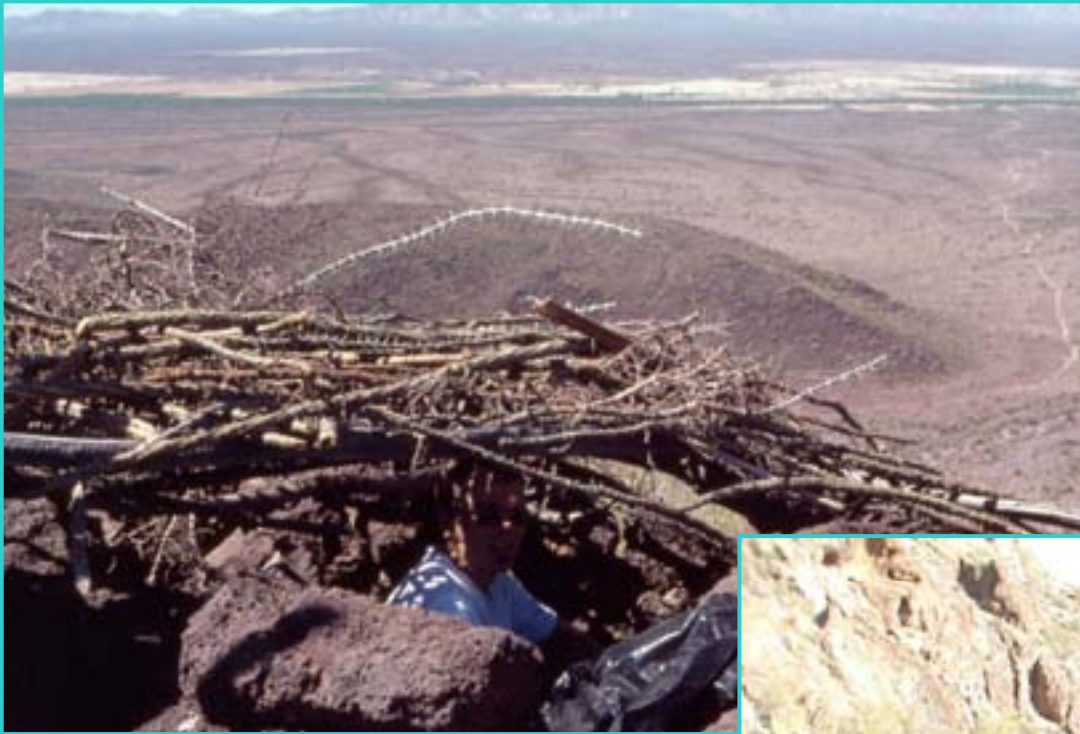
- marijuana: 594,000 lbs.
- cocaine: 4,220 lbs.
- amphetamines: 1,130 lbs.
- arrests: 287 people



“Burreros,” (marijuana bale backpackers) are usually low-paid local campesinos.



Arrested backpackers near Dripping Springs



**Resource impacts
associated with
drug smuggling**

Hilltop look-out posts
can be found on every
high point along the
border.





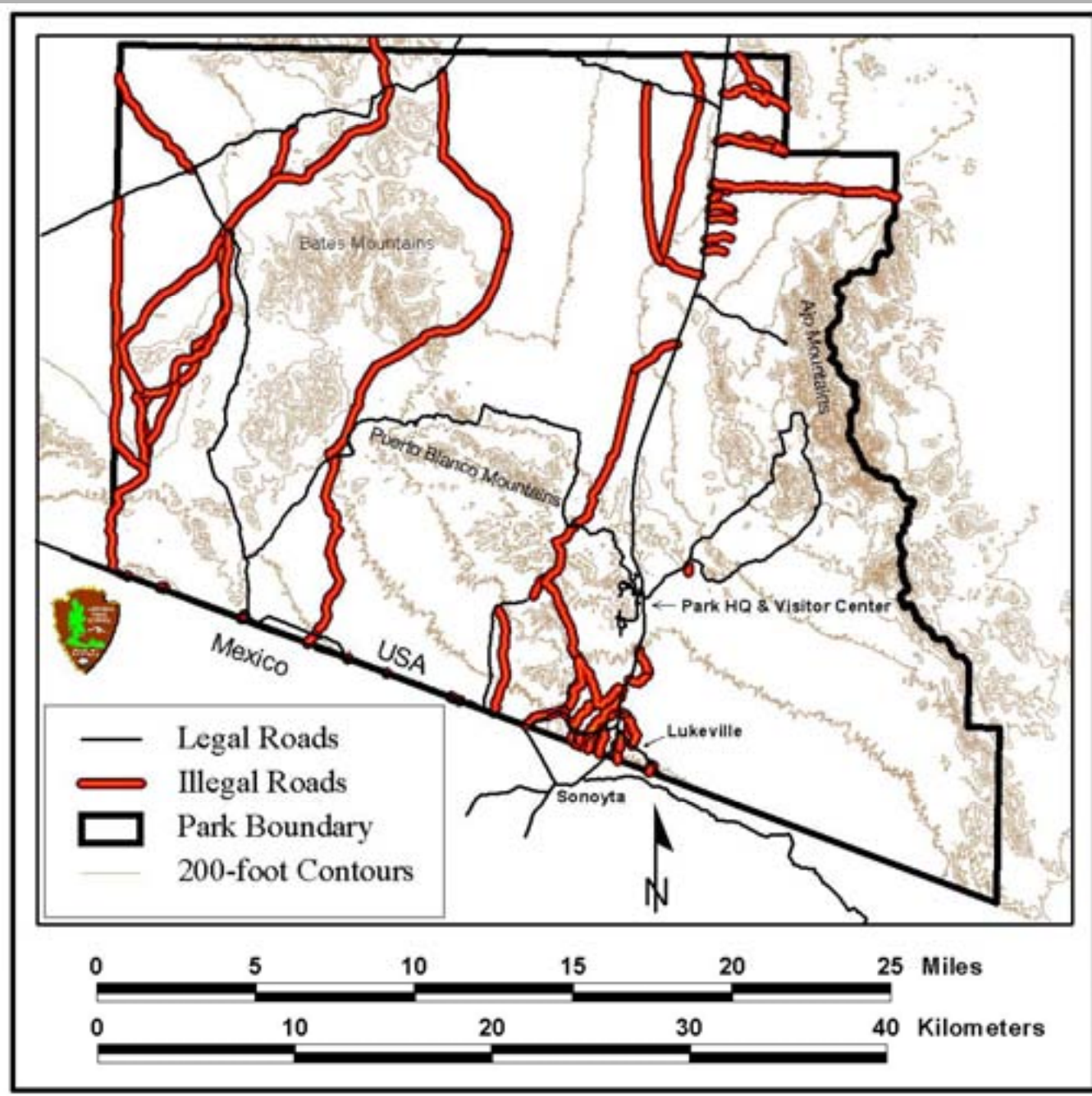
Brush shelters to camouflage rest spots.





Off-road driving





Cabeza Prieta N.W.R.'s terrain is more conducive to off-road driving.







Recurring resource damage from abandoned vehicles and tow trucks on fragile roads caused the monument to erect a concrete barrier.

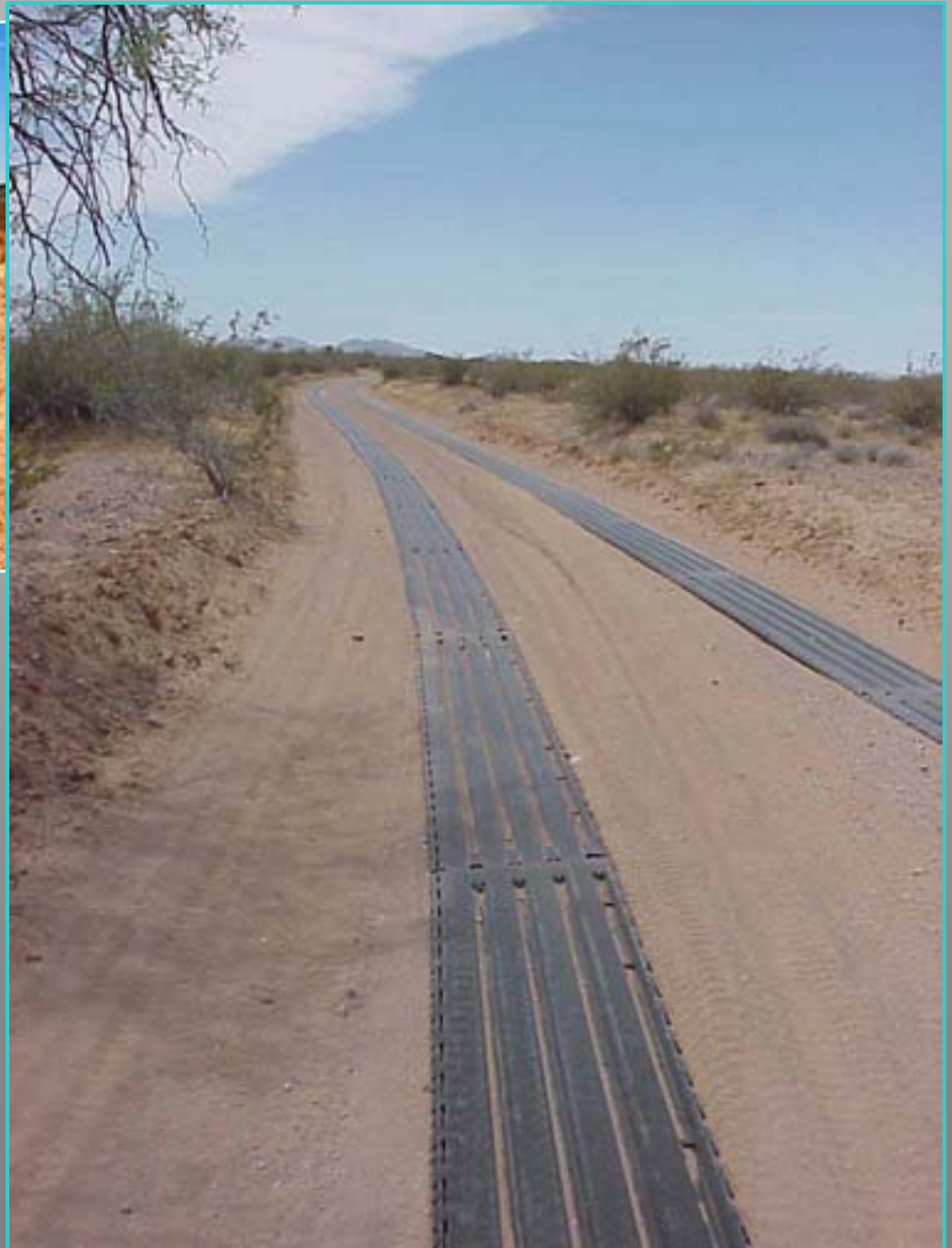




Countermeasures and enforcement:
wilderness degradation issues



In 2003, metal aircraft landing strip material was placed on roads heavily used by Border Patrol, to prevent development of “moondust” road conditions.





Boulders placed in washes used for illegal access



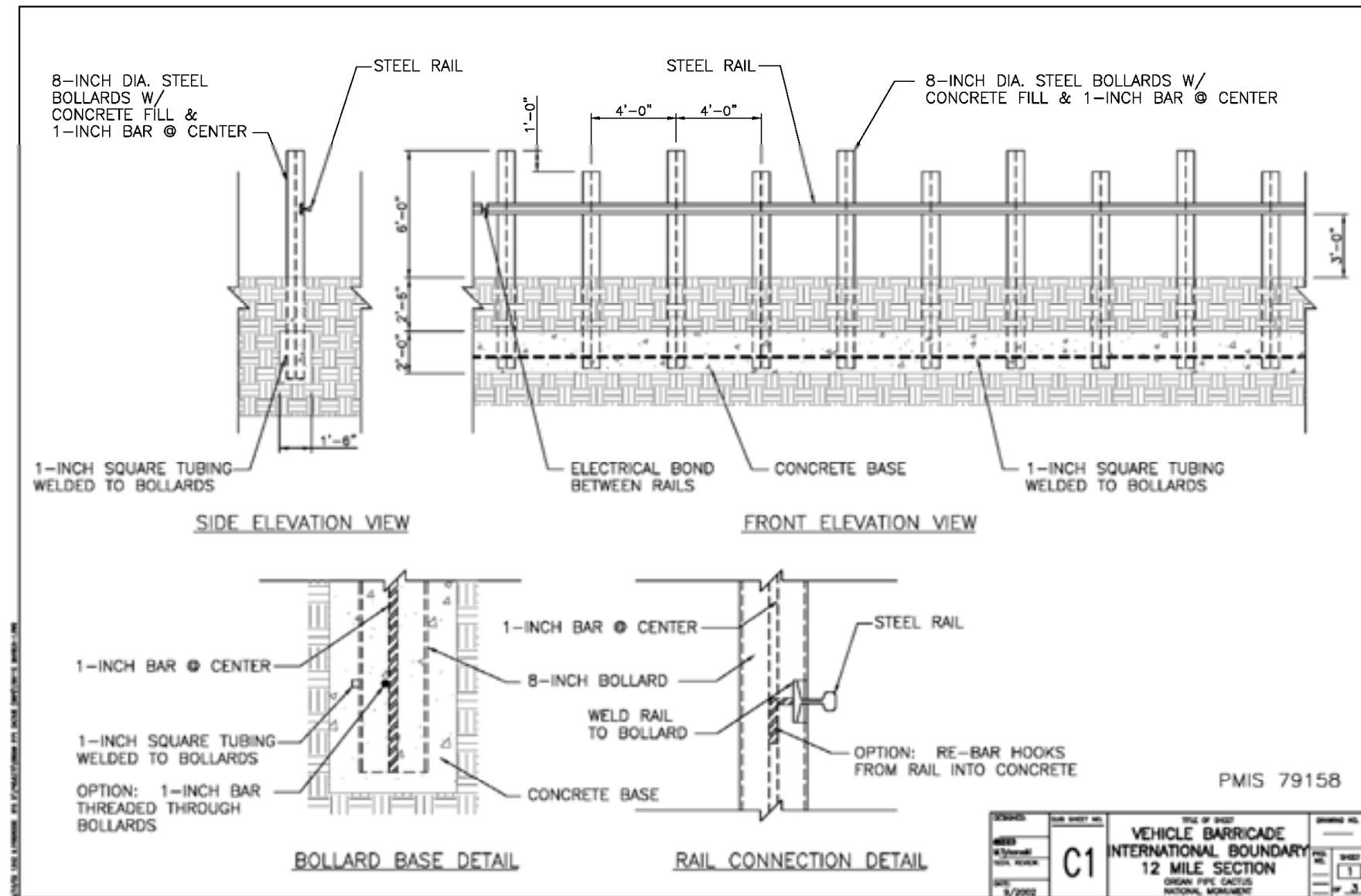
“armor-plated” gates on major dirt access roads such as the Camino de Dos Republicas



Roadside trenches to ensnare violators



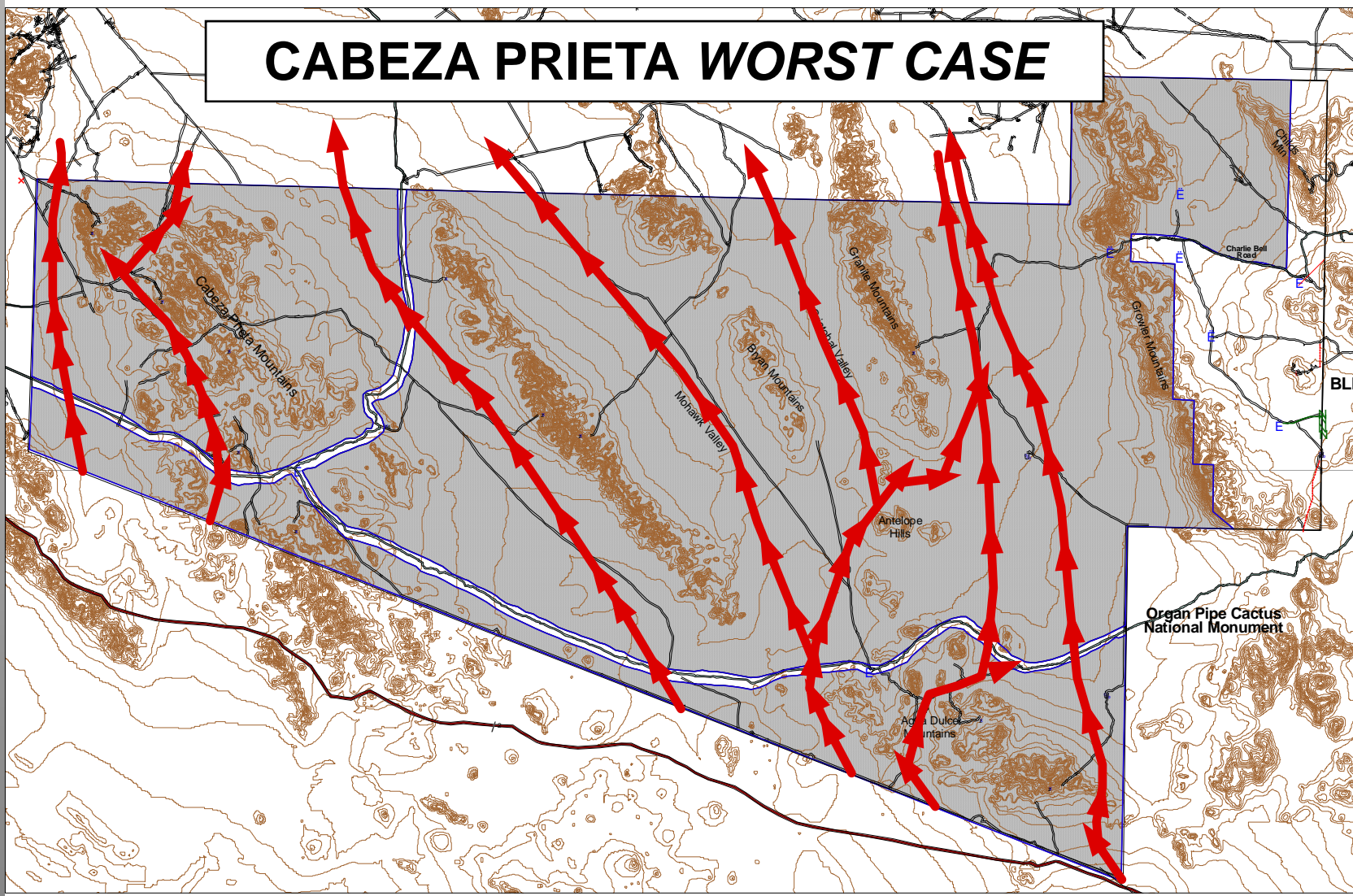
Future Organ Pipe Cactus N.M. vehicle barricade



With time and determination, nearly any
barricade can be defeated.



CABEZA PRIETA WORST CASE



If the vehicle barricade is not extended to neighboring Cabeza Prieta, increased off-road driving could occur there.

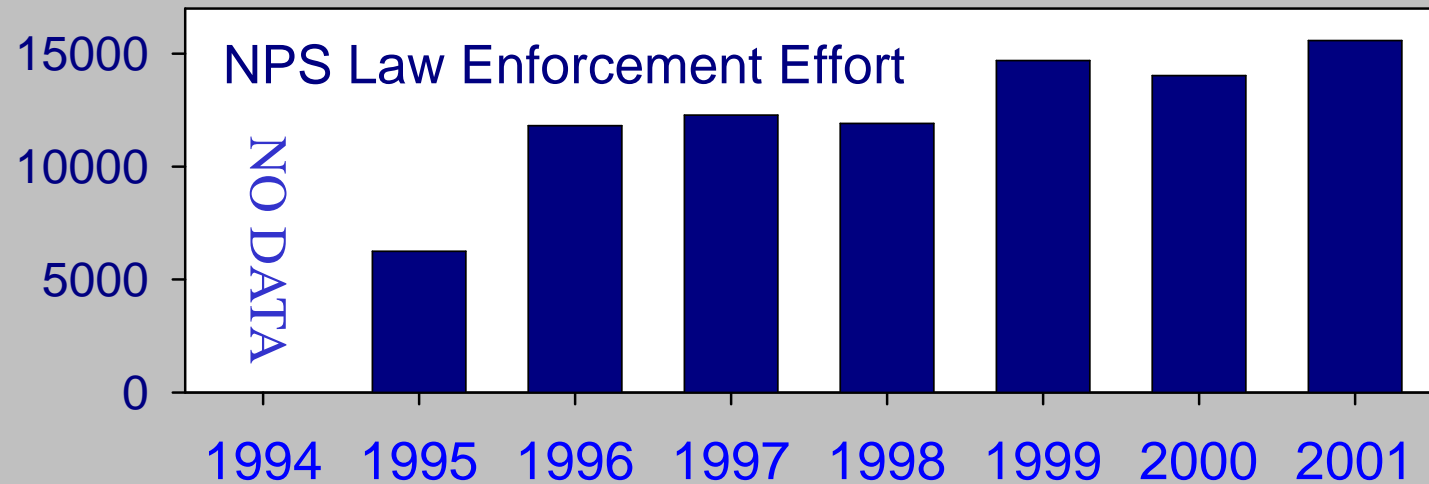
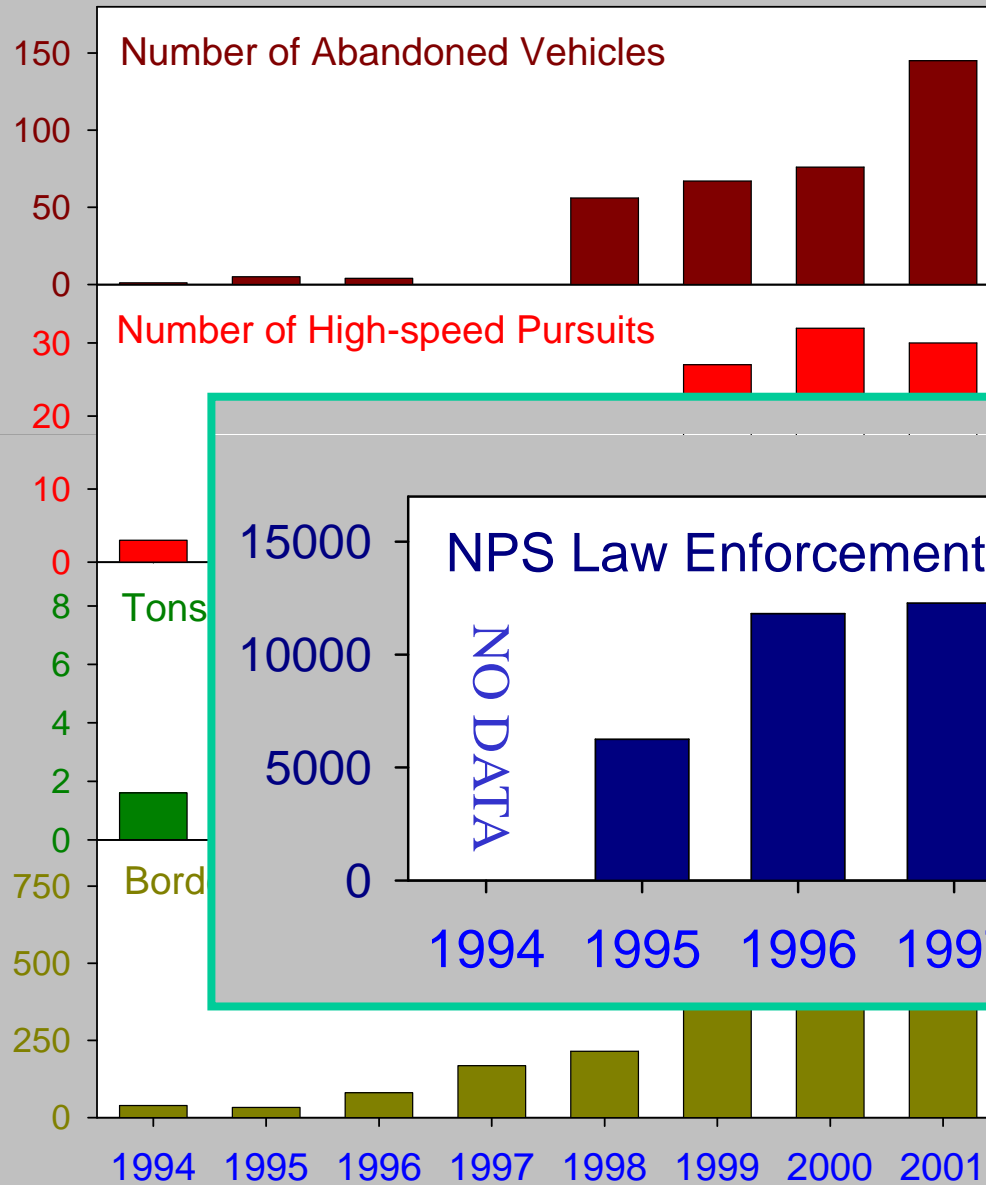
Changing Law Enforcement in Organ Pipe Cactus N.M.

1960: A few Border Patrol Agents
No NPS Enforcement Rangers.

1980: < 20 Border Patrol Agents
~2 NPS Enforcement Rangers.

2002: >80 Border Patrol Agents
7 NPS Enforcement Rangers.

Organ Pipe Cactus National Monument Ranger Report Data



Arizona Park "Most Dangerous" in U.S. - Microsoft Internet Explorer

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Address http://news.nationalgeographic.com/news/2003/01/0110_030113_organpipeclynes.html Go

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ADVENTURE

ARE YOU AGENT

Arizona Park "Most Dangerous" in U.S.

Tom Clynes
for National Geographic News
January 13, 2003

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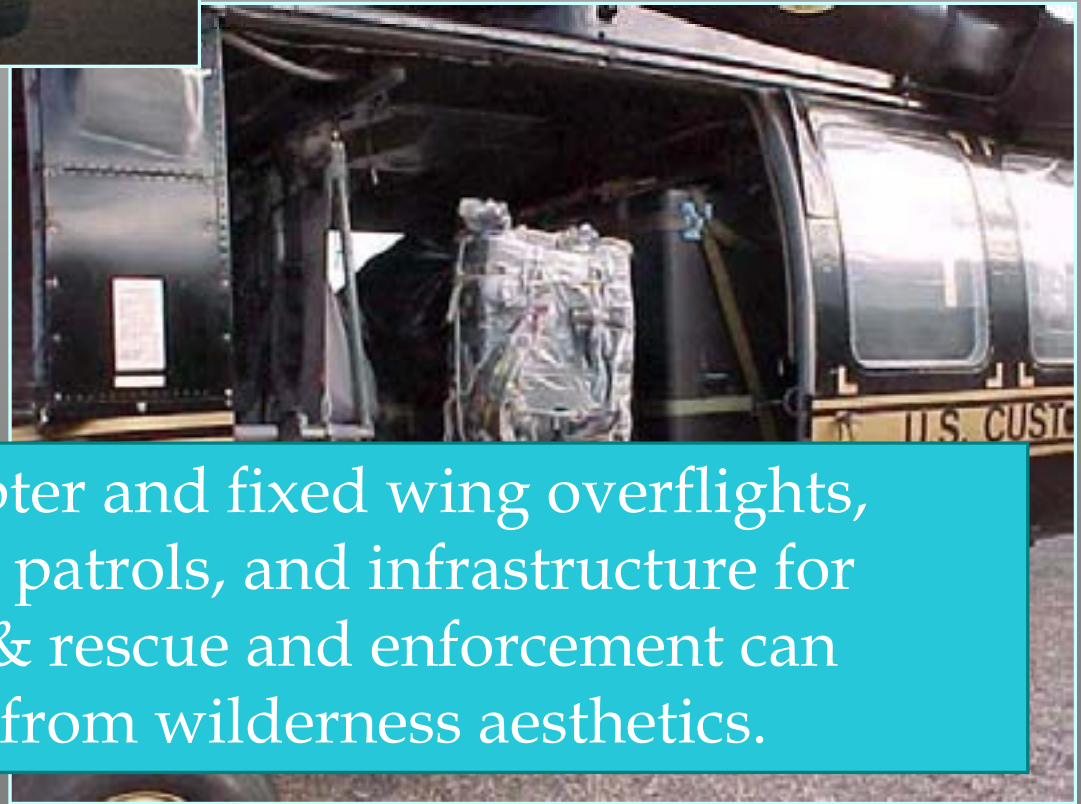
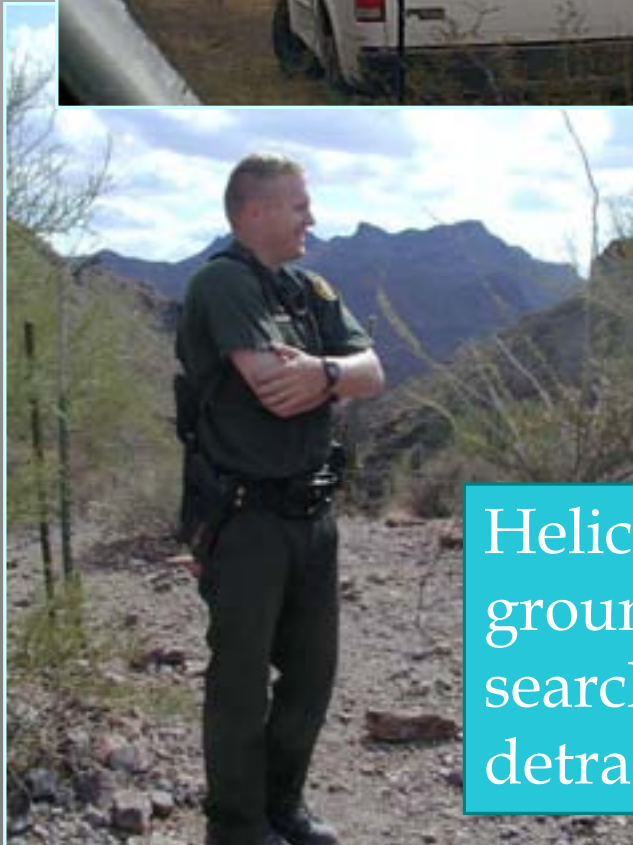
The park rangers at Arizona's Organ Pipe Cactus National Monument wear camouflage, carry assault rifles, and chase drug smugglers through the blazing desert. They're at the front lines of a violent border war—and they're losing.

In August, a park ranger, 28-year-old Kris Eggle, was killed while helping Border Patrol agents catch two men suspected by Mexican officials in a drug-related quadruple murder. The men had driven a stolen SUV through one



Park ranger Julie Horne tracks a group of suspected marijuana smugglers just north of the Mexican border in Organ Pipe Cactus National Monument.

Photograph copyright Tom Clynes



Helicopter and fixed wing overflights, ground patrols, and infrastructure for search & rescue and enforcement can detract from wilderness aesthetics.



Border Patrol encampment at historic ranch, 2002.



Border Patrol encampment at historic ranch, 2003.



Off-road driving by Border Patrol agents unfamiliar with fragile desert terrain.

THE BORDER

Immigration, trade, crime, culture and politics

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Friday, August 15, 2003

Kyl says Border Patrol needs off-road access

By Michael Marizco
ARIZONA DAILY STAR

Arizona Sen. Jon Kyl wants to dump "unnecessary restrictions" that control the Border Patrol's off-road access to national parks land along the Arizona-Mexico border.

Kyl says eliminating access restrictions would let the Border Patrol do a better job protecting the border from drug smugglers and terrorists. Federal land managers say they already give the Border Patrol enough access to do its job and worry that unrestricted patrolling will damage fragile public lands.

"The Border Patrol is saying if it could get one thing that it didn't have right now, it is off-road access," Kyl said.

He says individual agents complained about the lack of access when he toured the border in March.

August 15, 2003:
Border Patrol lobbies
for increased vehicle
access to protected
wilderness lands.

Special Report: La Perra Flaca



Read the story: Why you need 'La Perra Flaca', a 2002 special report by Arizona Daily Star staff writer Ignacio Ibarra about illegal immigrants making a living

Impacts to wildlife from border activities

The range of the endangered Sonoran pronghorn is in the heart of intensive off-road driving, illegal immigrant trails, and Border Patrol surveillance activities.



The U.S. population estimate for Sonoran pronghorn antelope is approximately 21 animals (from winter 2002 aerial survey data).

A 5-year drought and increased human activity in their range are major causes of stress to this population.





Impacts to Water Sources

Many routes intersect backcountry water sources, which are scarce and mostly non-perennial at Organ Pipe.

Contamination by garbage and human waste is a concern, as is the potential for impacts to wildlife who depend on the water.



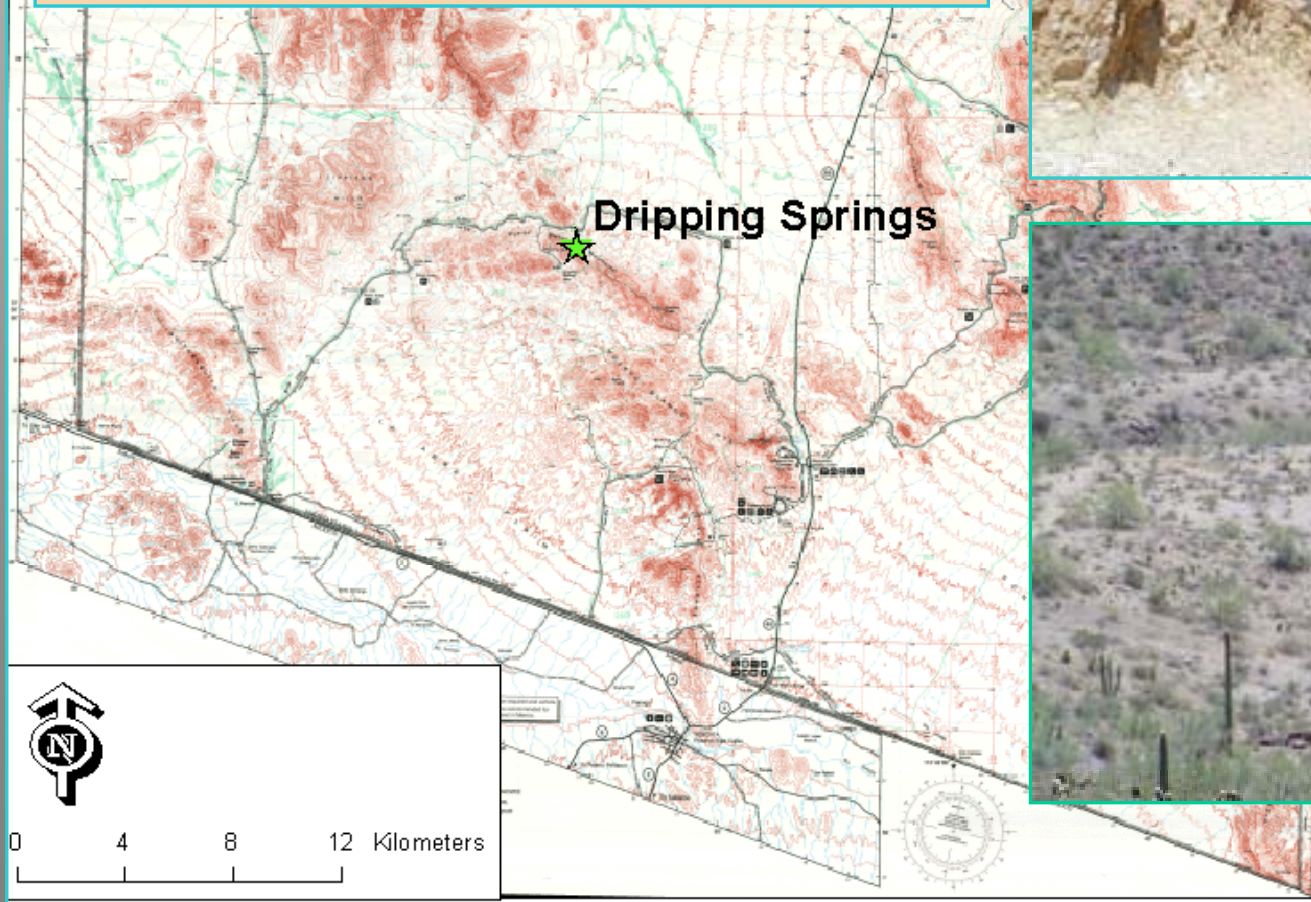
Bates Pass Tinaja

Photos taken by a remote camera system at a backcountry water hole documented the use of natural surface water by endangered Sonoran pronghorn antelope.



The same camera site also captured visits by border-crossers and the endangered Sonoran pronghorn, as well as mountain lions, javelina, deer, and other wildlife.

Dripping Springs is one of two permanent water sources in Organ Pipe, and is located on a major illegal immigration and drug smuggling route.





In 2001, decreases in water levels (possibly due to use by border crossers) and fouling of the spring began to occur.



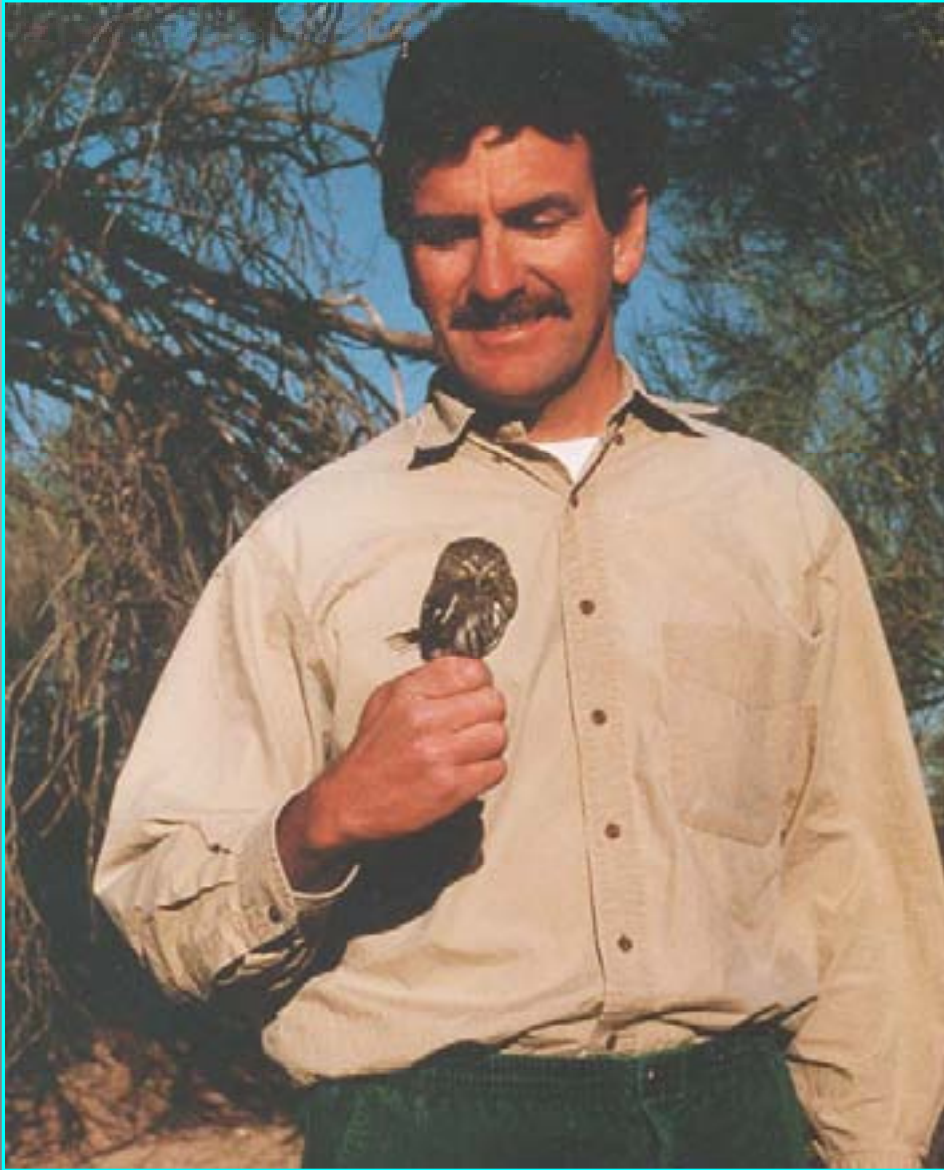


Fewer bat species and numbers of bats were recorded during annual bat mist netting.

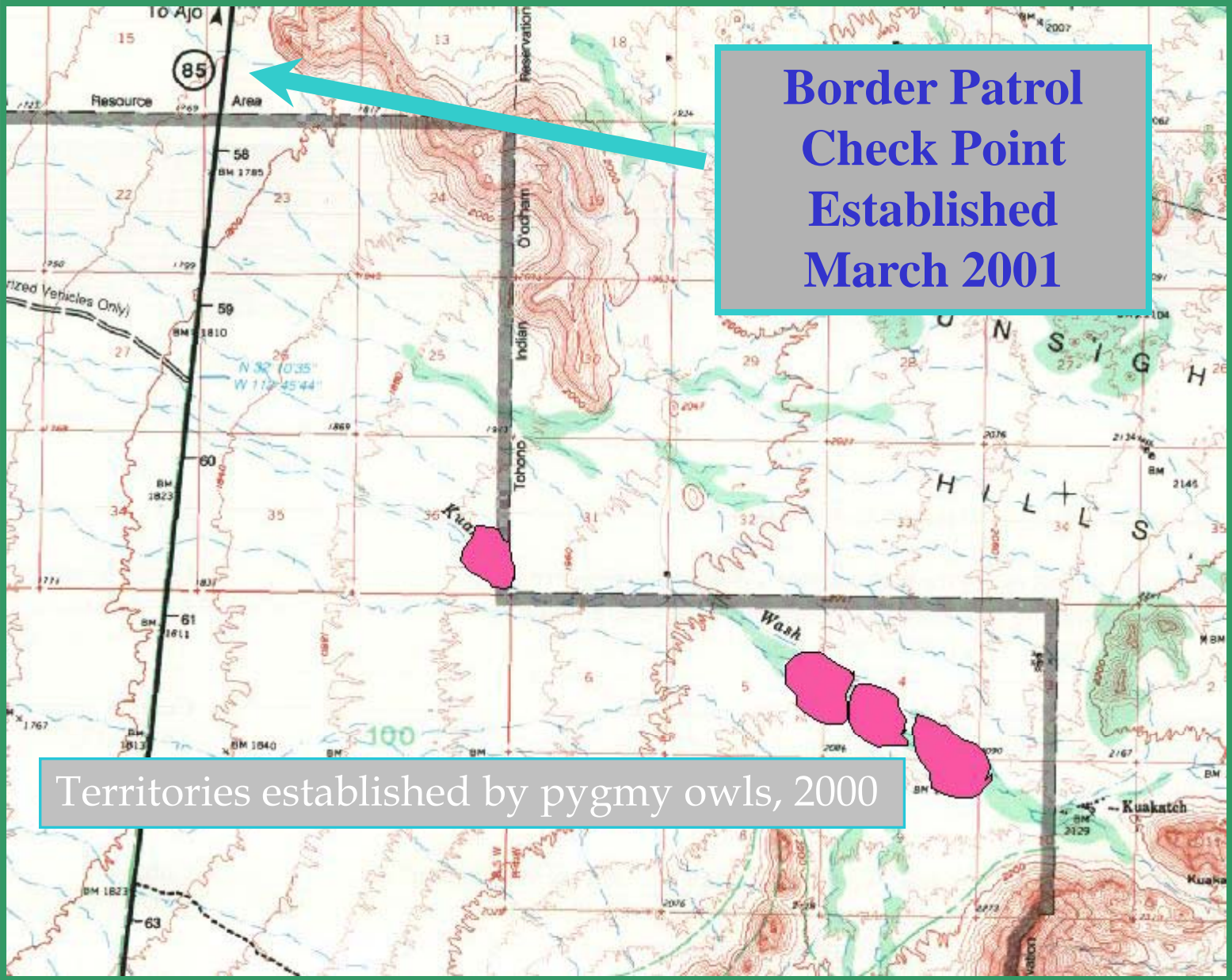
USGS water quality testing at the spring in 2003 showed high levels of *E. coli*.



Although monument staff periodically clean up the springs area, the route continues to be heavily used.



Monitoring data on endangered cactus ferruginous pygmy owls have shown a correlation between abandoned territories and border resource impacts.



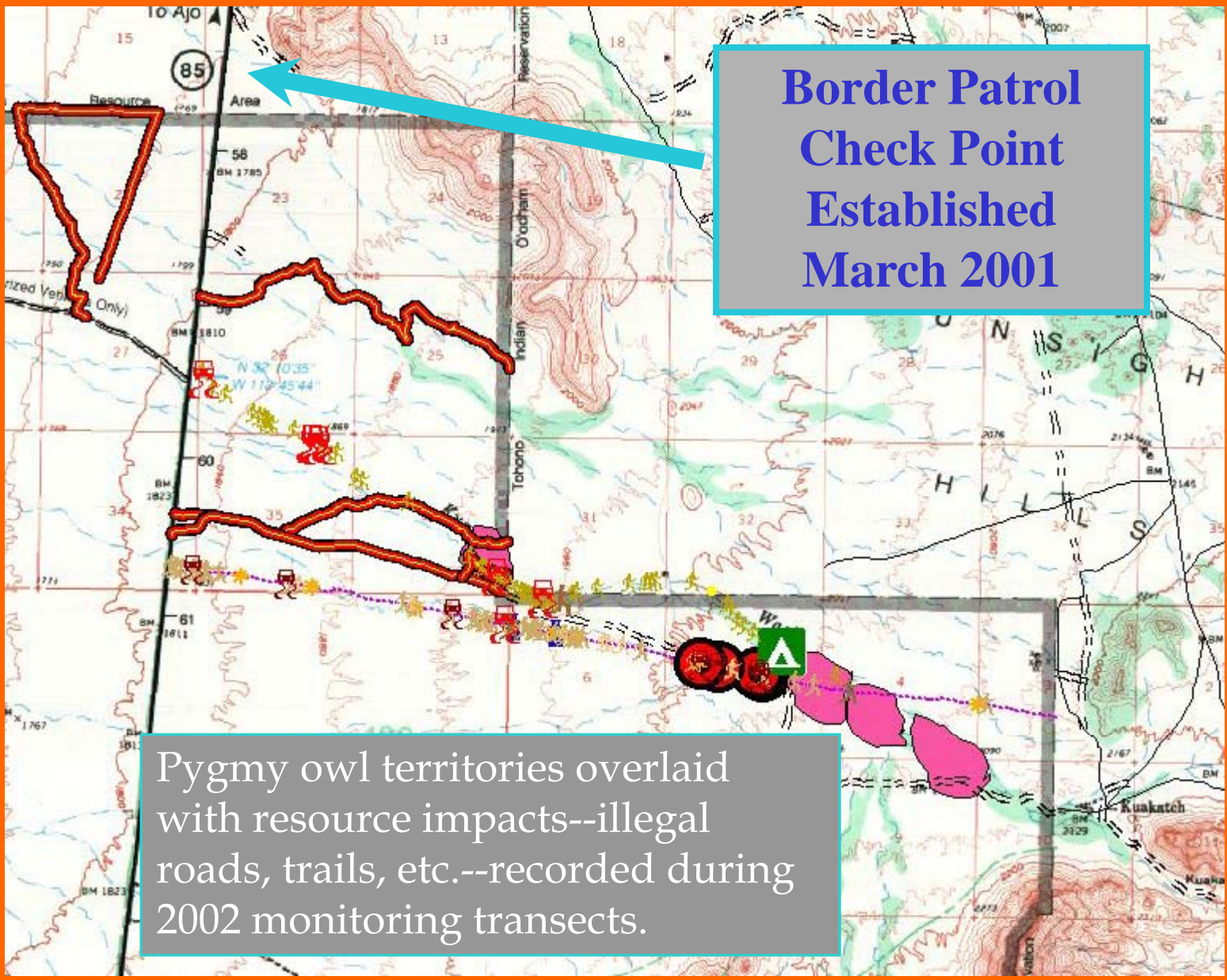
A topographic map showing a mountainous region with a border line running vertically. The map includes contour lines, elevation markers, and various geographical features. A red arrow points from a text box to a specific location on the border. Several areas are highlighted in pink, representing territories established by pygmy owls in 2000. The map also shows a road labeled '85' and a 'Resource Area'.

**Border Patrol
Check Point
Established
March 2001**

Territories established by pygmy owls, 2000

Border Patrol checkpoint





A topographic map of a mountainous region. A red boundary outlines a specific area. A blue arrow points from a text box to a road labeled '85'. A green triangle with a white 'A' is located near the bottom right. The map includes contour lines, elevation markers, and various geographical features.

**Border Patrol
Check Point
Established
March 2001**

Pygmy owl territories overlaid
with resource impacts--illegal
roads, trails, etc.--recorded during
2002 monitoring transects.



Close-up of one pygmy owl territory and resource damage. This territory was abandoned in 2002.

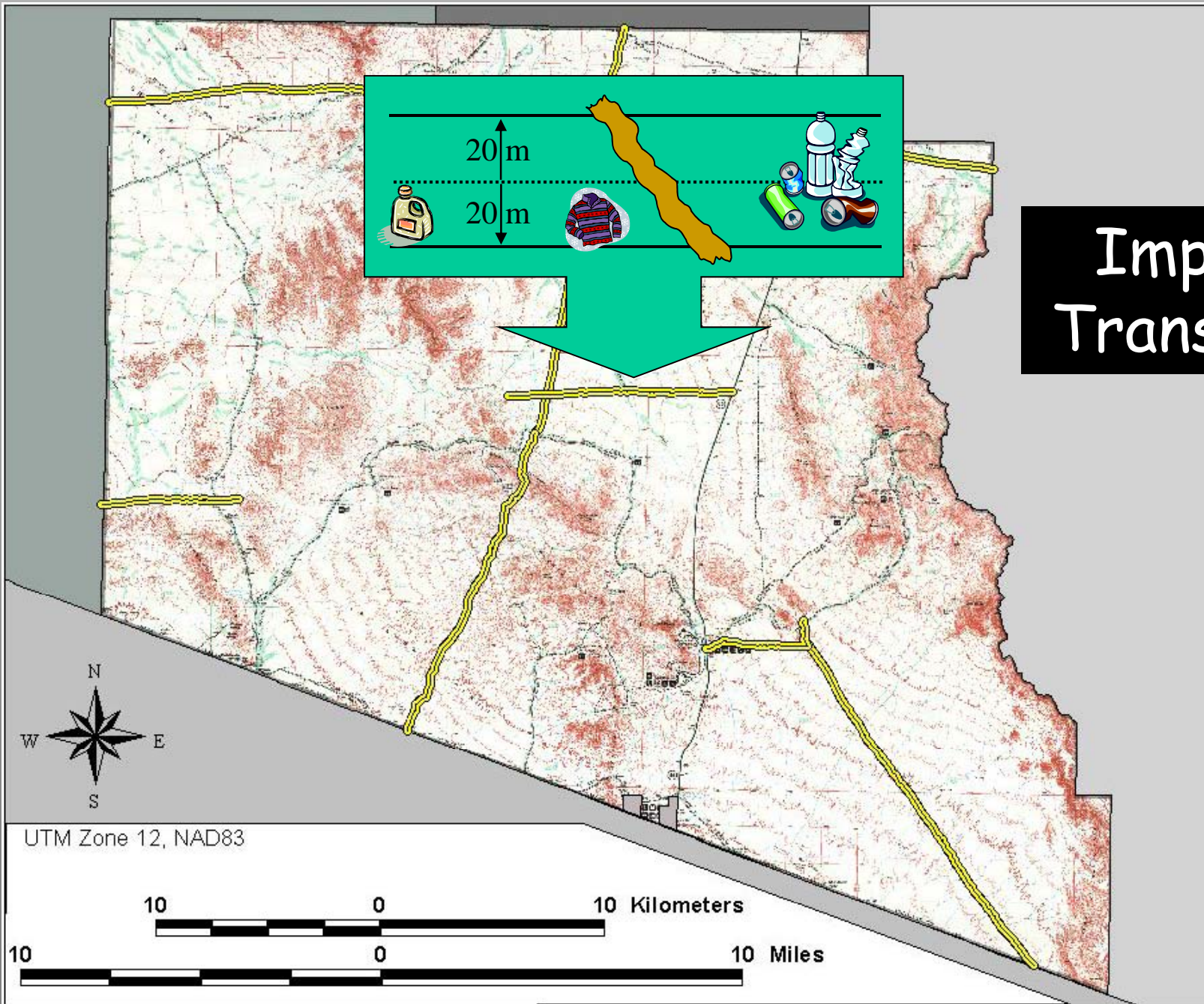
Illegal roads created by smugglers avoiding Border Patrol checkpoint.

Border Resource Impact Transects

In spring 2002, staff from Organ Pipe's resource management division designed an inventory and monitoring program in order to assess the variety and extent of damage to wilderness resources due to illegal border crossers.

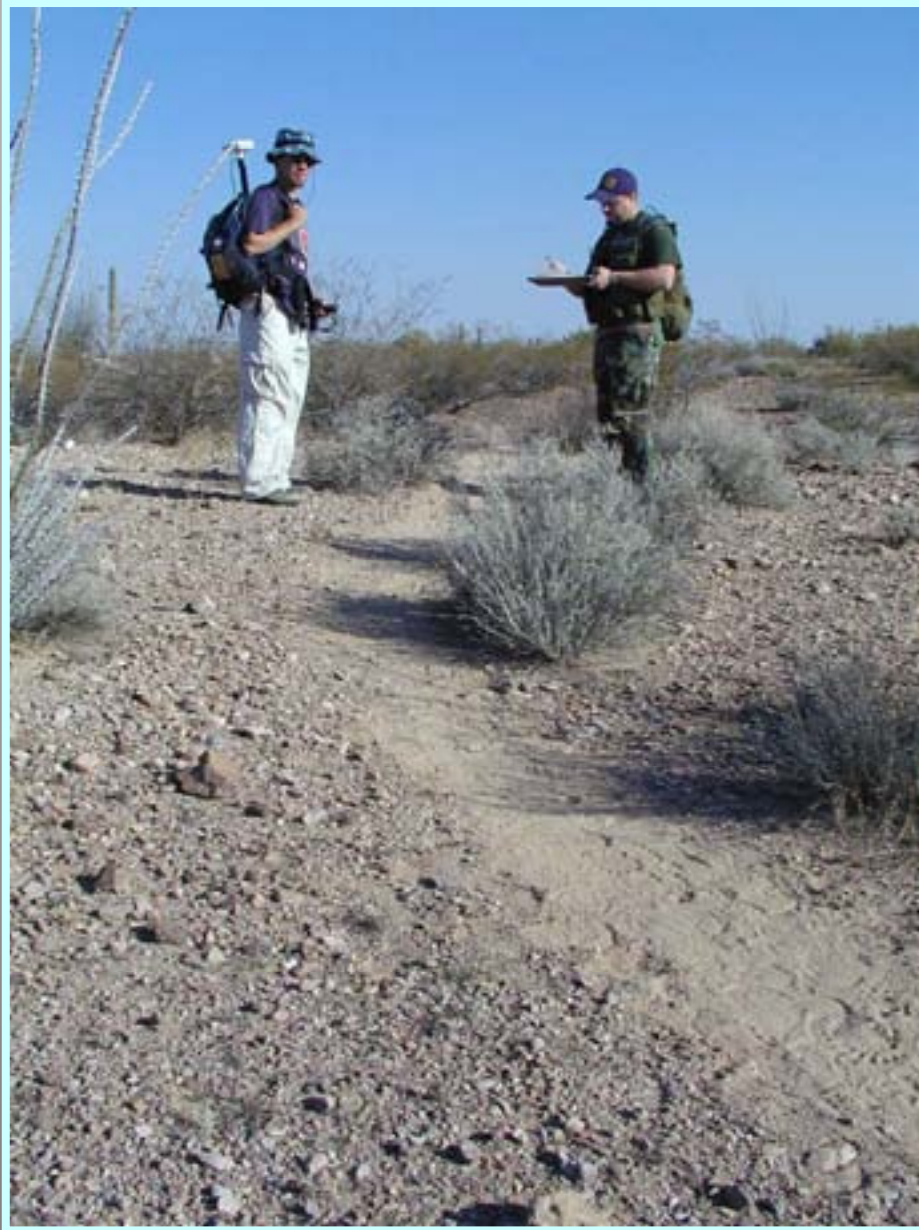
Walking transects were placed east-west in locations designed to intercept north-south traffic. In addition, one major illegal immigrant trail was followed through the center of the monument. All resource impacts were mapped and recorded.

Impact Transects



Stay on target with a landmark.



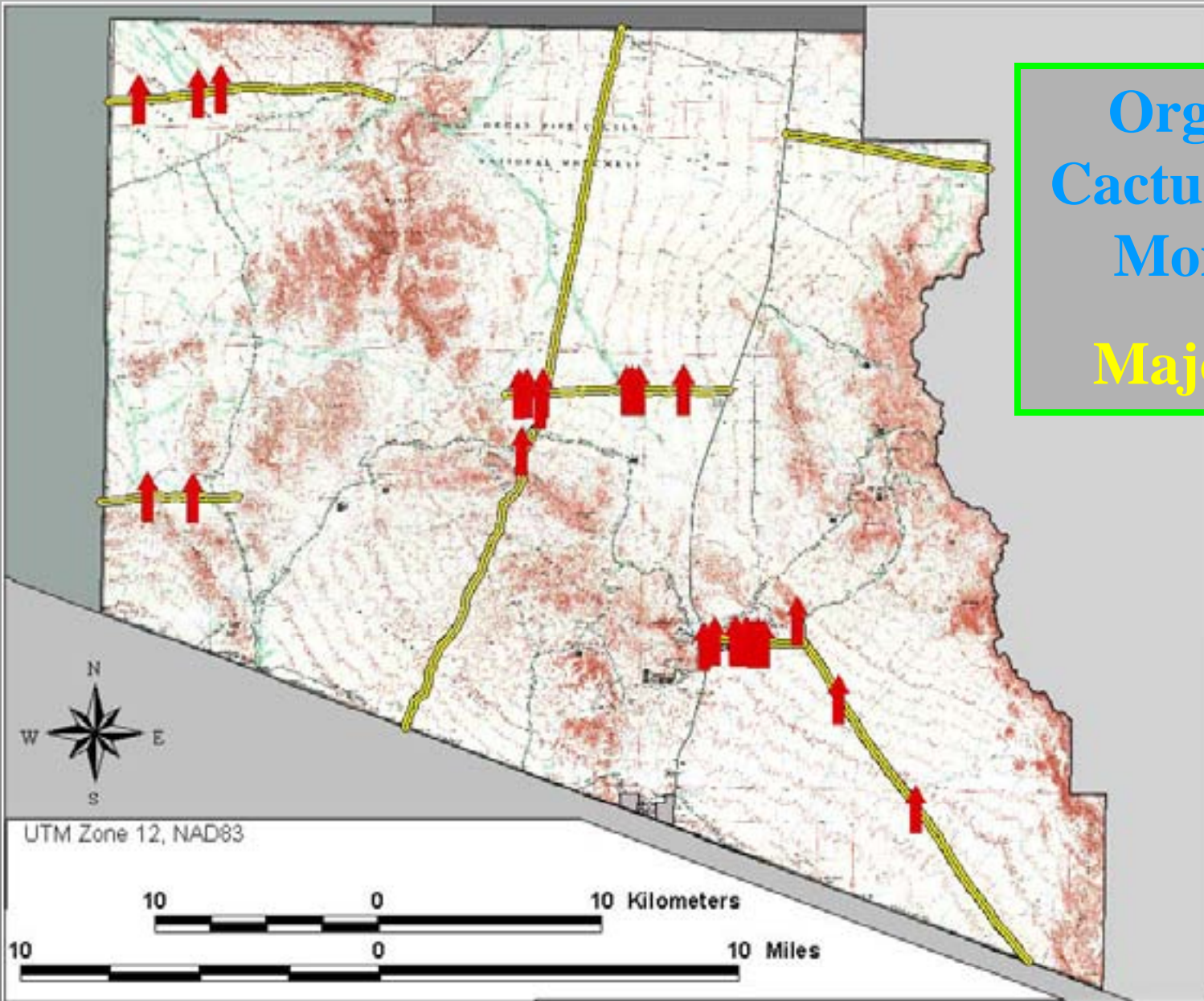


Organ Pipe law enforcement staff assisted resource managers with “cutting sign” -- estimating group sizes from foot tracks. Differential GPS units were used for precise mapping.

Name:		Form Modified 2/ 22/2002		Page of										
Date(s):		GPS Unit: cGPQ Garmin map76		File Name:										
Transect / Track:		Coordinate System: UTM Zone 12		Datum: NAD83										
Date	WayPoint	Damage	Age	Single or multi-use	Foot: c=carpet Bicycle Horse Car ATV/MOTO Fence Breach Mark Center or Each End	Trash	Water Bottles	Rest/Camp Site	Campfire	Archeology Site*	Flora/Fauna*	# Photos	Other*	*Notes, Trash Type, Archeology Site Type, Other Type, General Comments, Direction of Travel
Transect data sheet														
mm/dd/yyyy	From GPS Unit	1=Minor 2=Major	R=Recent W=Weathered I=Historic	S=Single M=Multi	Number of Recent Users 0=Inactive 1=1 to 5 2=6 to 20 3>=21	S=Start E=End or Meters Missing	1=1 to 5 2=6 to 20 3>=21 items	Count S=1 to 5 m2 M=6 to 10 m2 L>=10 m2 area	Count Scars	Checkmark	Checkmark	Count % Note Bearings	Checkmark	Comments

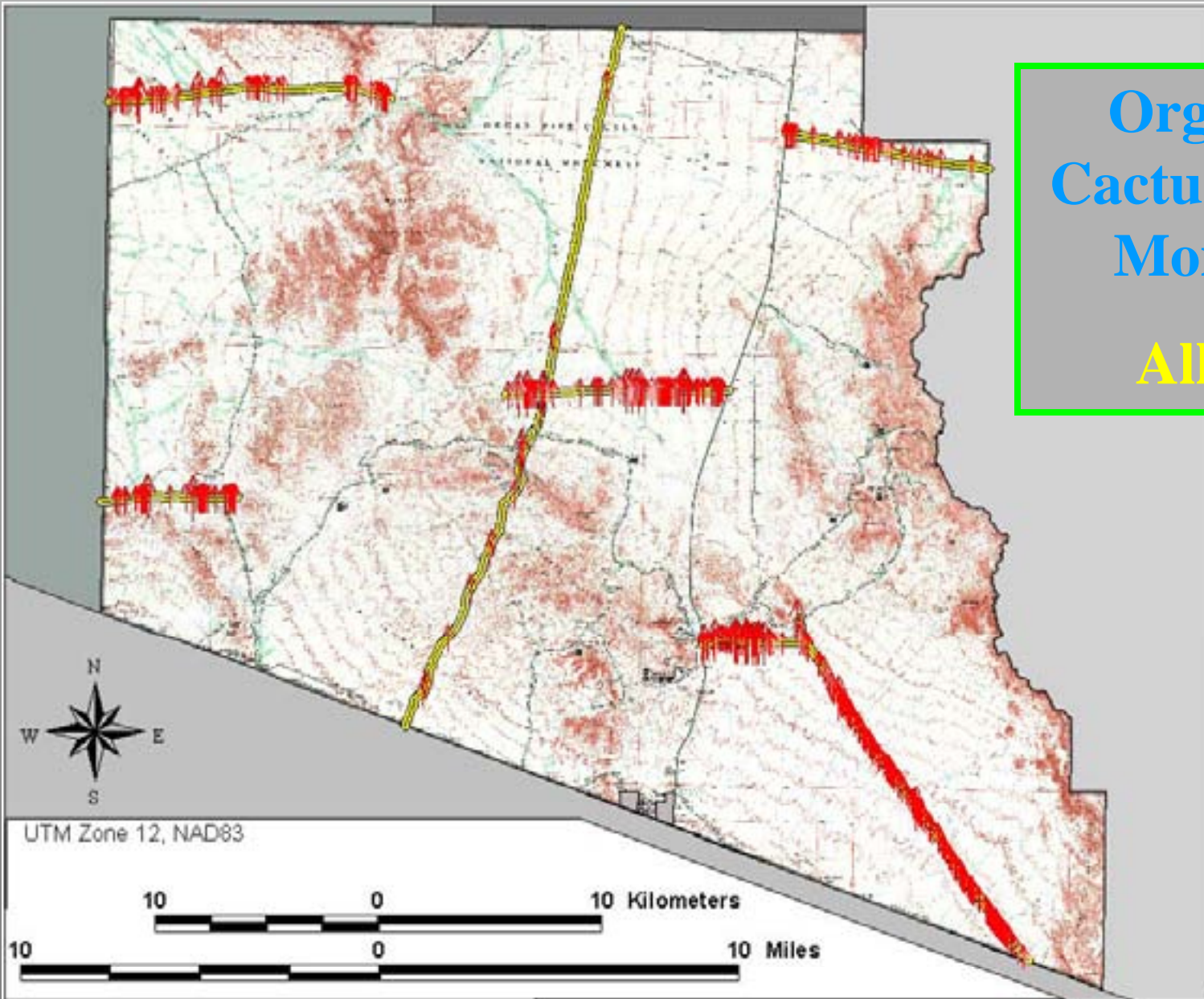
**Organ Pipe
Cactus National
Monument**

Major Trails



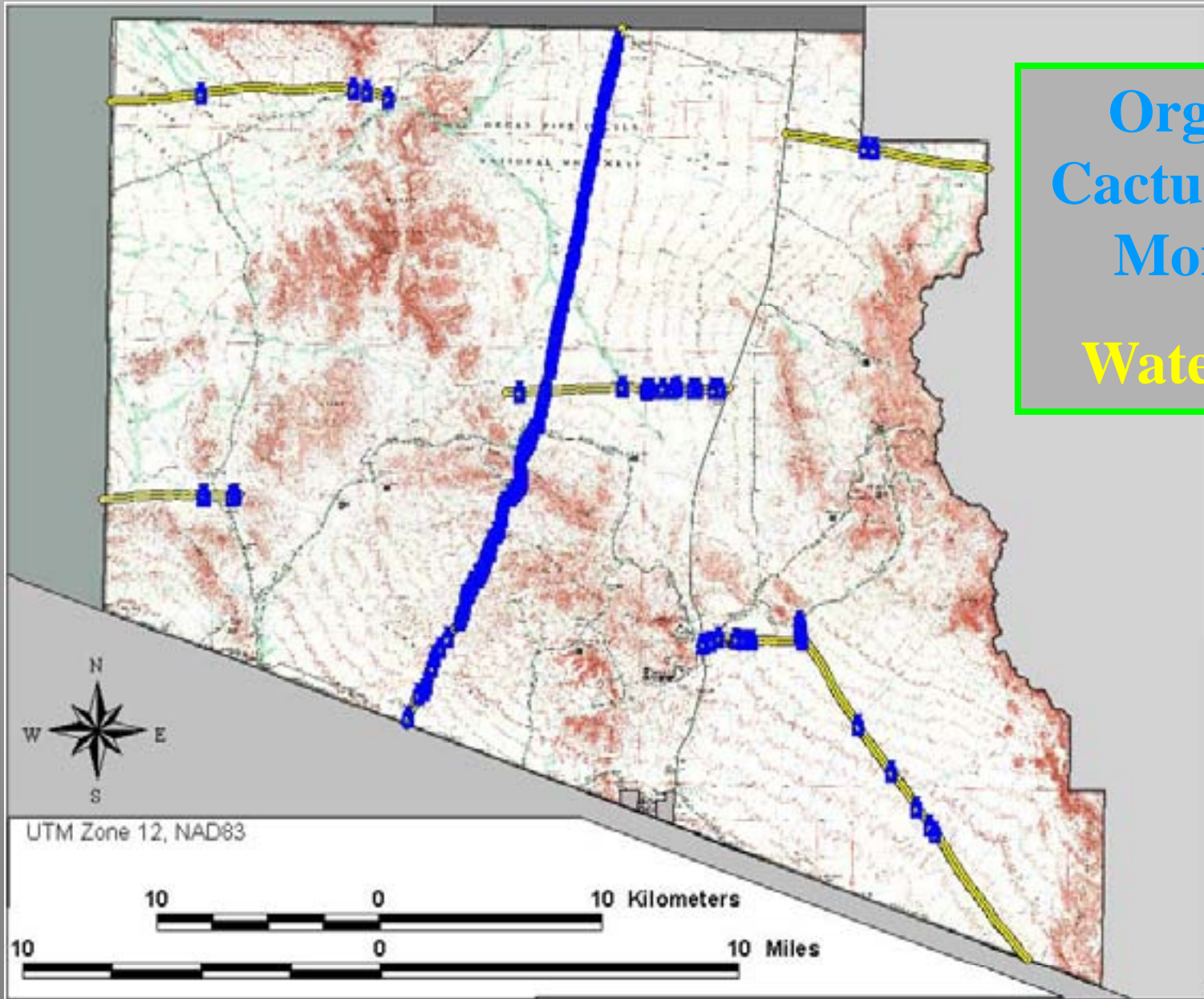
Organ Pipe Cactus National Monument

All Trails

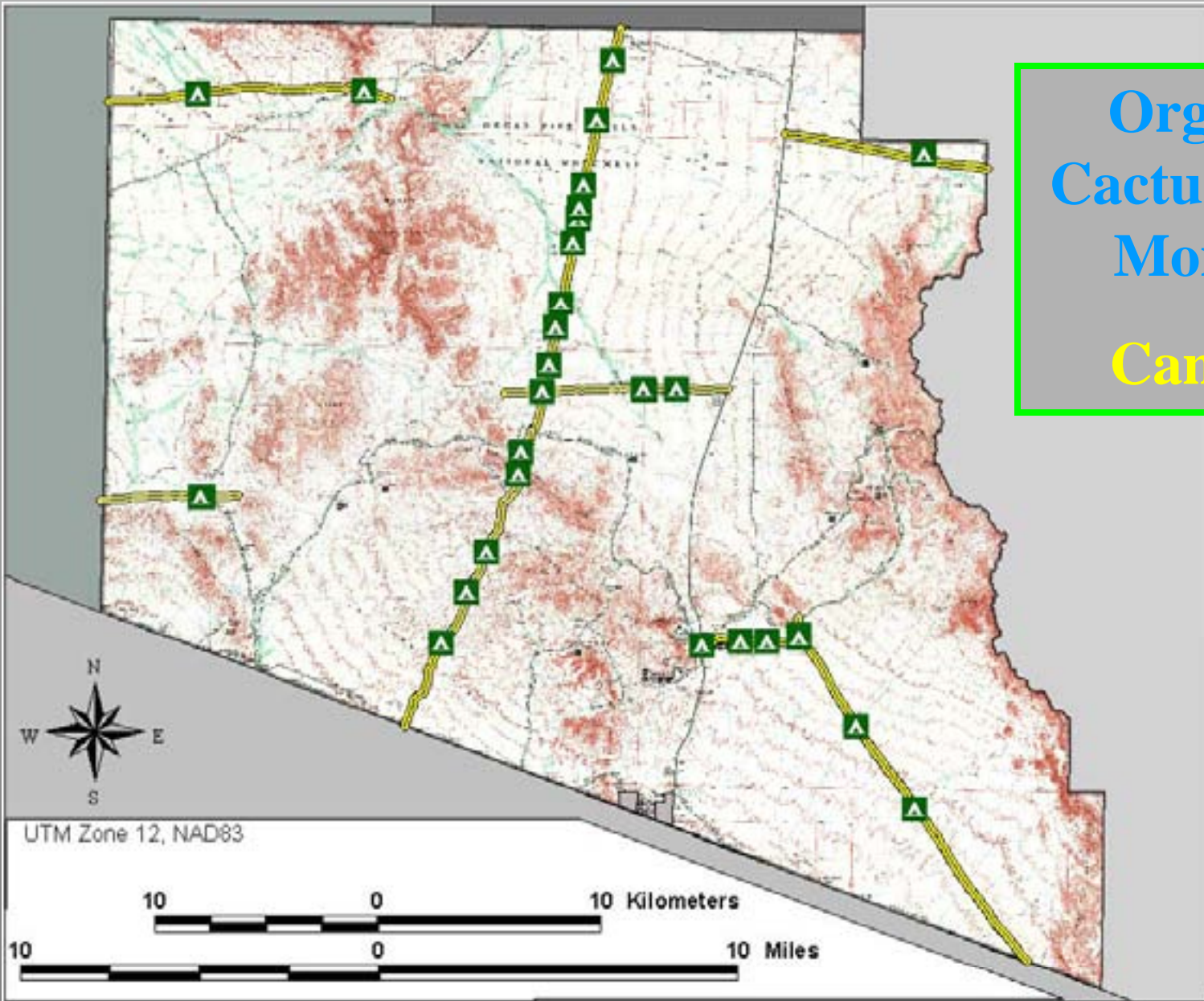


**Organ Pipe
Cactus National
Monument**

Water Bottles

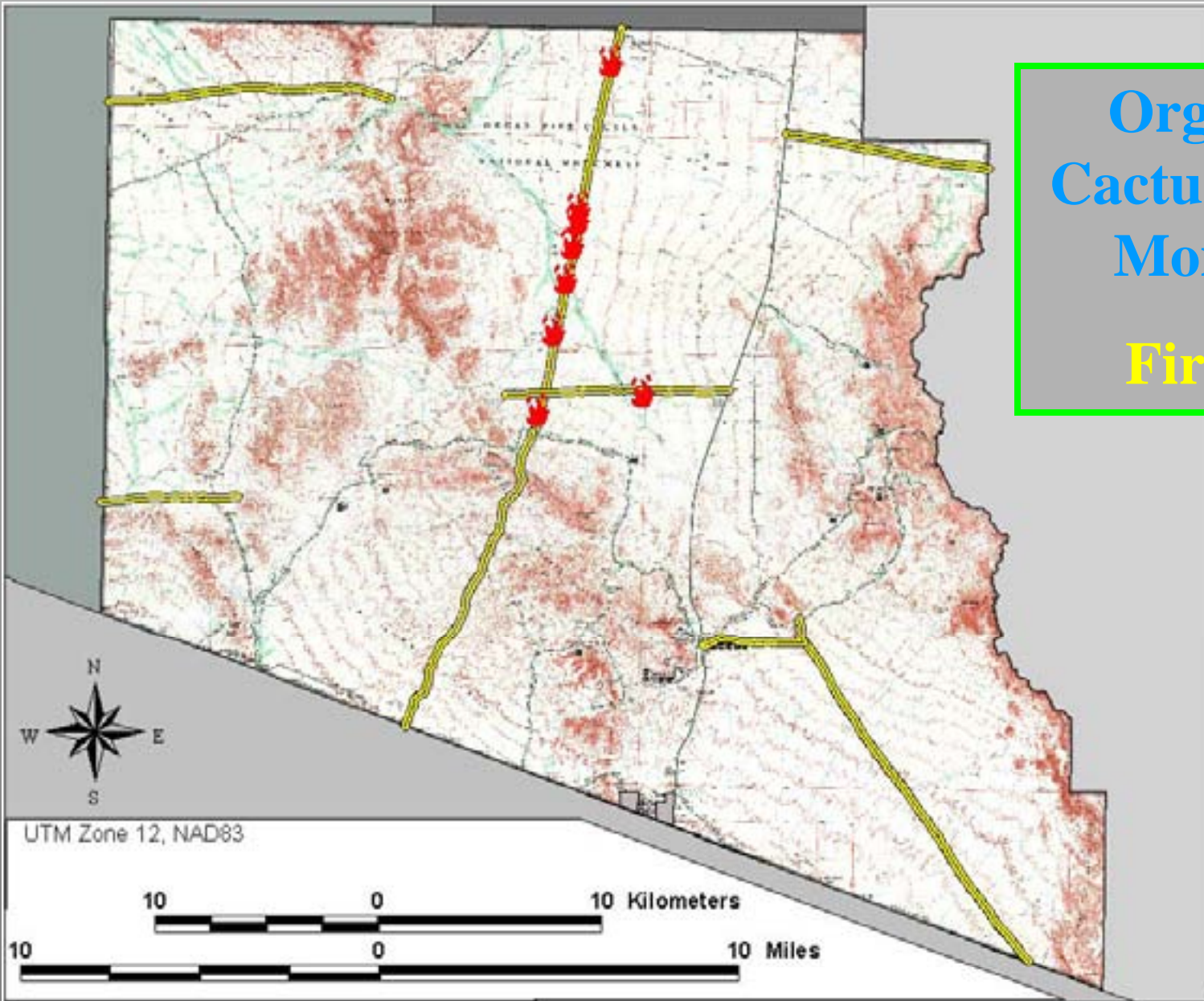


Organ Pipe Cactus National Monument Camp Sites

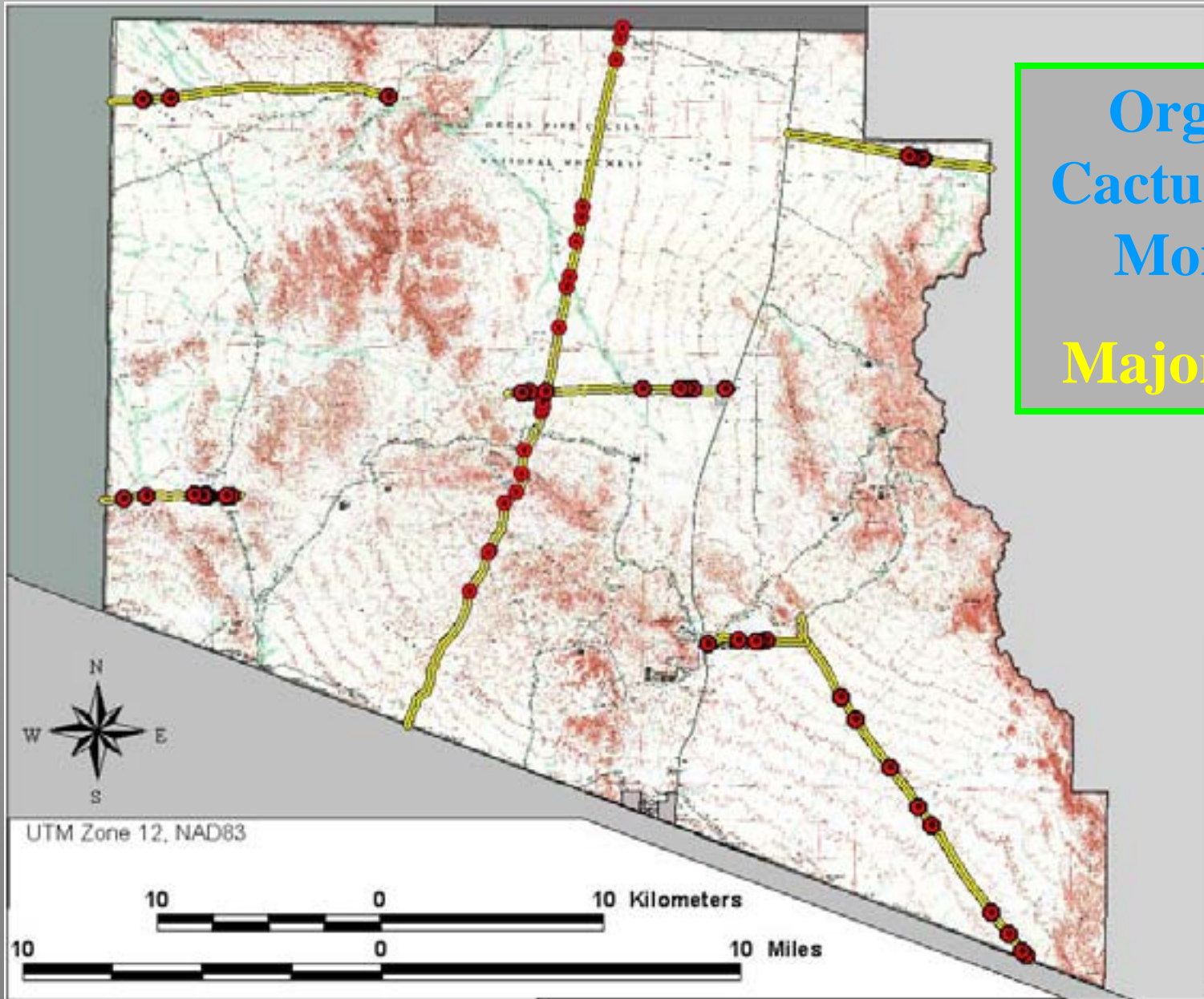


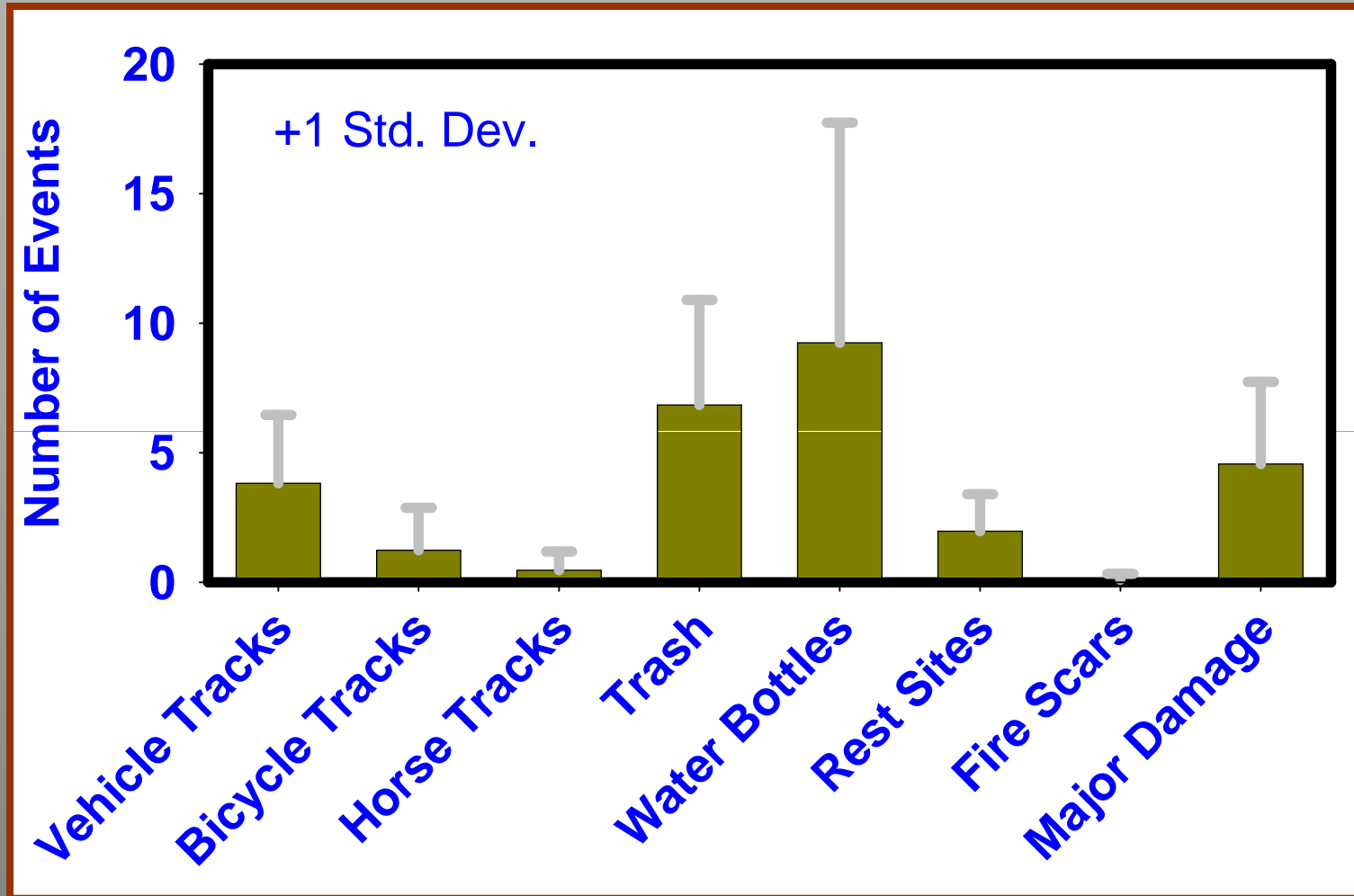
**Organ Pipe
Cactus National
Monument**

Fire Scars

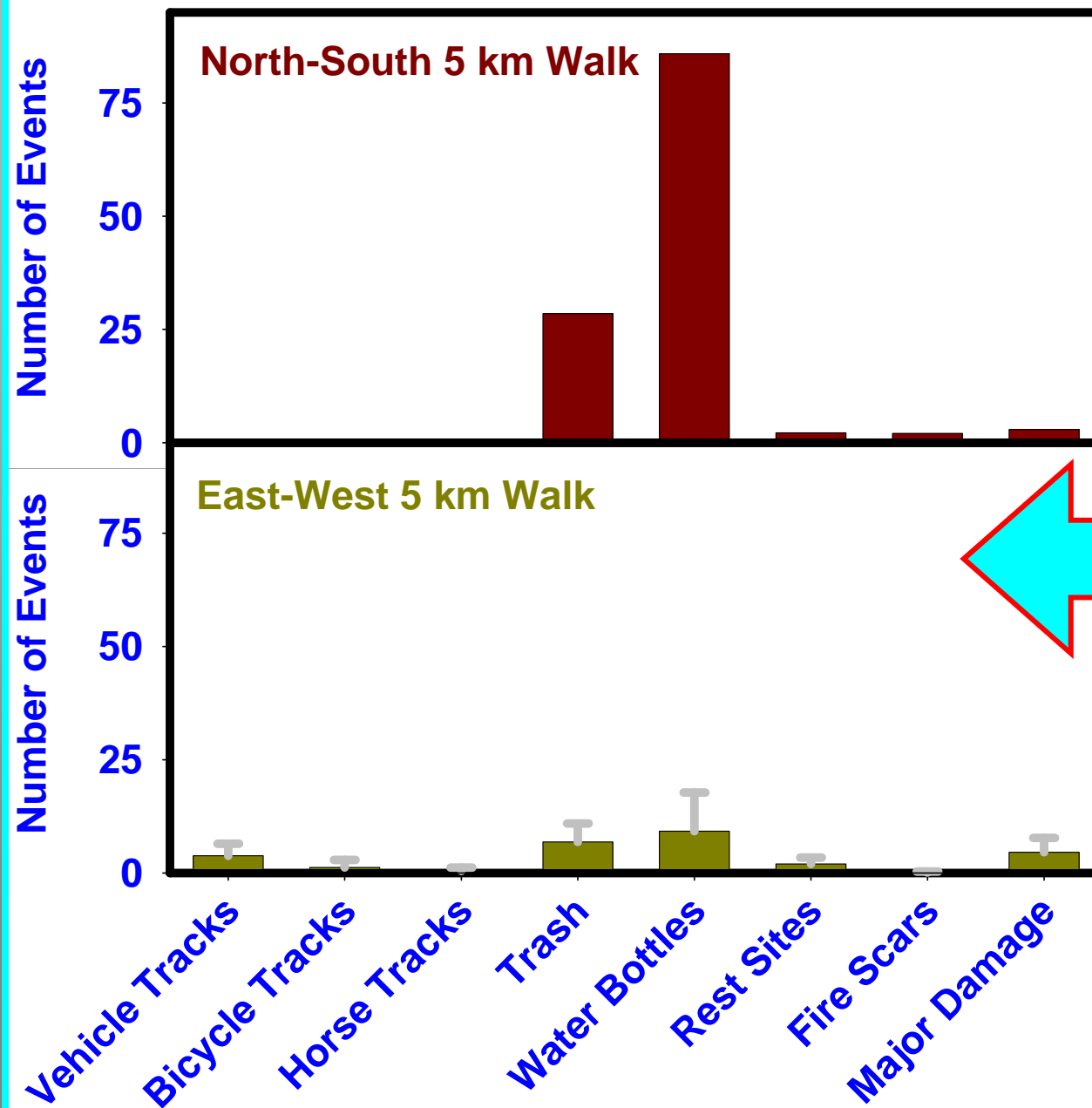


**Organ Pipe
Cactus National
Monument**
Major Damage

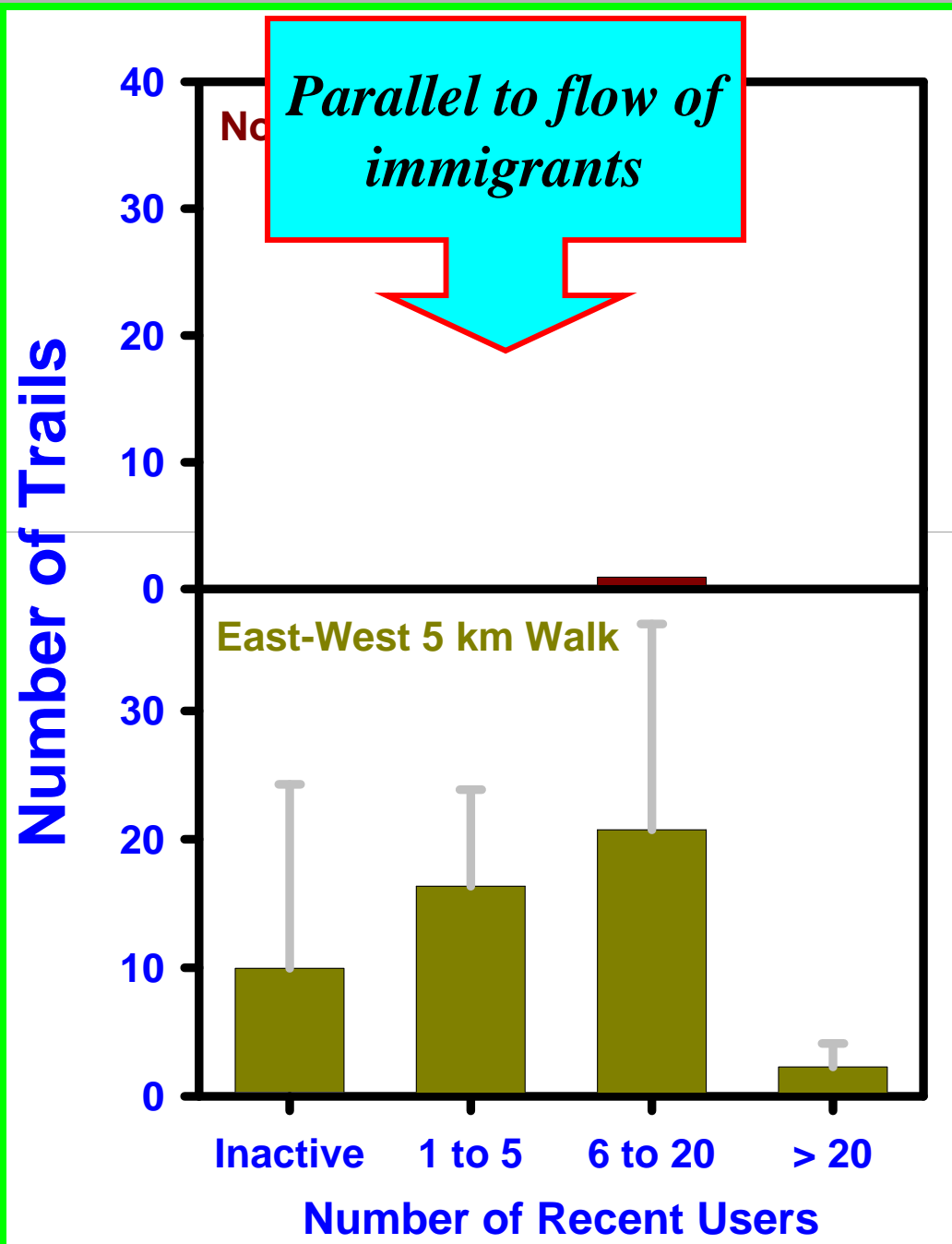




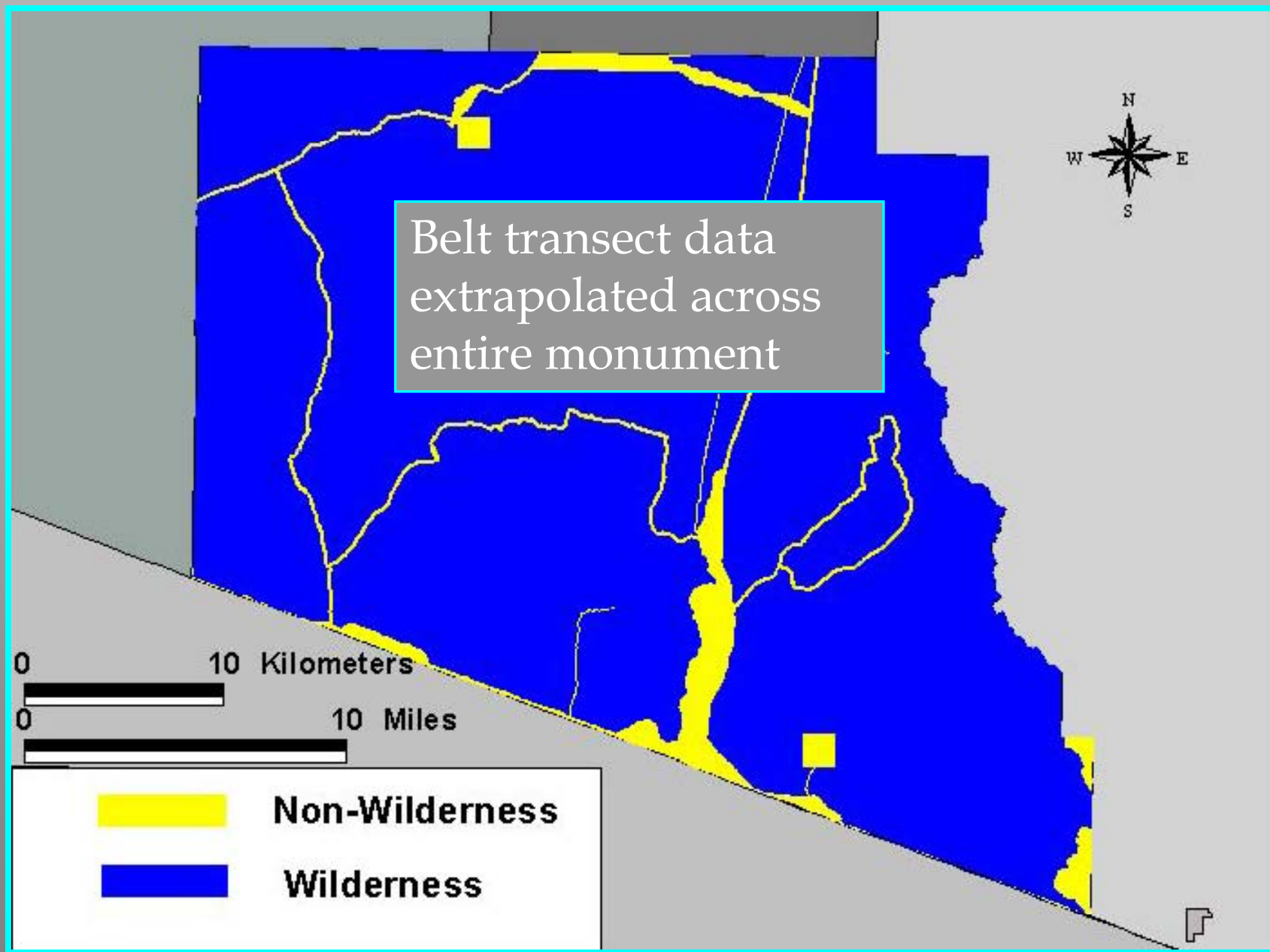
What You Will Likely See on a 5km Trek Across
Organ Pipe Cactus National Monument

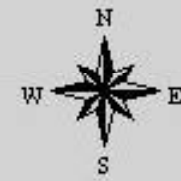


Note that one encounters indicators of disturbance more frequently when the walk is at right angles (east to west) to the general flow of migrant border-crossers (south to north).

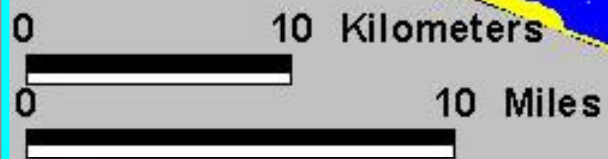



Trailing statistics from transects. All such trails are unauthorized and are the result of border crosser activities.

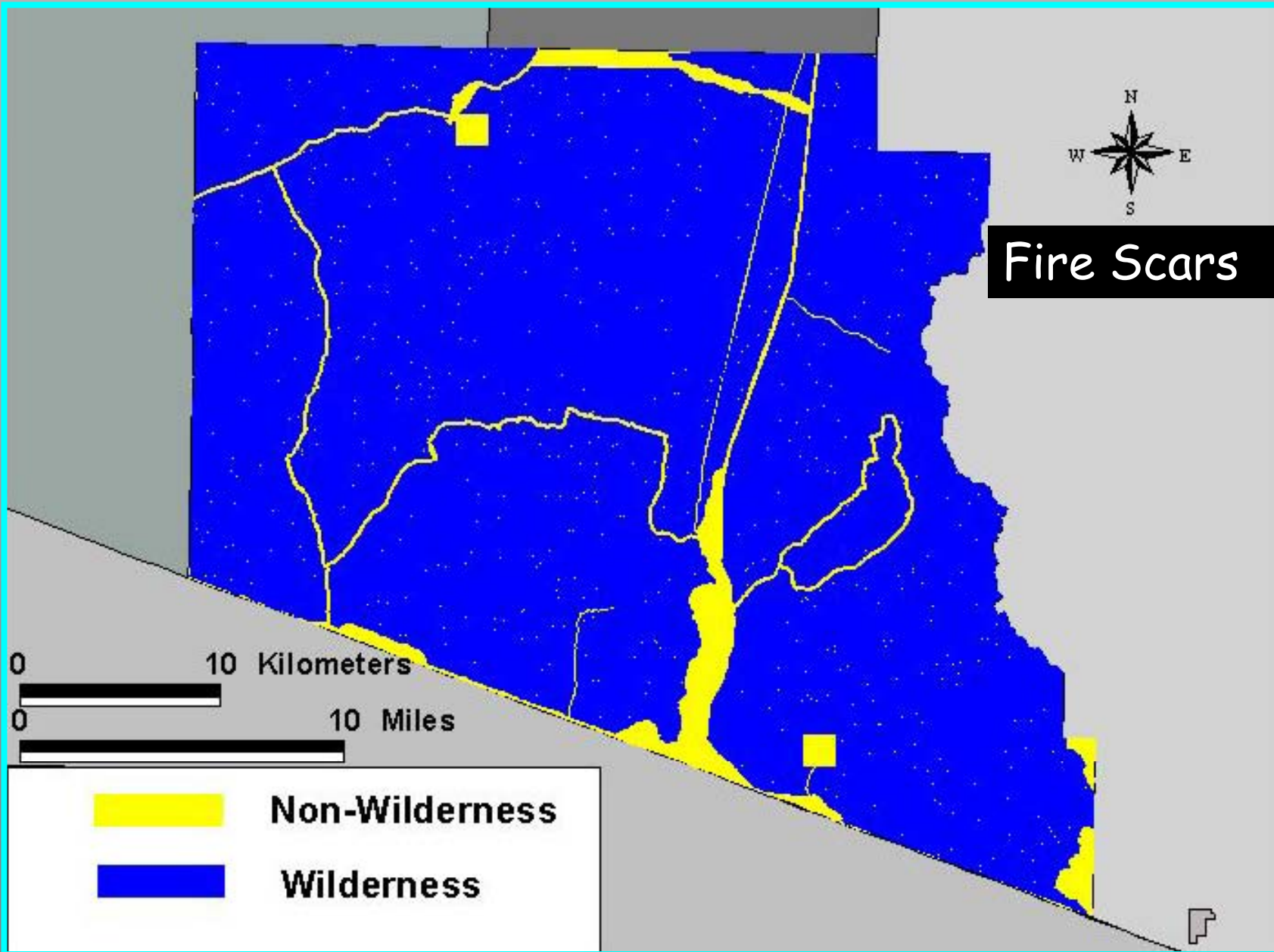


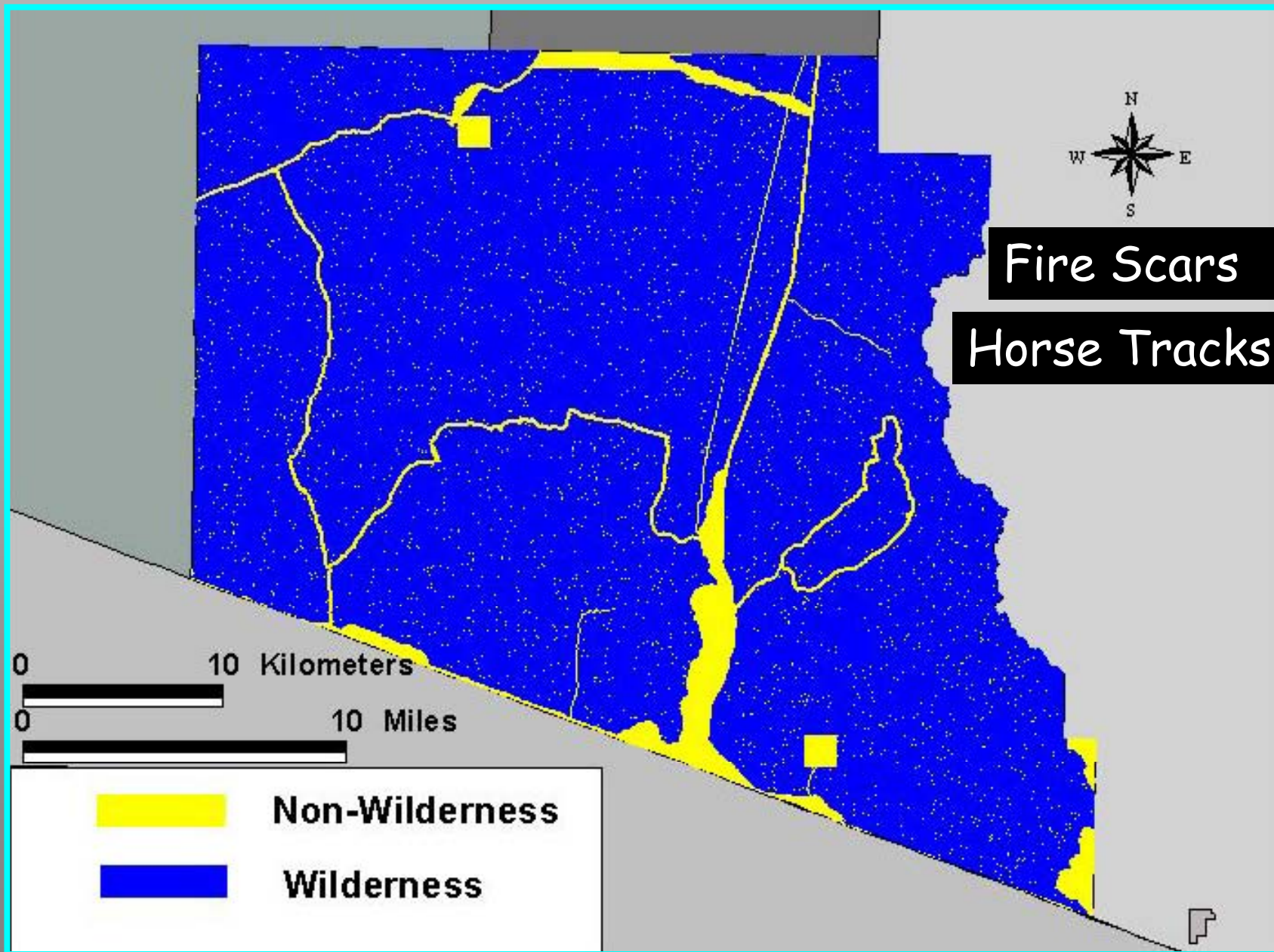


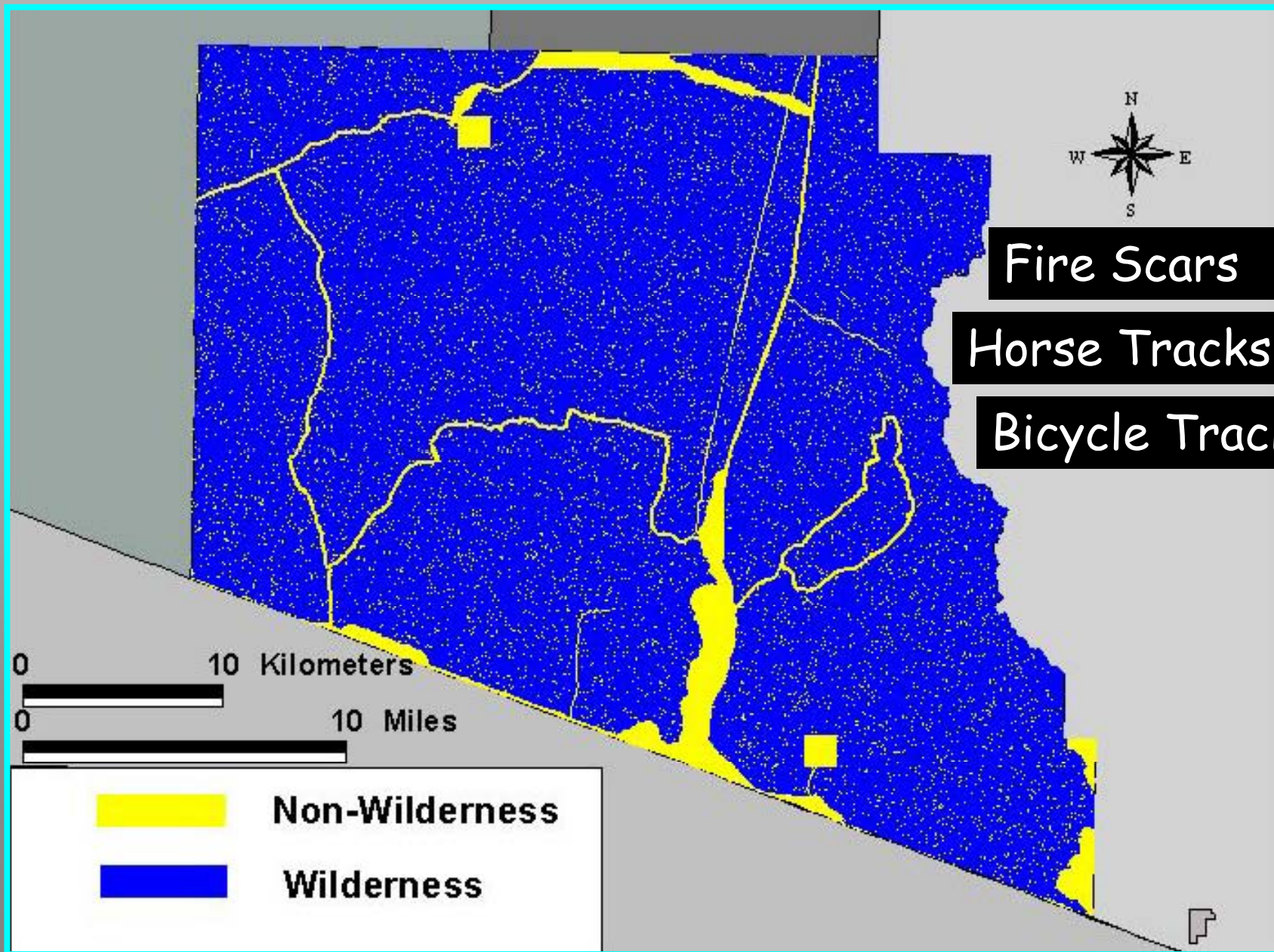
Fire Scars



-  Non-Wilderness
-  Wilderness



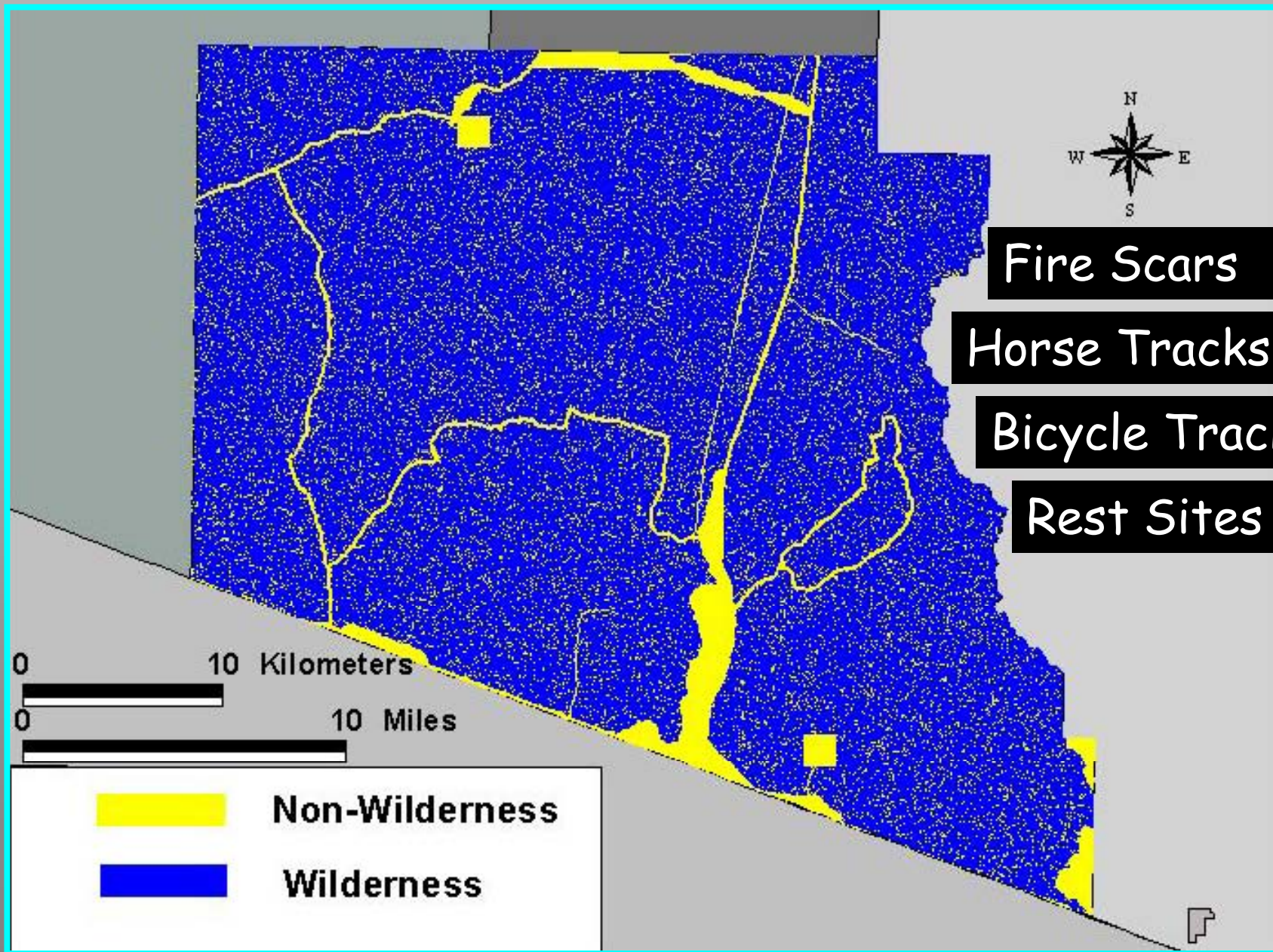


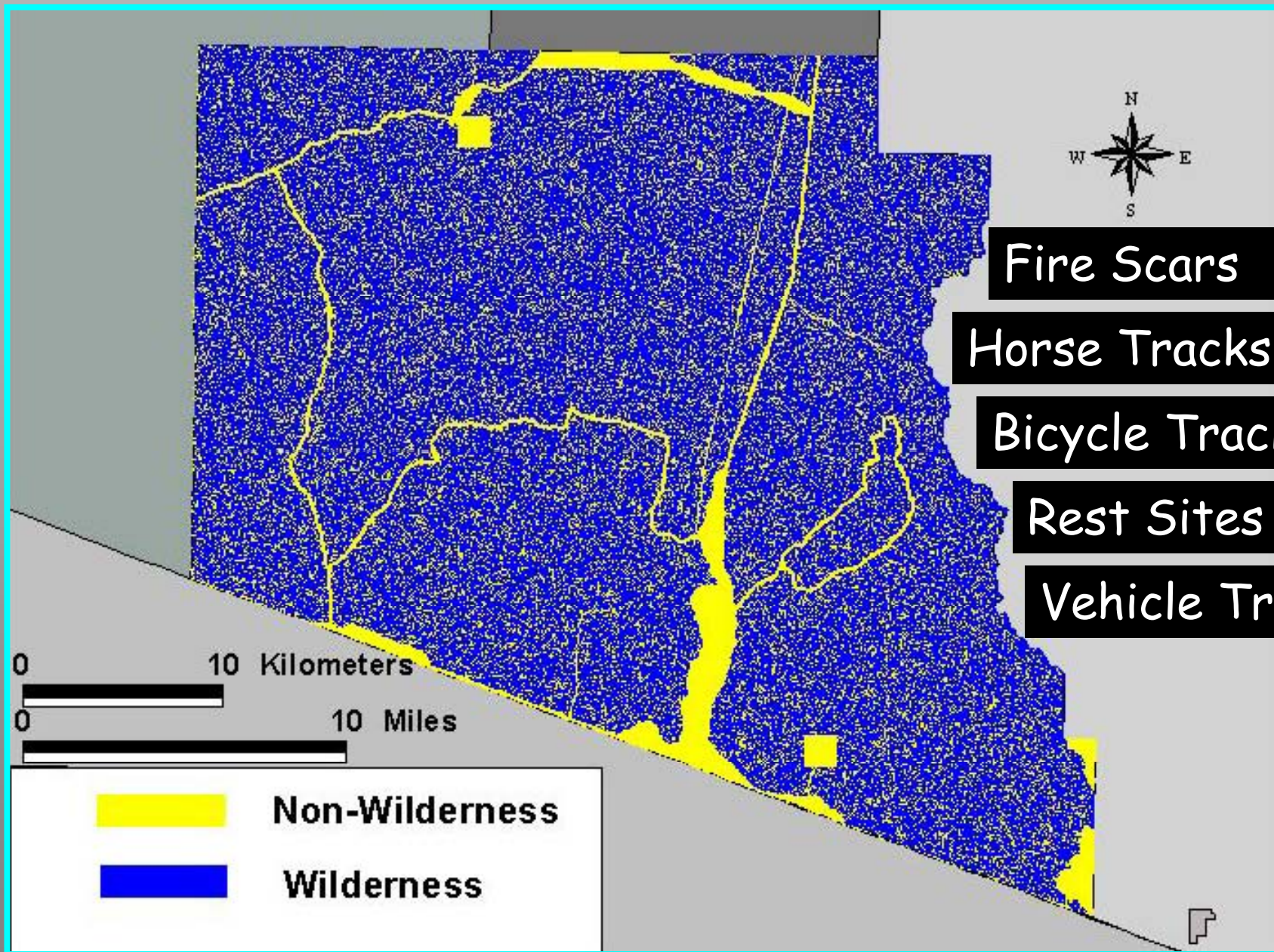


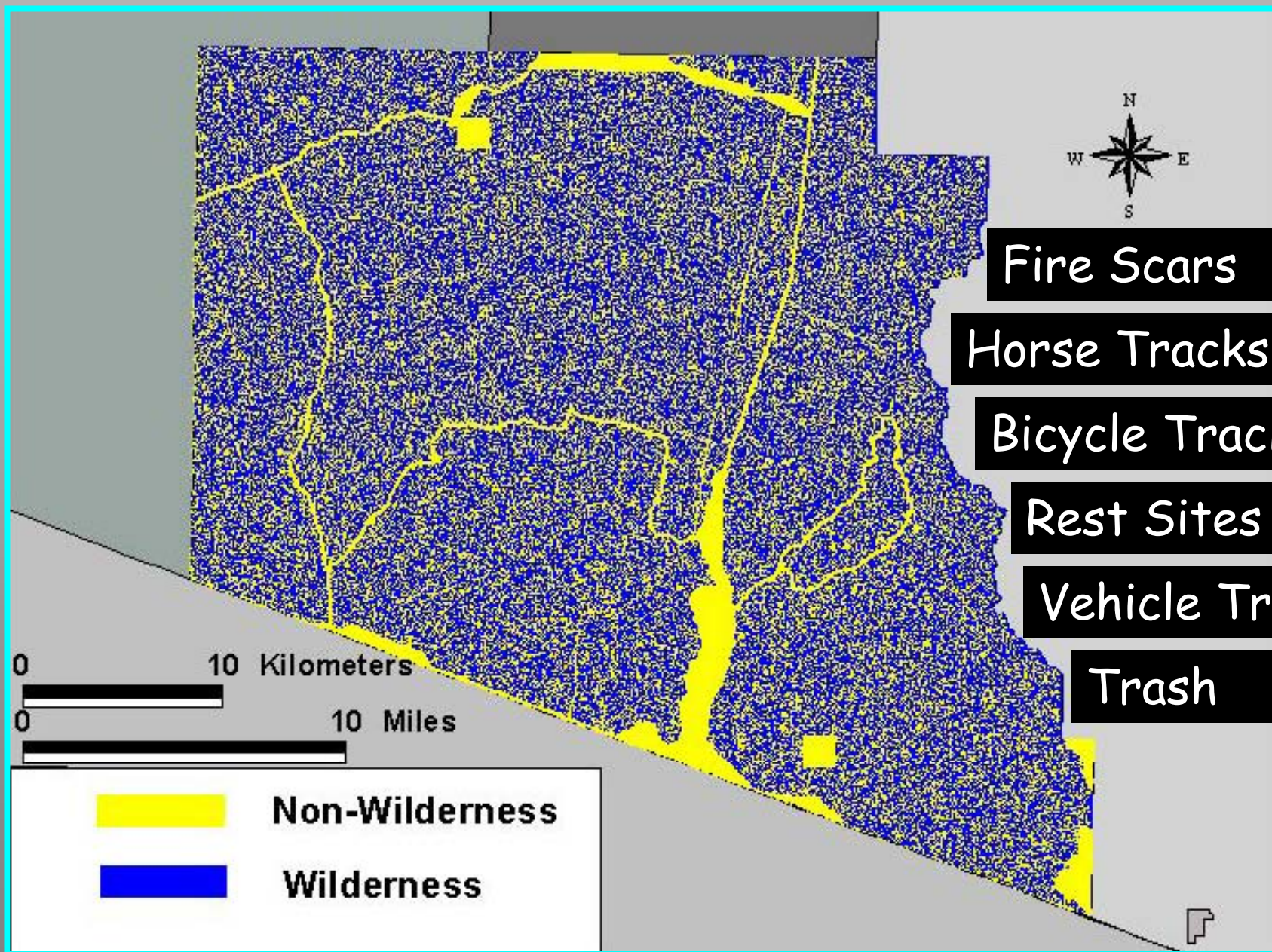
Fire Scars

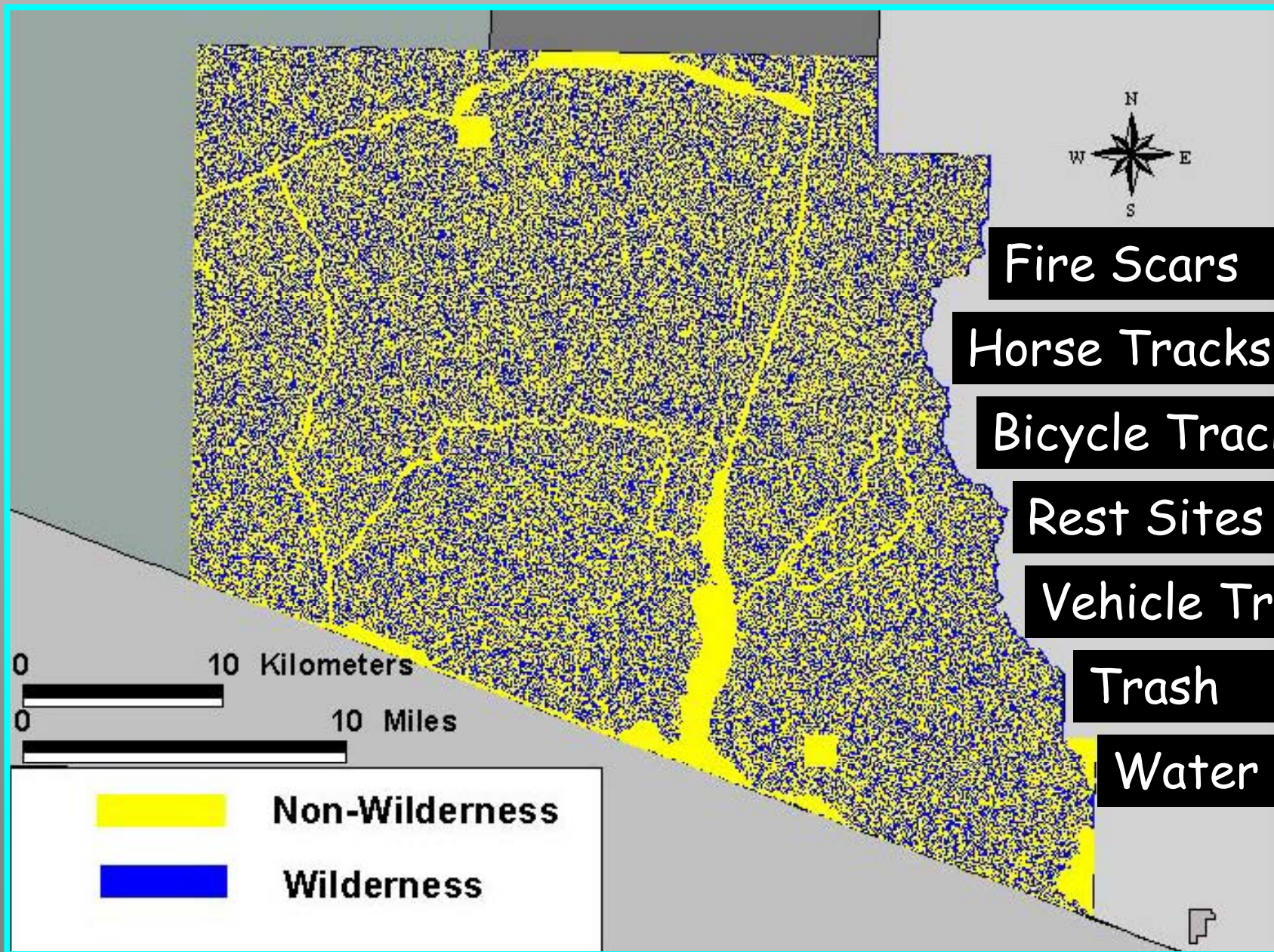
Horse Tracks

Bicycle Tracks









Fire Scars

Horse Tracks

Bicycle Tracks

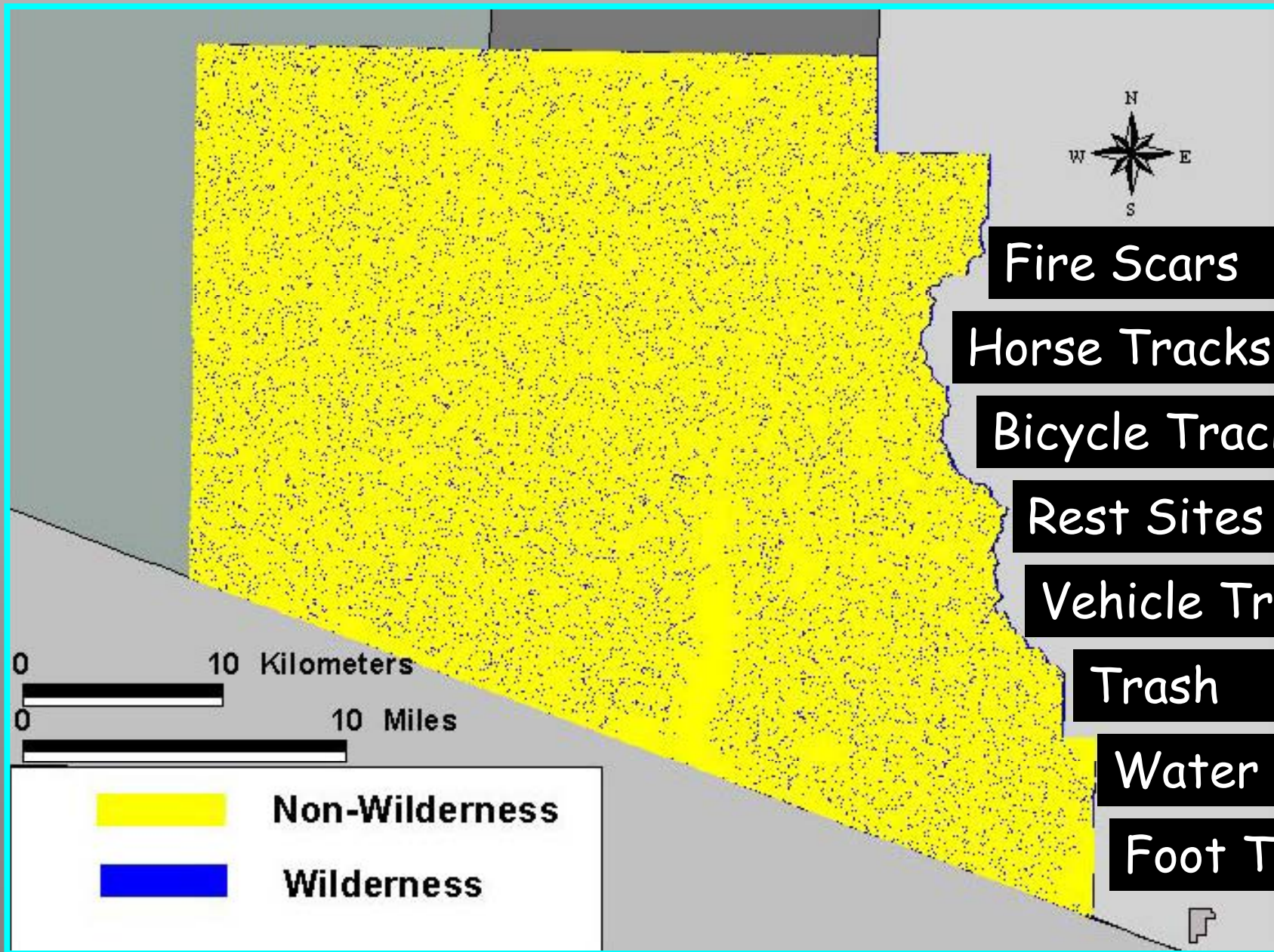
Rest Sites

Vehicle Tracks

Trash

Water Bottles





Fire Scars

Horse Tracks

Bicycle Tracks

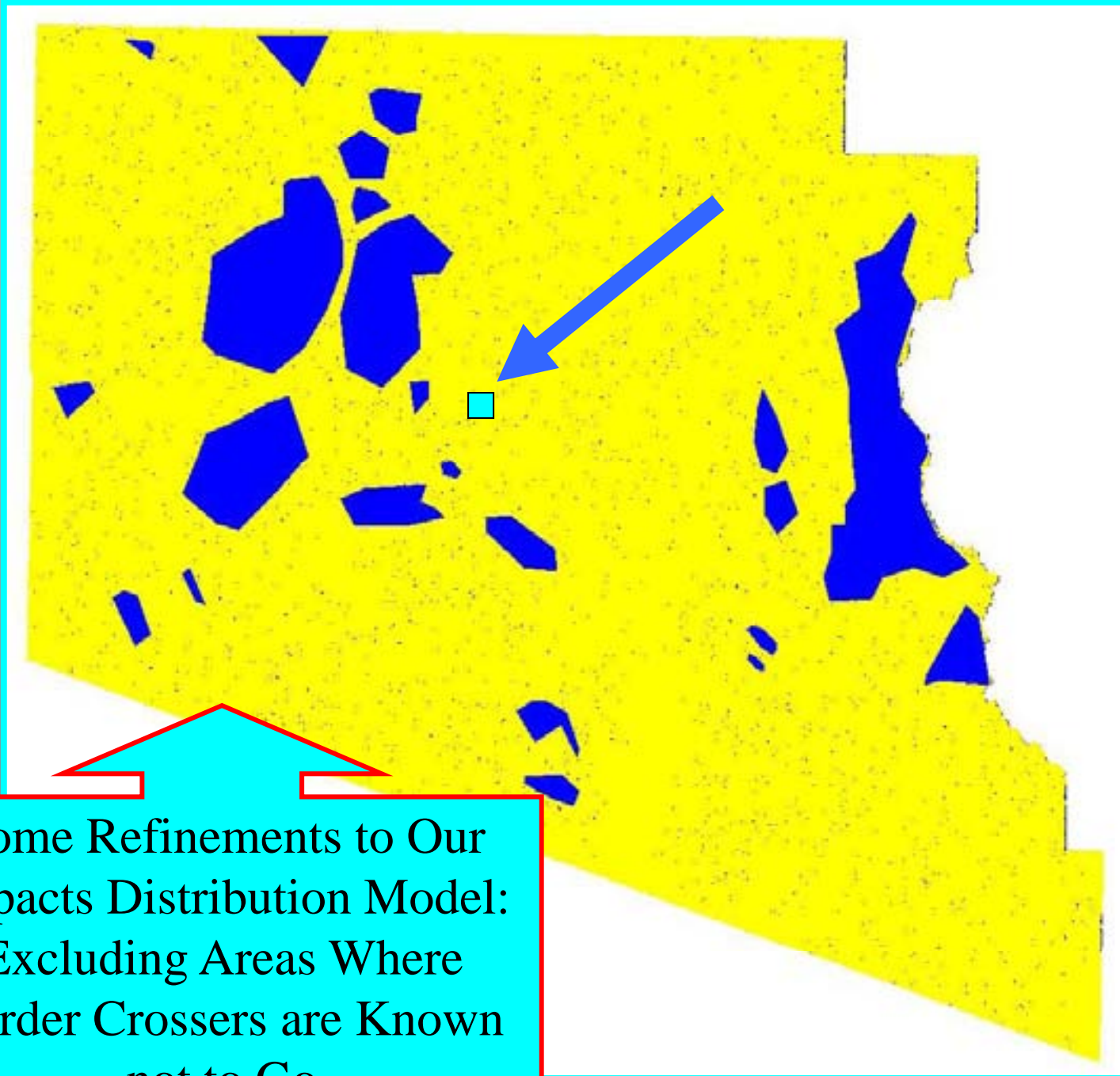
Rest Sites

Vehicle Tracks

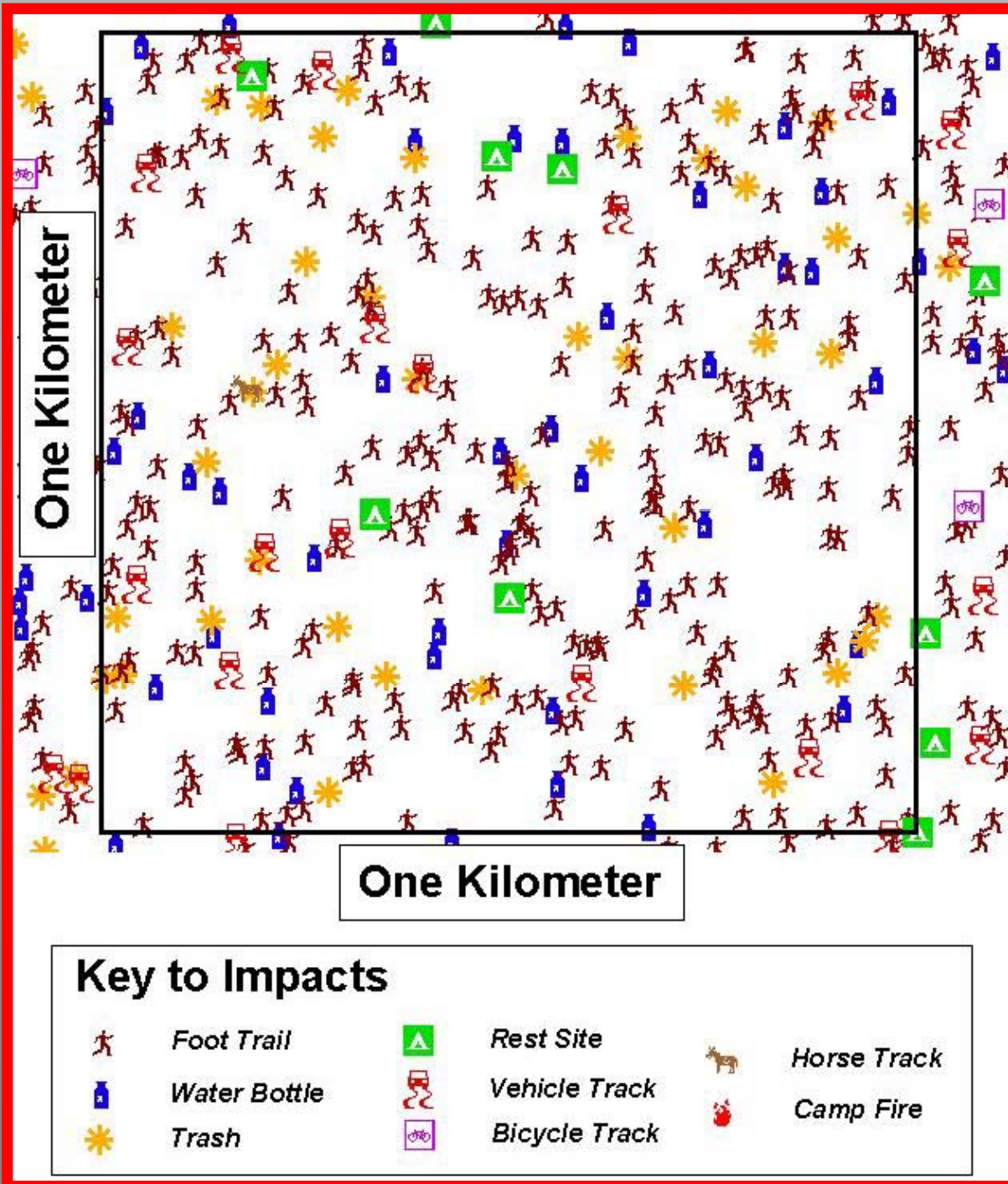
Trash

Water Bottles

Foot Trails

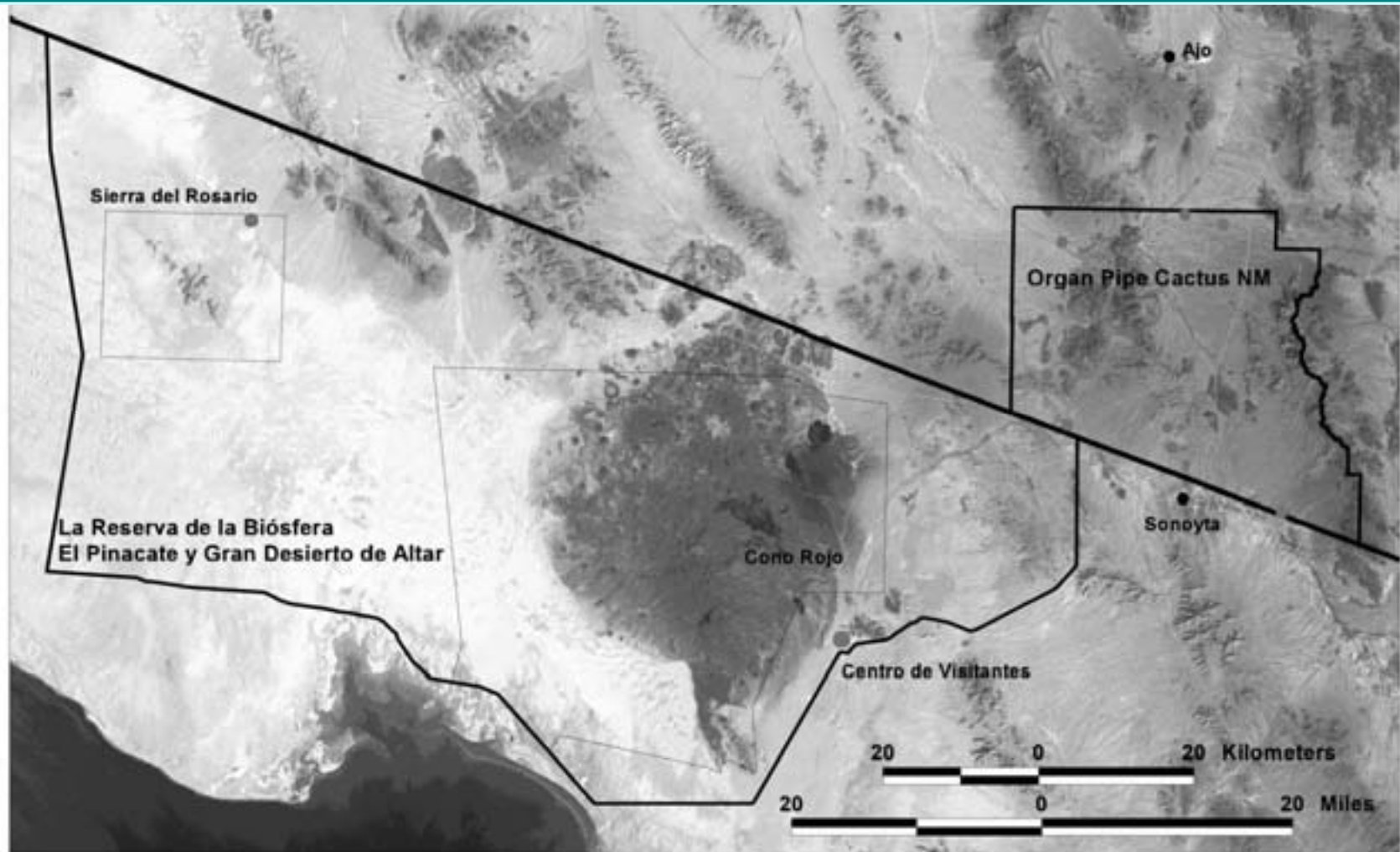


Some Refinements to Our
Impacts Distribution Model:
Excluding Areas Where
Border Crossers are Known
not to Go



Results of a GIS model, based on transect data, of what a “typical” square km of Valley Floor habitat might look like to a Monument visitor taking a hike.

Organ Pipe's "sister park" in Sonora, Mexico, El Pinacate, is also experiencing resource impacts from border-related activity.

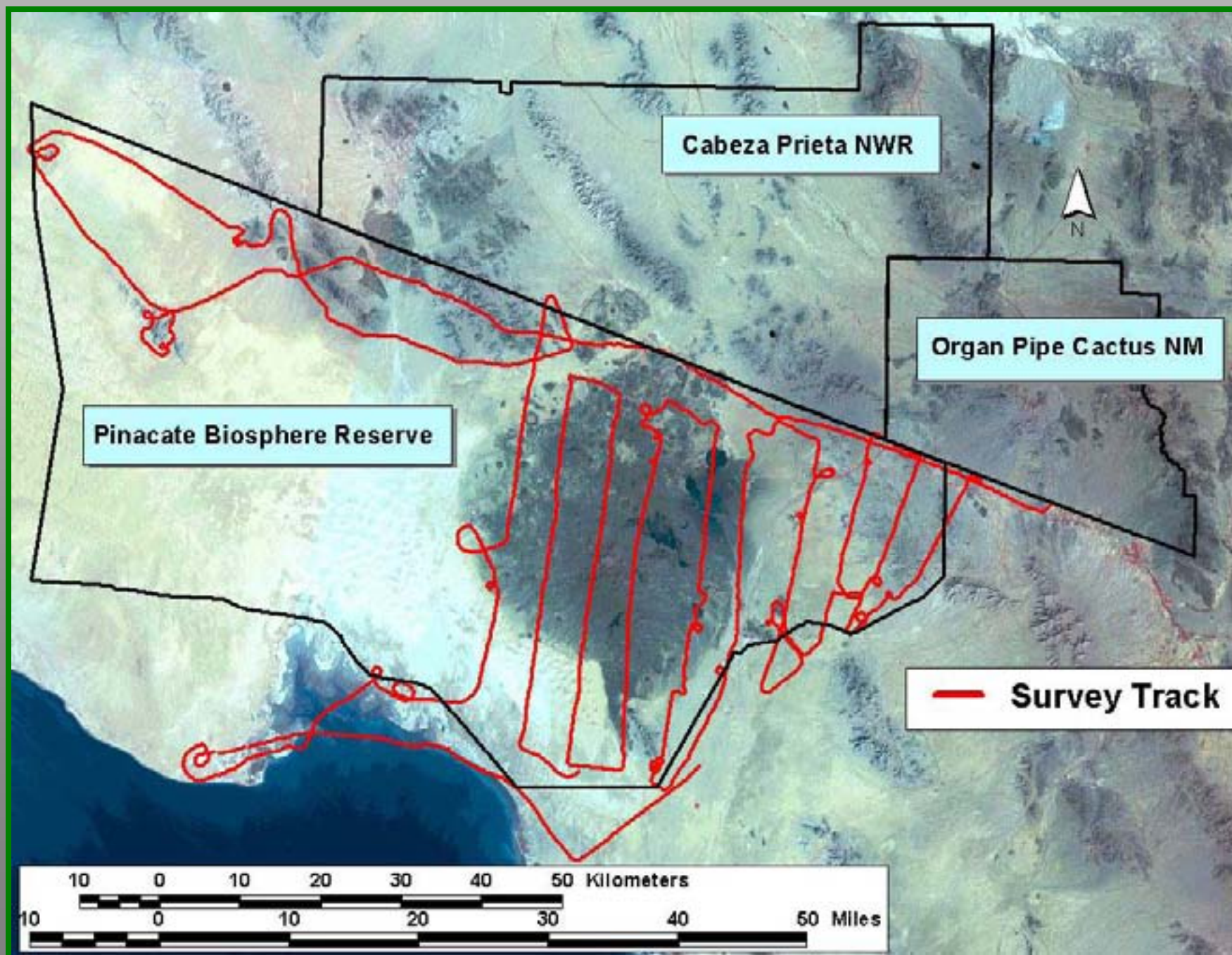




In spring 2002, funding was received to fly aerial surveys over El Pinacate and map damage caused by illegal landing strips (used by drug smugglers) and Mexican army countermeasures (trenching).

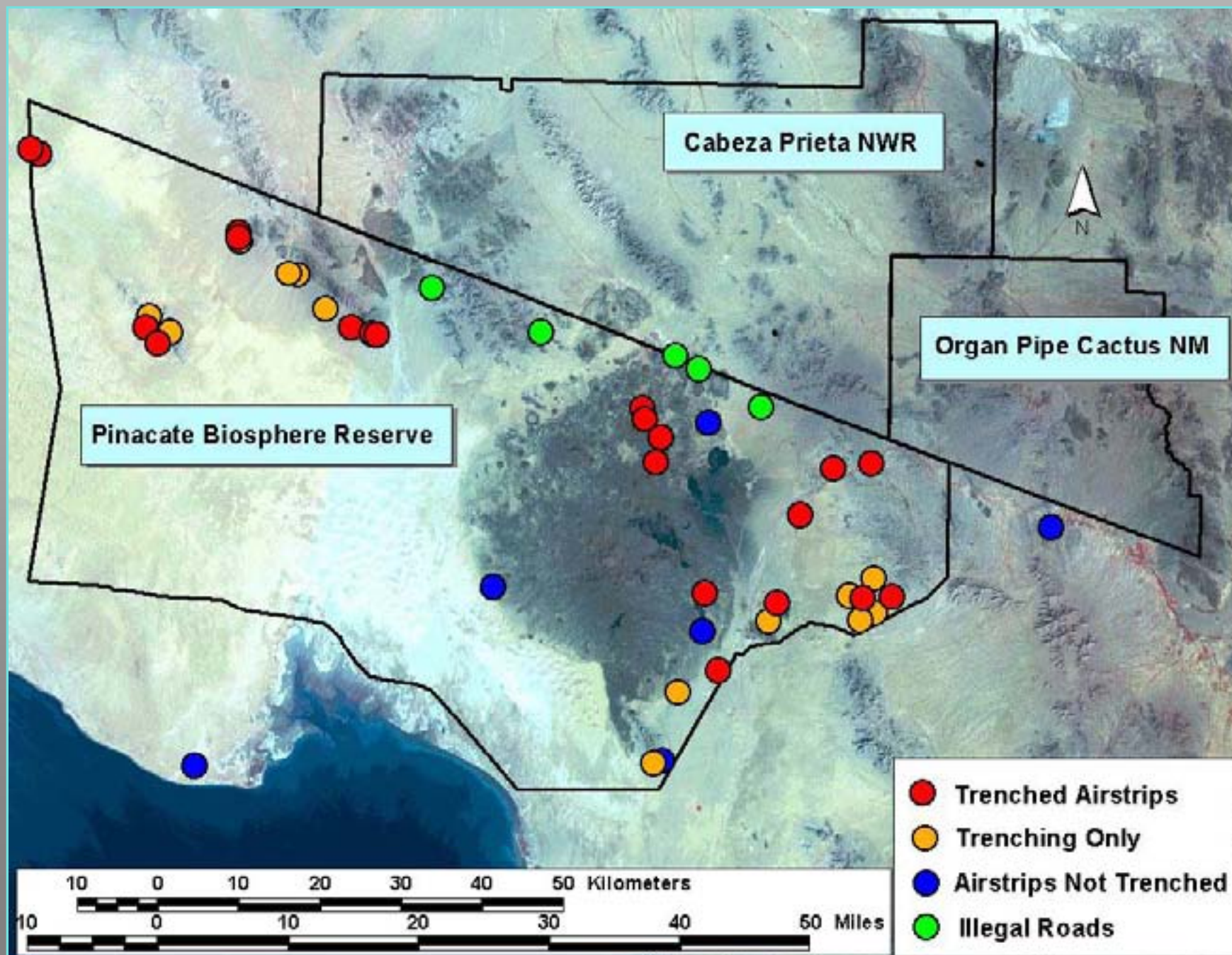
Reserva El Pinacate







Roads, landing strips, and military trenching on fragile cinder landscape.



Do we declare the
Borderlands a *Sacrifice*
Zone?

No!

The Monument survived
cattle ranching and we
will survive this.

What can we do?

Educate the public

Monitor Resource Damage

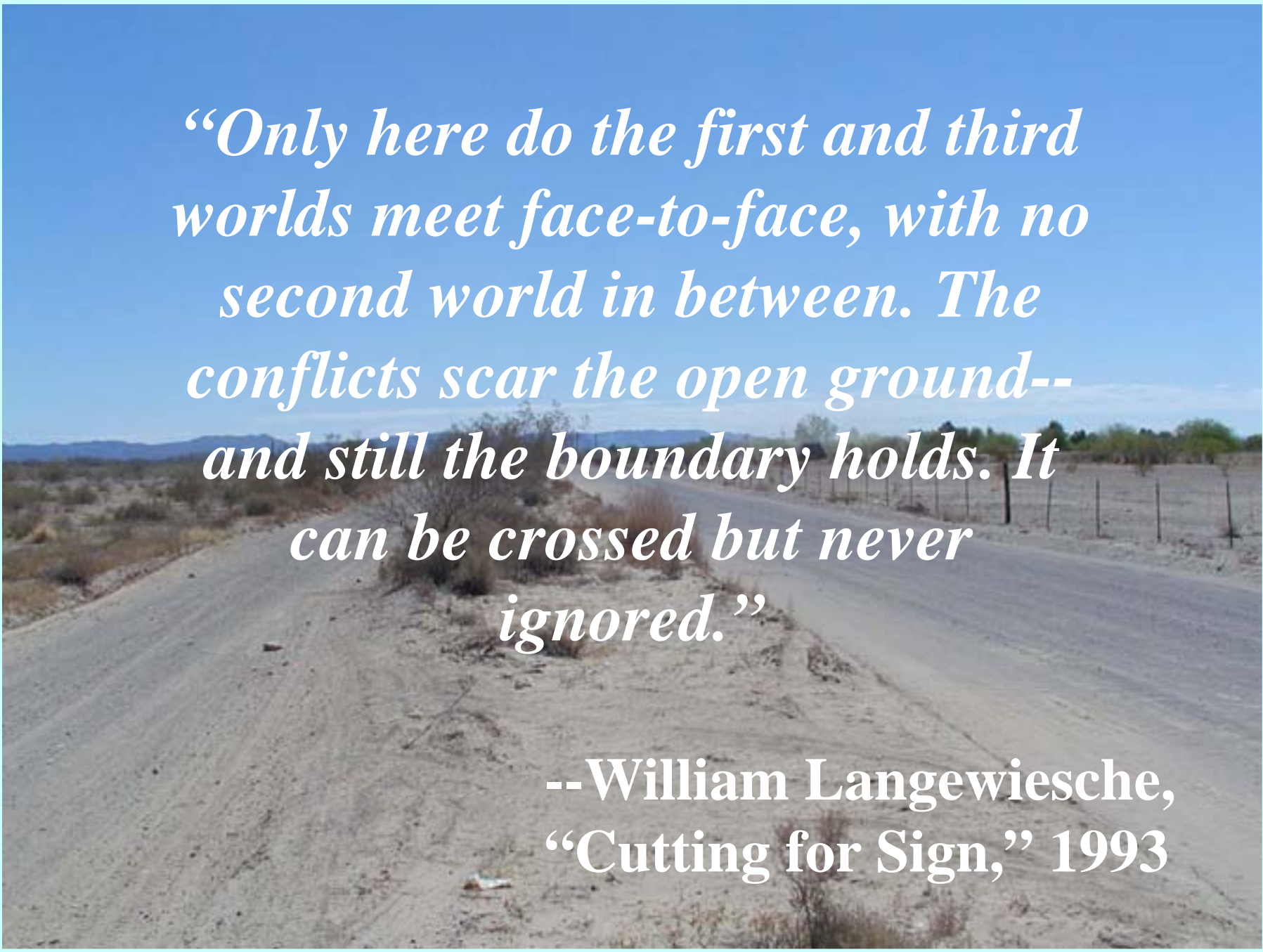
Demand a Political Solution

Acknowledgements

**Project Funded By a
Grant From**

**The National Park
Service Mexican Affairs
Office**



A photograph of a desert landscape. A dirt road or path runs diagonally from the bottom left towards the center. To the right of the road, there is a fence line made of wooden posts and wire. The ground is dry and sandy with sparse, low-lying desert vegetation. In the background, there are low mountains under a clear blue sky. The text is overlaid on the upper half of the image.

*“Only here do the first and third
worlds meet face-to-face, with no
second world in between. The
conflicts scar the open ground--
and still the boundary holds. It
can be crossed but never
ignored.”*

--William Langewiesche,
“Cutting for Sign,” 1993