



# Border Wall Restoration Site Reports

November 2021 - July 2022

**Myles Traphagen** - *Borderlands Program Coordinator*



*Dynamite blasting and mountaintop removal of Carrizalillo Hills, Luna County. Photo: Myles Traphagen*



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# Overview

Border wall construction. Photo: Myles Traphagen



Beginning on January 21, 2021, the day that President Biden took office and halted construction of the southern border wall, Wildlands Network began to map the construction on the border in Arizona and New Mexico in fine detail to assess the damage and determine how much wall was actually built. Fortunately, several crucially important wildlife corridors were saved at the last minute when construction was halted. However, an incredible amount of damage was inflicted upon our nation's Parks, Monuments, National Forests, Wilderness Areas and Wildlife Refuges, and large portions of the border remain impassable to all but the smallest creatures.

Although some news reports continue to tout the idea that the Trump Administration was unsuccessful in building its border wall, 263 miles of pedestrian fencing/border wall were built in Arizona and New Mexico between 2017 and 2021. Adding to the previously build pedestrian fencing, at least 391 miles of border wall now divide the two states from Mexico. Although less harmful for wildlife, there are also an additional 120 miles of vehicle barriers in Arizona and New Mexico.

In several locations, the wall was not completed, but construction activities left severe environmental damage due to the blasting of mountains with dynamite. Essentially, mountaintop removal methods used in modern mining laid waste to many protected lands. In many places the damage is nearly irreversible.

Now, in its budget for FY 2023, the Biden Administration has authorized the transfer of up to \$225

million from the Department of Homeland Security to the Department of Interior for environmental mitigation activities related to the construction of the border wall. While this funding would represent a significant investment towards restoring the borderlands, it would only begin the long process of remediation and restoration that will be needed to repair the damage that has been done. Here, we not only encourage Congress to make the same investment, but from our research and mapping efforts, we identified areas whose restoration should be prioritized both for the health of the land and the wildlife that call the region home.

## Converting Border Wall to Vehicle Barriers

For restoration to be complete and integrity fully restored to this ecologically diverse region, the border wall must be torn down and fully removed. However, wildlife movement and connectivity can be restored by modifying the wall in its current state so that it continues to serve as vehicle barrier while allowing large mammals and other species to pass freely.

The following page is an example of how bollards from the wall could be cost-effectively removed so that the steel can be recycled and animal passage restored.



**Michael Dax**

*Western Program Director*



# Pedestrian Fencing

Pedestrian bollard wall fencing, also known as “border wall,” has been built on over 700 miles of the border. Its purpose is to impede pedestrian traffic, however, it also very effective at blocking movement of any animal larger than a rabbit, due to the fact that the width of the space between the square steel posts, known as bollards, is only four inches. However, it is becoming increasingly well documented that the fencing provides only a temporary impedance to human movement, and the that the wall is easily breached by common, off-the-shelf items like rope, homemade ladders, or rapidly cut with reciprocating saws found at any hardware store. The damage the walls will do to native wildlife will be significant, with its effects likely to compound over time. 2020 was the hottest and driest year on record for the Southwest and scientists across the region are observing major animal and plant dieoffs. Detections of wildlife on trail cameras that Wildlands Network has deployed along the border have declined over the last year in places where pedestrian fencing was built. At a time where hotter and drier climatic conditions are becoming more frequent, animals need more space, not less, to obtain access to food and water resources which change rapidly over time in accordance with current drought effects.

In arid environments, where rainfall is sporadic and often distributed unevenly across the landscape across the seasons, animals need to migrate long distances in order to find water. The border wall has the capacity to



Myles stands near the border wall to demonstrate its massive scale.

cause regional extirpation of many medium and large wildlife could follow their natural migration routes, while also contributing to border security. Converting the size mammals. However, modifications to the existing border wall could be made that will ensure that native 30-foot high bollard fence to a six-foot all vehicle barrier with 44 inch spaces between the bollards would accomplish the objectives of both border security and wildlife movement.



There are currently four inches between each bollard. Photo: Myles Traphagen

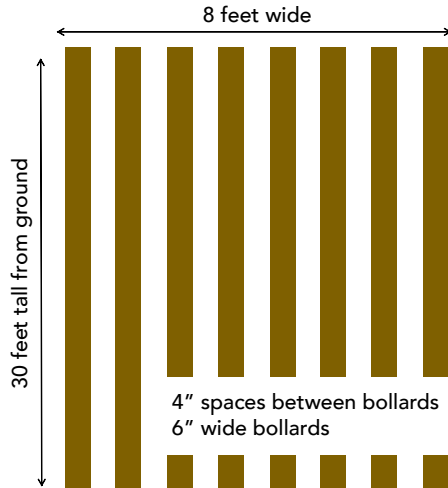
Bison are the largest mammals in North America, standing up to six feet high and up to almost three feet in width. Desert mule deer can have antler racks that span over 30 inches across, and rocky mountain elk, who are expanding their ranges, can have antler spreads of up to 50 inches. Therefore, a space of 44 inches would enable most species of concern to pass through. How can this be accomplished? First, we must understand how the border wall is constructed.

The steel bollards are six inch diameter ASTM 500 cold rolled square steel tubing that are 34 feet long. Eight of the bollards are welded together in what is known as a “panel” that is eight feet wide. The panels are sunk approximately four feet into the ground, leaving the top 30 feet of the bollards above ground as the fence.

By removing the center four bollards, and leaving the two outer bollard posts on either end, a stout vehicle barrier would stand embedded firmly in concrete. Leaving the concrete footers in place is essential to maintain soil integrity and structure and reduce the chance for erosion to occur if the concrete were removed. 168 linear feet of steel could be recovered with this modification. At a cost of over \$1,000 per steel beam, and given that over 2.4 million steel bollards are currently standing, this amounts to \$2.4 billion of steel recovered by this modification.

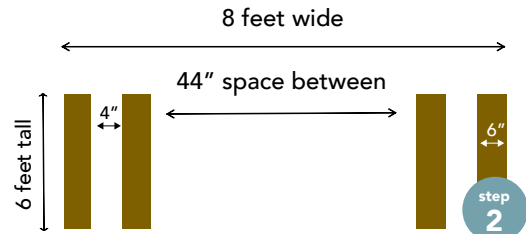
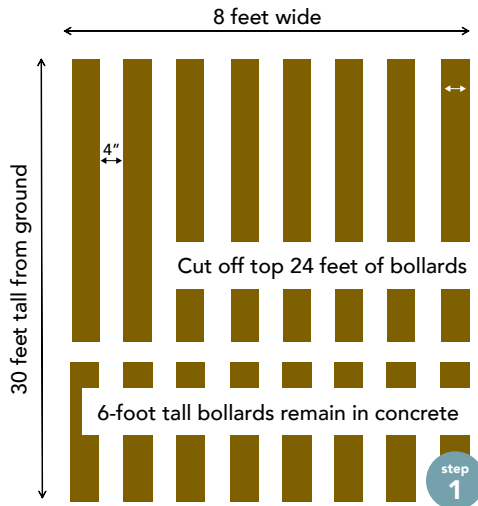


## Existing Bollard Wall Design



Note each panel consists of 8 six-inch steel bollards with four inch spaces between each bollard.

## Bollard Wall Wildlife-Friendly Design Modification

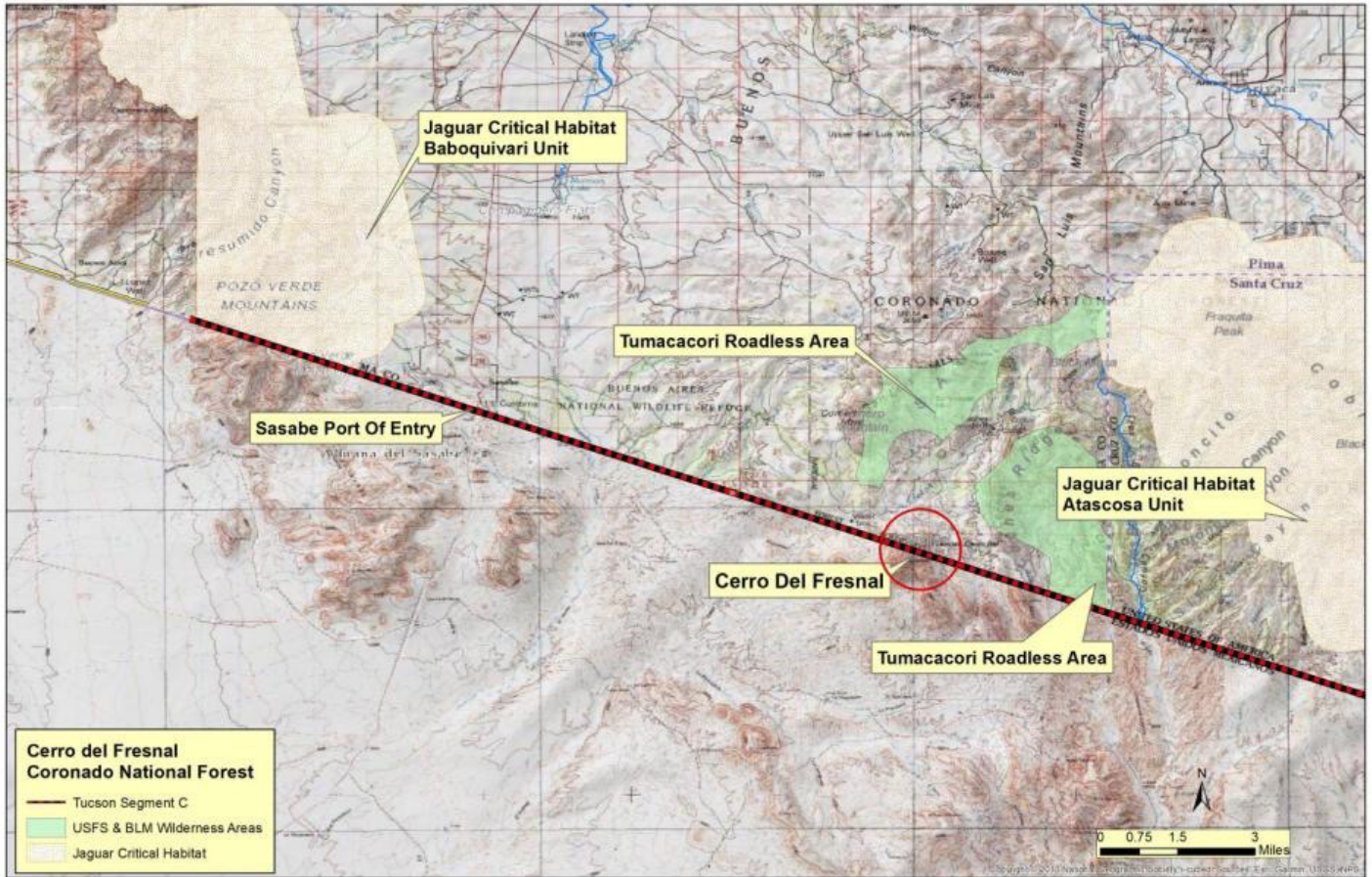


Final wildlife-friendly design



# Cerro del Fresnal

Report No: 2021-3  
 Author: Myles Traphagen  
 Date of site visit: May 25, 2021  
 Location: Pima County, AZ



<b>PROJECT</b>	Tucson C
<b>SEGMENT</b>	A
<b>LAT/LONG</b>	31.443094 / -111.419520
<b>WALL LENGTH</b>	N/A
<b>WALL TYPE/STATUS</b>	Previous infrastructure was removed. Heavy earthwork was done to clear a 20m-wide swath, with significant impact to the surface and vegetation. No new infrastructure has been erected.
<b>LENGTH OF AREA</b>	~1 mile
<b>PROTECTED STATUS</b>	Coronado National Forest
<b>THREATS</b>	Steep slopes, high walls, falling rocks, loose debris, construction material
<b>NOTES</b>	Work began on this border wall segment in fall of 2020. The top of Cerro del Fresnal was dynamited. The top of the peak was leveled.



## Situation Description

In fall of 2020 Fisher Sand & Gravel began dynamite blasting the prominent peak of Cerro del Fresnal in the Coronado National Forest in Pima County, Arizona. The peak lies about one mile east of the Buenos Aires National Wildlife Refuge. Very steep slopes of unstabilized rock and debris occur here, much of being beyond the angle of repose and extremely prone to catastrophic slope failure. Construction material and rubbish, like rebar and steel mesh are present here. There is no protective fencing to keep people, vehicles,

wildlife or livestock out of the area. There is no signage or warning devices to alert people to the extreme danger present here. A commercial generator from the site had slid down slope and slammed into the border wall. This piece of equipment was observed in place over one week with no effort by Fisher Industries to move the equipment. Cerro del Fresnal has essentially become an unmitigated mining site. It is recommended that MSHA take custody of the site.

## Recommended Actions

- Identify mitigation measures ————— **IMMEDIATELY**
- Install culverts ————— **IMMEDIATELY**
- Stabilize slopes ————— **IMMEDIATELY**
- Plant native vegetation ————— **FOLLOWING SOIL PREPARATION**
- Implement monitoring ————— **FOLLOWING ABOVE MITIGATION**
- Evaluate restoration success ————— **ONE YEAR AFTER MITIGATION**



Looking east into Coronado National Forest at Cerro del Fresnal border wall site. May 25, 2021. 31.333623, -110.782415. Photo: Myles Traphagen



Drone view from Cerro del Fresnal looking west towards Buenos Aires NWR. May 31, 2021. 31.443148, -111.419442. Photo: Myles Traphagen



Looking southeast from Buenos Aires National Wildlife Refuge towards Cerro del Fresnal in the Coronado National Forest May 25, 2021. 31.333623, -110.782415. Photo: Myles Traphagen



Construction equipment left unsecured. Generator had slid down the slope and lodged in fence. May 21, 2021. 31.445811, -111.427886. Photo: Myles Traphagen



# Pajarito Mountains

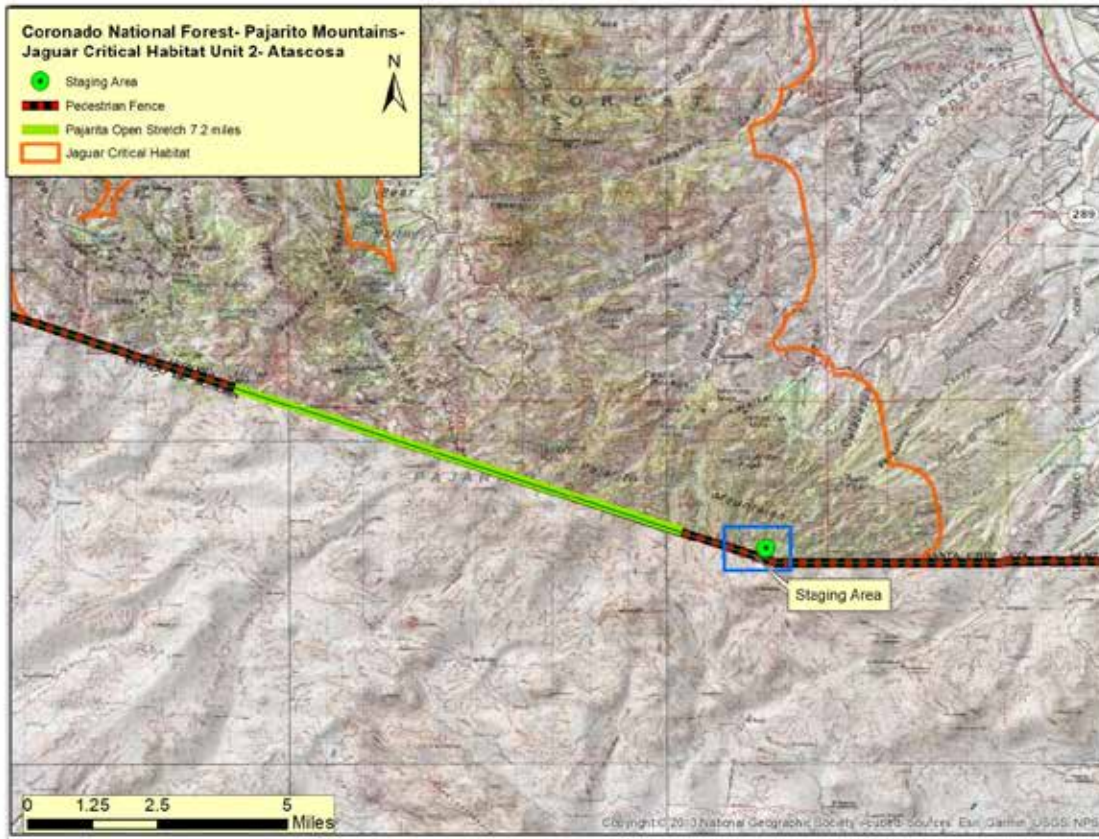
6 miles west of Nogales, Arizona

**Report No:** 2021-2

**Author:** Myles Traphagen

**Date of site visit:** Mar. 10, 2021

**Location:** South of Ruby Road on Calabasas Ridge Road



<b>PROJECT</b>	Tucson B
<b>SEGMENT</b>	1-4
<b>LAT/LONG</b>	31.3364, -111.077564
<b>WALL LENGTH</b>	Staging area & fabrication facility for Fisher Sand & Gravel 6 miles W of Nogales, Arizona.
<b>WALL TYPE/STATUS</b>	Heavy earthwork, blasting and mountaintop removal was done. Material was dumped into drainages. Significant surface impact.
<b>LENGTH OF AREA</b>	0.5 miles
<b>PROTECTED STATUS</b>	Coronado National Forest. Jaguar Critical Habitat Unit 2- Atascosa
<b>THREATS</b>	Erosion, Invasive species, choking out springs and cattle watering tanks
<b>NOTES</b>	This is the staging area & fabrication facility for Fisher Sand & Gravel. Equipment is being stored here. Work began on this border wall segment in Dec. 2020.





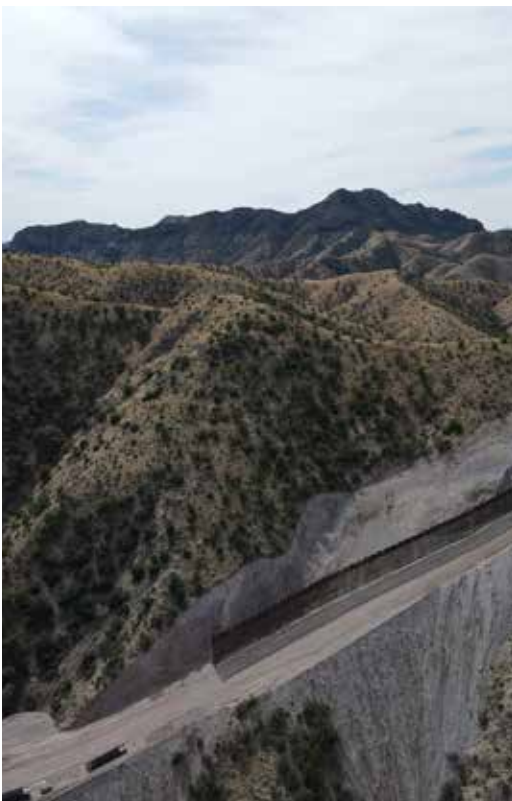


Drone photo looking south at Fisher Sand & Gravel Staging area 6 miles west of Nogales, Arizona. Coronado National Forest: Mar. 4, 2021. 31.3364, -111.077564. Photo: Myles Traphagen

## Situation Description

In fall of 2020 Fisher Sand & Gravel began heavy earthmoving and mountaintop removal in the Pajarito Mountains of Santa Cruz County, Arizona six miles west of Nogales. This is in the Coronado National Forest and is in the Atascosa Unit 2 of Critical Habitat for the endangered jaguar. Many washes and drainages occur here, and there is a considerable amount of loose debris

that, if left bare, could wash downstream, clog drainages, and accelerate the risk of catastrophic flood damage during the next major rainfall event. There are many cattle tanks and springs that are important water sources for wildlife. The presence of disturbed bare soil will promote the colonization of invasive plant species.



Looking west into Coronado National Forest from Fisher S&G staging area. Mar. 4, 2021. 31.336116, -111.07756. Note stretch of wall built between Jan. 20-27, 2021. Photo: Myles Traphagen

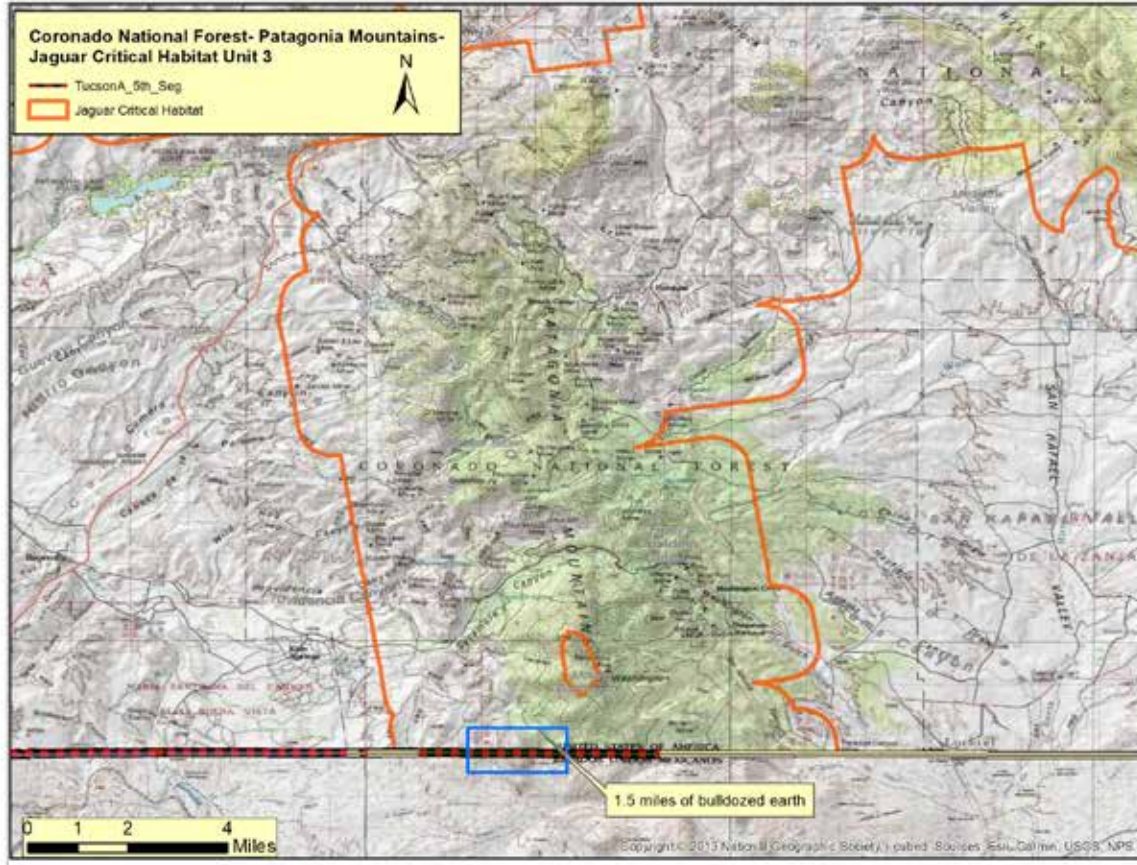
## Recommended Actions

- Map area of interest* ————— **IMMEDIATELY**
- Identify mitigation measures* ————— **IMMEDIATELY**
- Install culverts* ————— **IMMEDIATELY**
- Stabilize slopes* ————— **IMMEDIATELY**
- Plant native vegetation* ————— **FOLLOWING SOIL PREPARATION**
- Implement monitoring* ————— **FOLLOWING ABOVE MITIGATION**
- Evaluate restoration success* ————— **ONE YEAR AFTER MITIGATION**



# Western Patagonia Mountains

**Report No:** 2021-1  
**Author:** Myles Traphagen  
**Date of site visit:** Jan. 21, 2021  
**Location:** Santa Cruz County, AZ



<b>PROJECT</b>	Tucson B
<b>SEGMENT</b>	5
<b>LAT/LONG</b>	31.333623 / -110.782415
<b>WALL LENGTH</b>	4.1 miles in progress
<b>WALL TYPE/STATUS</b>	Previous infrastructure was removed. Heavy earthwork was done to clear a 20m-wide swath, with significant impact to the surface and vegetation. No new infrastructure has been erected.
<b>LENGTH OF AREA</b>	1.5 miles
<b>PROTECTED STATUS</b>	Coronado National Forest. Jaguar Critical Habitat Unit 3
<b>THREATS</b>	Erosion, Invasive species
<b>NOTES</b>	Work began on this border wall segment in late Dec. 2020. 1.5 miles have been bulldozed into the Patagonia Mountains.





Looking east into Coronado National Forest at Roosevelt Easement border wall site. Jan. 21, 2021. 31.333623, -110.782415



Looking west into Coronado National Forest at Roosevelt Easement border wall site. Note filled in drainage. Jan. 21, 2021. 31.333623, -110.782415



Drone view from 100m above ground level at eastern terminus of bulldozed areas. Width of bladed area is 20 meters wide. Jan. 21, 2021. 31.333583, -110.774553

## Situation Description

In late December of 2020 Fisher Sand & Gravel began earthmoving on the western slope of the Patagonia Mountains of Santa Cruz County, Arizona. This is in the Coronado National Forest one mile east of the Santa Cruz River, which enters the US from Mexico. This area is within critical habitat for the endangered jaguar. Numerous small washes and drainages occur here, and

there is a considerable amount of loose debris that, if left bare, could wash downstream, clog drainages, and accelerate the risk of catastrophic flood damage during the next major rainfall event. The presence of disturbed bare soil will promote the colonization of invasive plant species.



Drone view looking east into Patagonia Mountains in Coronado National Forest. Jan. 21, 2021. Photo: Myles Traphagen

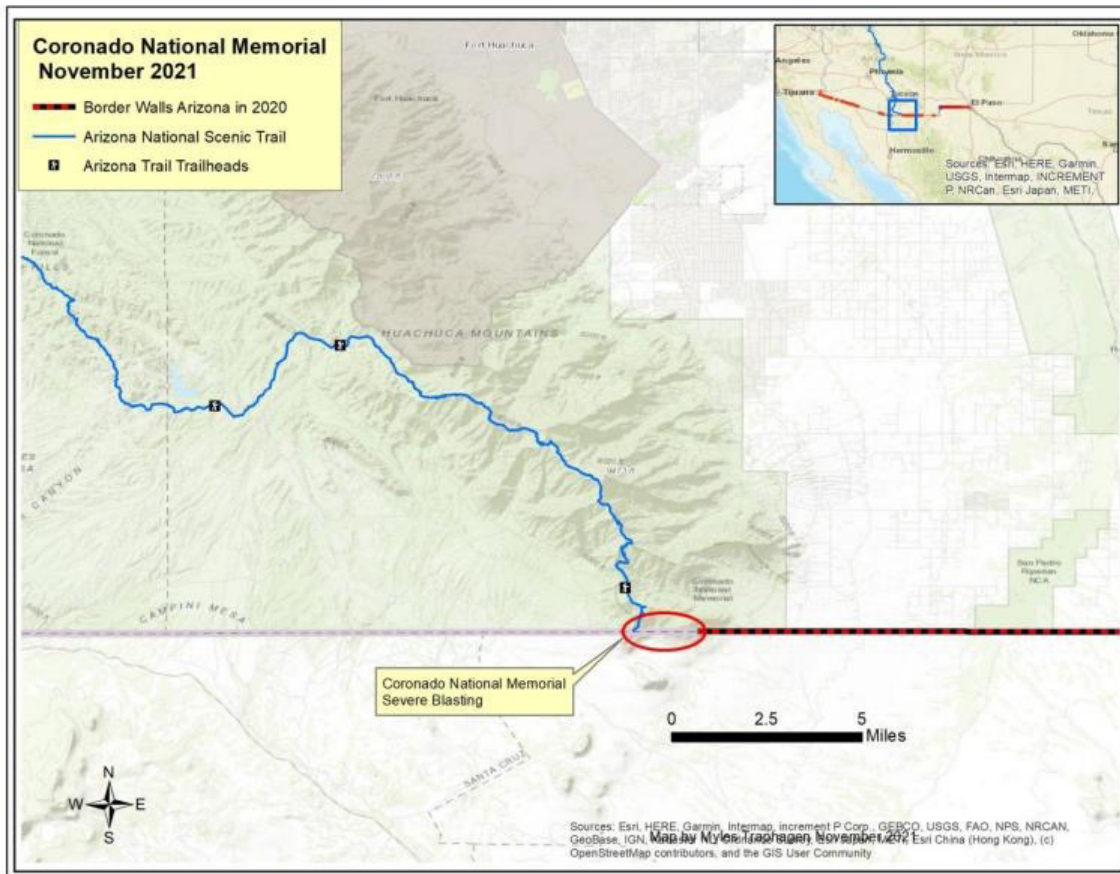
## Recommended Actions

- Map area of interest ————— **IMMEDIATELY**
- Identify mitigation measures ————— **IMMEDIATELY**
- Install culverts ————— **IMMEDIATELY**
- Stabilize slopes ————— **IMMEDIATELY**
- Plant native vegetation ————— **FOLLOWING SOIL PREPARATION**
- Implement monitoring ————— **FOLLOWING ABOVE MITIGATION**
- Evaluate restoration success ————— **ONE YEAR AFTER MITIGATION**



# Coronado National Memorial

**Report No:** 2021-9  
**Author:** Myles Traphagen  
**Date of site visit:** Nov. 30, 2021  
**Location:** Cochise County, AZ



<b>PROJECT</b>	Tucson B
<b>SEGMENT</b>	6
<b>LAT/LONG</b>	31.20.015, -110.17.703 to 31.20.018, 110.15.017
<b>WALL LENGTH</b>	2.65 miles
<b>WALL TYPE/STATUS</b>	Coronado Peak was dynamited. No wall erected in most of segment, but 200 meter long "orphan wall" was built near crest of peak.
<b>LENGTH OF AREA</b>	4.5 miles
<b>PROTECTED STATUS</b>	National Park Service
<b>THREATS</b>	Steep, unstable slopes, Erosion, Invasive species. Hazardous to humans, livestock and wildlife. Loss of National Scenic Trail.
<b>NOTES</b>	The first mile of the Arizona Trail was blasted and remains closed.





Dynamite blasting on Coronado Peak. Photo: Myles Traphagen

## Situation Description

In late 2020 Southwest Valley Constructors (Kiewit) began dynamiting and earthmoving at Coronado National Memorial, a National Park Service property. Steep, unstabilized slopes created by dynamite blasting are present here. These constitute a public, livestock and wildlife safety hazard and accelerate the risk of catastrophic flood damage during the next major rainfall event. The presence of disturbed bare soil will promote the colonization of invasive plant species. Presently, there is a 2.65-mile zone that blasted the southern portion of Coronado Peak. This includes the first mile of the Arizona National Scenic Trail. Species affected include mountain lions, bobcats, white-tailed deer, javelina, gray foxes, badgers, and mule deer. Jaguars and ocelots have been documented in this area. It is imperative to make efforts to restore this jewel of the National Park Service system.

## Recommended Actions

Map area of interest	COMPLETED
Identify mitigation measures	IMMEDIATELY
Install culverts	N/A
Stabilize slopes	IMMEDIATELY
Plant native vegetation	FOLLOWING SOIL PREPARATION
Implement monitoring	FOLLOWING ABOVE MITIGATION
Evaluate restoration success	ONE YEAR AFTER MITIGATION



200-meter long "orphan wall" on west slope of Coronado Peak. Photo: Myles Traphagen



Roads created for border wall construction on southwestern edge of Coronado National Memorial. Aug. 2021. Photo: Myles Traphagen

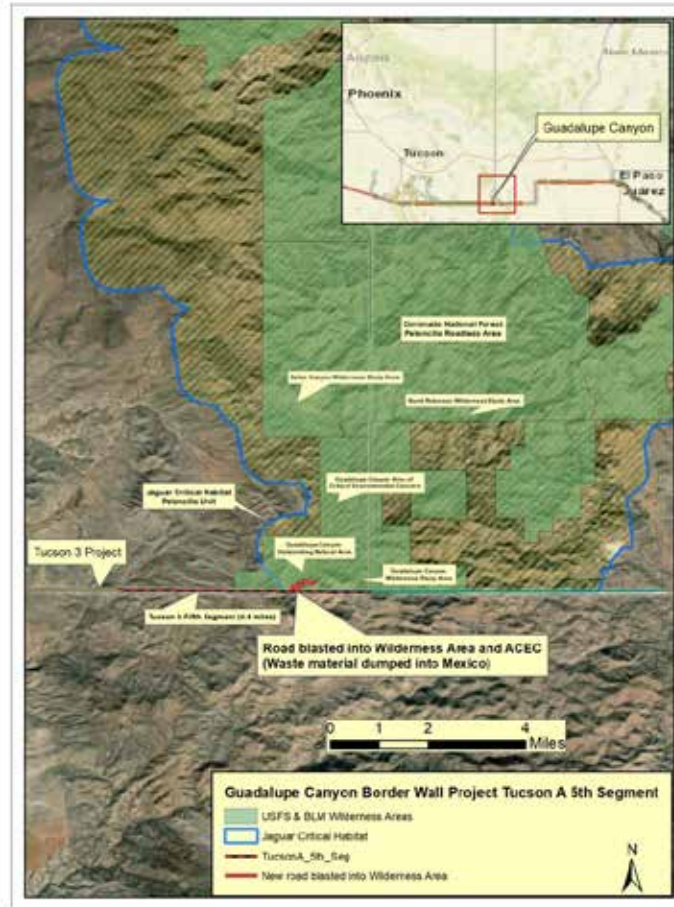


Construction staging area on western edge of Coronado National Memorial and Coronado National Forest. Aug. 2021. Photo: Myles Traphagen.



# Guadalupe Canyon

**Report No:** 2022-1  
**Author:** Myles Traphagen  
**Date of site visit:** Jan. 2021  
**Location:** Cochise Co, AZ



<b>PROJECT</b>	Tucson A
<b>SEGMENT</b>	5
<b>LAT/LONG</b>	31.338342, -109.093933
<b>WALL LENGTH</b>	Approx. 1 mile
<b>WALL TYPE/STATUS</b>	Mountains were blasted with dynamite
<b>LENGTH OF AREA</b>	4 miles
<b>PROTECTED STATUS</b>	Coronado National Forest / Jaguar Critical Habitat Peloncillo Unit 5
<b>THREATS</b>	Serious public safety issue. Rockfall, erosion, invasive species.
<b>NOTES</b>	Work began on this border wall segment in late summer of 2020. Four miles have been blasted into the Peloncillo Mountains.





Drone view looking east into Guadalupe Canyon. Jan. 8, 2021. 31.338340, -109.093745



Sheer cliffs blasted into Guadalupe Canyon. Jan. 8, 2021. 31.33834, -109.0922.

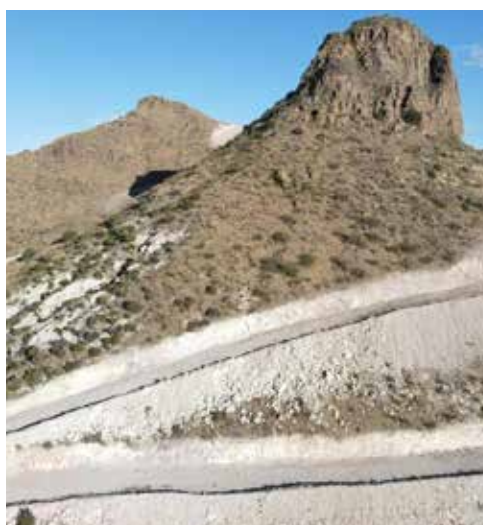
## Situation Description

In summer of 2020 Southwest Valley Constructors (Kiewit Corp) began dynamite blasting Guadalupe Canyon in the Peloncillo Mountains of Cochise County, Arizona. This is in the Coronado National Forest about four miles east of the New Mexico-Arizona state lines. This area is a global biodiversity treasure and carries with it the federally-recognized designations of: Guadalupe Canyon Area of Critical Environmental Concern (ACEC), Guadalupe Canyon Wilderness Study Area, Guadalupe Canyon Outstanding Natural Area, and Coronado National Forest, Critical Habitat for Jaguar (Peloncillo Unit 5).

This area is within critical habitat for the endangered jaguar. Numerous small washes and drainages occur

here that harbor many bird species that have been noted for a half century by noted naturalists like Roger Tory Peterson as being the only place in the United States that a bird occurs. The border wall destroyed a national and global treasure.

There is a considerable amount of loose rock debris that, if left bare, could wash downstream, clog drainages, and accelerate the risk of catastrophic flood damage during the next major rainfall event. The presence of disturbed bare soil will promote the colonization of invasive plant species. Unstabilized sheer slopes pose extreme danger to people, livestock and wildlife.



Drone photo looking east into Guadalupe Canyon. Jan. 21, 2021. 31.333623, -110.782415

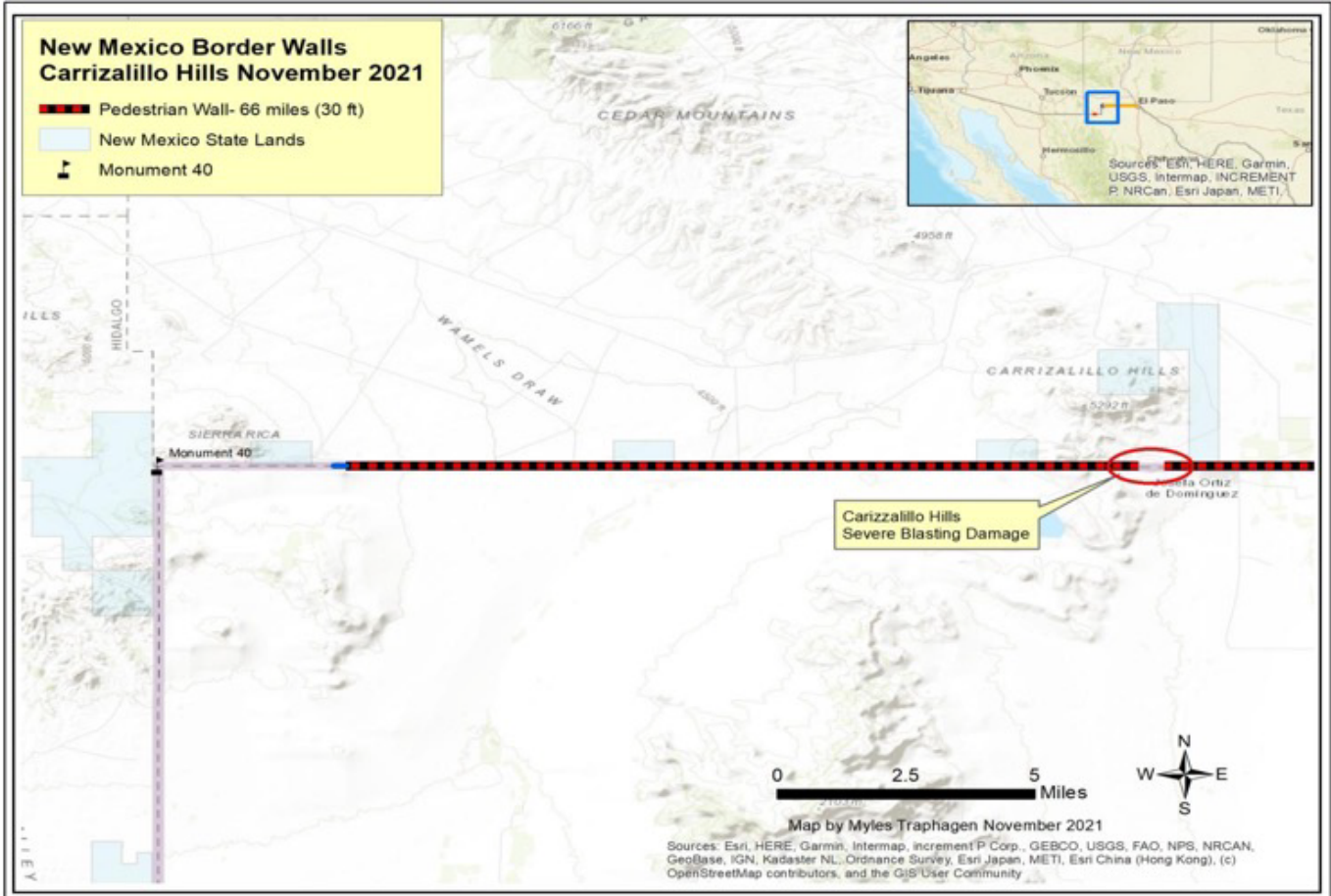
## Recommended Actions

- Map area of interest ————— **IMMEDIATELY**
- Identify mitigation measures ————— **IMMEDIATELY**
- Install culverts ————— **IMMEDIATELY**
- Stabilize slopes ————— **IMMEDIATELY**
- Plant native vegetation ————— **FOLLOWING SOIL PREPARATION**
- Implement monitoring ————— **FOLLOWING ABOVE MITIGATION**
- Evaluate restoration success ————— **ONE YEAR AFTER MITIGATION**



# Carrizalillo Hills

**Report No:** 2021-8  
**Author:** Myles Traphagen  
**Date of site visit:** Nov. 2021  
**Location:** Luna County, NM



<b>PROJECT</b>	El Paso B
<b>SEGMENT</b>	6
<b>LAT/LONG</b>	31.784, -107.93
<b>WALL LENGTH</b>	99 miles
<b>WALL TYPE/STATUS</b>	The hills along the border were dynamited. No wall erected in half mile stretch. 99 miles of wall exist along this part of the border.
<b>LENGTH OF AREA</b>	0.5 miles
<b>PROTECTED STATUS</b>	Bureau of Land Management
<b>THREATS</b>	Steep, unstable slopes, Erosion, Invasive species. Hazardous to humans, livestock and wildlife.
<b>NOTES</b>	The Carrizalillo Hills are an important wildlife corridor.







Dynamite blasting and mountaintop removal of Carrizalillo Hills, Luna County. 31.783719, -107.931514. Photo: Myles Traphagen

## Situation Description

In late December of 2020 Southwest Valley Constructors (Kiewit) began dynamiting and earthmoving in the Carrizalillo Hills of Luna County, New Mexico on BLM property. Steep, unstabilized slopes created by dynamite blasting are present here. These constitute a public, livestock and wildlife safety hazard and accelerate the risk of catastrophic flood damage during the next major rainfall event. The presence of disturbed bare soil will promote the colonization of invasive plant species. Presently, there is

a half-mile open gap in the border fence with 30-foot tall pedestrian fencing cutting through the rugged Carrizalillo Hills on either side, blocking the movement of wildlife between the Sierra Alto mountains in Mexico and the Cedar Mountains Wilderness Study Area and extensive surrounding BLM public lands in New Mexico. Species affected include mountain lions, bobcats, coyotes, javelina, gray foxes, badgers, mule deer and endangered Mexican gray wolves.



Dynamite blasting in the Carrizalillo Hills, Luna County, NM. Lat/Lon 31.784, -107.930. Photo: Myles Traphagen

## Recommended Actions

Map area of interest	COMPLETED
Identify mitigation measures	IMMEDIATELY
Install culverts	N/A
Stabilize slopes	IMMEDIATELY
Plant native vegetation	FOLLOWING SOIL PREPARATION
Implement monitoring	FOLLOWING ABOVE MITIGATION
Evaluate restoration success	ONE YEAR AFTER MITIGATION



# California, Arizona & Texas Razor Wire Removal (Concertina wire)

**Report No:** 2022-3  
**Author:** Myles Traphagen  
**Date of site visit:** Jun. 21, 2022  
**Location:** San Diego, El Centro, Tucson, Yuma Sectors



East of Santa Cruz River, Santa Cruz County, AZ. 31.333881, -110.837425.

<b>PROJECT</b>	Tucson A
<b>SEGMENT</b>	Numerous
<b>LAT/LONG</b>	CA, AZ, and TX
<b>WALL LENGTH</b>	180 miles of razor wire
<b>WALL TYPE/STATUS</b>	Razor wire/Concertina wire
<b>LENGTH OF AREA</b>	California - 46 miles, Arizona - 64 miles, Texas - 70 miles
<b>PROTECTED STATUS</b>	BLM Wilderness, National Forest, State Lands
<b>THREATS</b>	Serious public safety issue. Risk of severe lacerations, wildlife & livestock injury. Psychological damage to citizens living near razor wire.
<b>NOTES</b>	Razor wire installed starting October 2019. Pentagon states 180 miles total.





Razor wire in downtown Calexico, CA. 32.665222, -115.493217.



Razor wire ends at Santa Cruz River. What purpose does it serve? 31.333783, -110.851364.

## Situation Description

Between 2019 and 2020 large expanses of razor wire, (also known as concertina wire) were installed along pedestrian bollard fencing in all states sectors along the border. Urban areas are nearly all covered with this dangerous wire, creating not only a brutal eyesore that provides a stark reminder of the Berlin Wall, but also a hazard to the public and to wildlife. In border cities like Nogales, San Diego, Calexico, El Paso and Douglas, this deadly razor wire threatens the residents of these cities and places children at risk to severe lacerations. The psychological damage this infrastructure inflicts

upon innocent residents of peaceful border cities is unconscionable. Children growing up in these communities will become normalized to growing up in a prison-like environment. This is not how a civilized society should treat its citizens.

This razor wire must be removed. It constitutes a threat to the health, safety and well-being of people, livestock and wildlife, and will, like a gill net drifting in the ocean, act as a continual injury and killing machine.

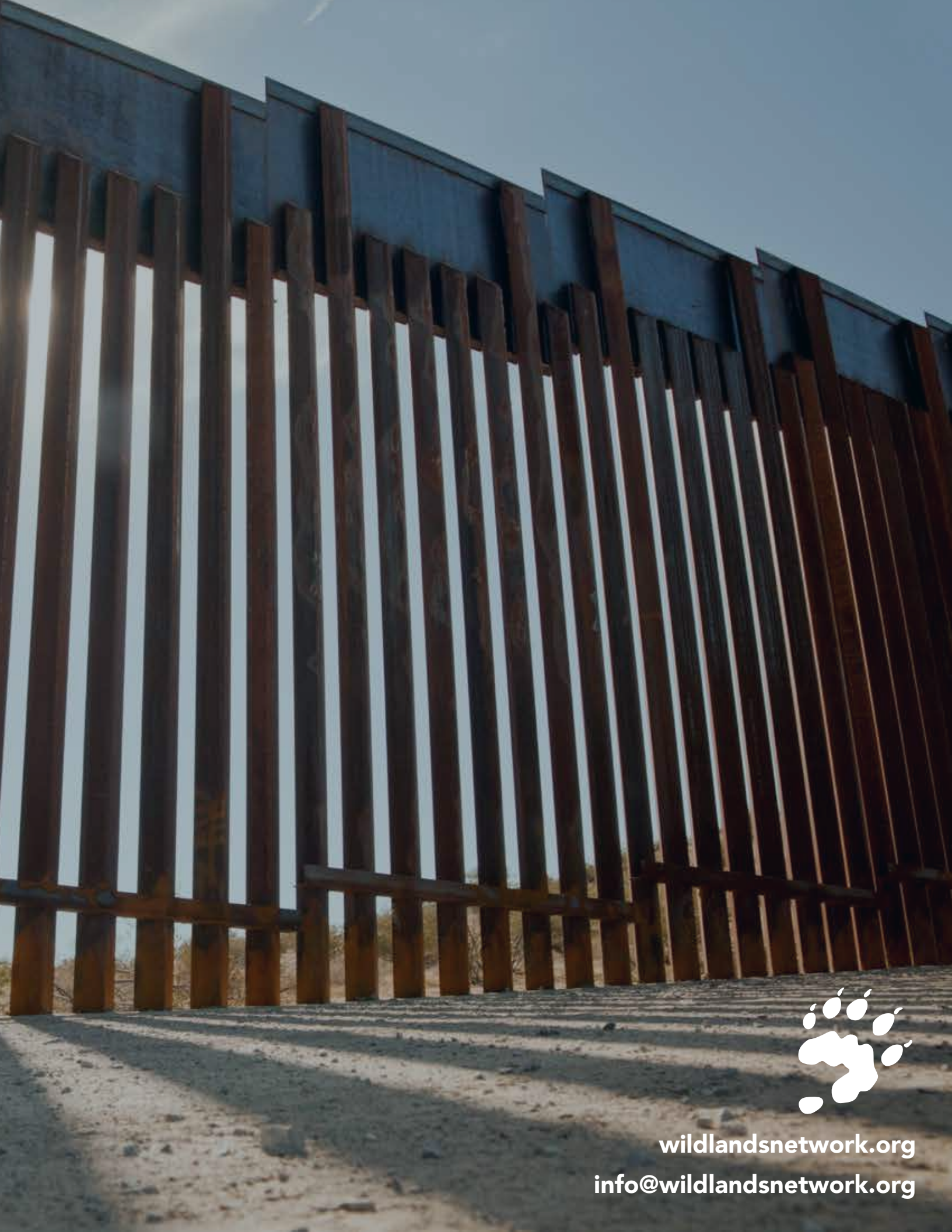
## Recommended Actions

Map area of interest ————— **IMMEDIATELY**  
Remove razor wire ————— **IMMEDIATELY**



Razor wire near San Diego, CA. 32.543362, -117.019911.





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