

## Borderlands Conservation Hotspot 5. Lower Rio Grande Valley



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Citizens protest the construction of a segment of border wall that would bisect Santa Ana National Wildlife Refuge and their own communities.

**T**he Lower Rio Grande Valley has precious little protected public land but plenty of people passionate about conserving it. Hundreds of them joined hands in Santa Ana National Wildlife Refuge in August 2017 to protest pending plans for a border barrier that would cut right through this subtropical haven. “Putting the border wall in the Santa Ana would be like dropping a bomb on it,” says refuge volunteer Kurt Naville (Naville 2017), devastating for wildlife, habitat and binational conservation.

The Lower Rio Grande valley is 4,300 square miles of southern Texas sandwiched between the Chihuahuan Desert and the Gulf of Mexico. A convergence of temperate, desert, coastal and subtropical climate, a 365-day growing season and rich delta soils account for a diversity of plants (1,200 documented species) that attracts and supports a diversity of wildlife and makes the Lower Rio Grande a top nature tourism destination. The region’s species list includes 400 birds, 300 butterflies and imperiled species like sea turtles, ocelots, jaguarundis and Aplomado falcons.

The Lower Rio Grande lost most of its native thorn forest and wildlife habitat in the early 20th century when the land was cleared for agriculture. In the 1940s, seeking to save the last examples of subtropical riparian forest and coastal wetlands

in the state, the federal government began acquiring small tracts (Figures 9a, 9b). They were barely in the nick of time.

### Conservation lands

One of the largest remaining riparian communities along the Rio Grande is in tiny Santa Ana National Wildlife Refuge (Raney et al 2003), 60 miles inland. Only three square miles, this refuge surrounded by cleared land is so unusual and beautiful that 165,000 people visit it annually (Jarvie and Bennett 2017), pumping \$35 million into the local economy (Mathis and Matisoff 2004). Visitors can see banded armadillos, Texas tortoises, Mexican free-tailed bats, 400 bird species and 300 species of butterflies—half the butterflies found in North America (U.S. Fish and

Wildlife Service [FWS] 2012b, 2012c). A more recent study found that nature tourism in the Lower Rio Grande Valley overall contributed \$463 million in 2011 (Woosnam et. al. 2012).

FWS manages two additional Rio Grande wildlife refuge units. The largest is 378-square-mile Laguna Atascosa National Wildlife Refuge, which borders the giant Laguna Madre coastal lagoon at the Rio Grande delta. The Laguna Madre extends across the border far into Mexico where it is part of the 2,212-square-mile Laguna Madre y Delta Del Río Bravo United Nations Educational, Scientific and Cultural Organization Flora and Fauna Protection Area, designated in 2005 (Figure 9b). This huge biosphere reserve protects an important migratory corridor for aquatic birds and birds of prey, stretching for some 220 miles along the Gulf Coast, approximately two miles wide in the south and 20 miles wide in the north (United Nations Educational, Scientific and Cultural Organization [UNESCO] 2011).

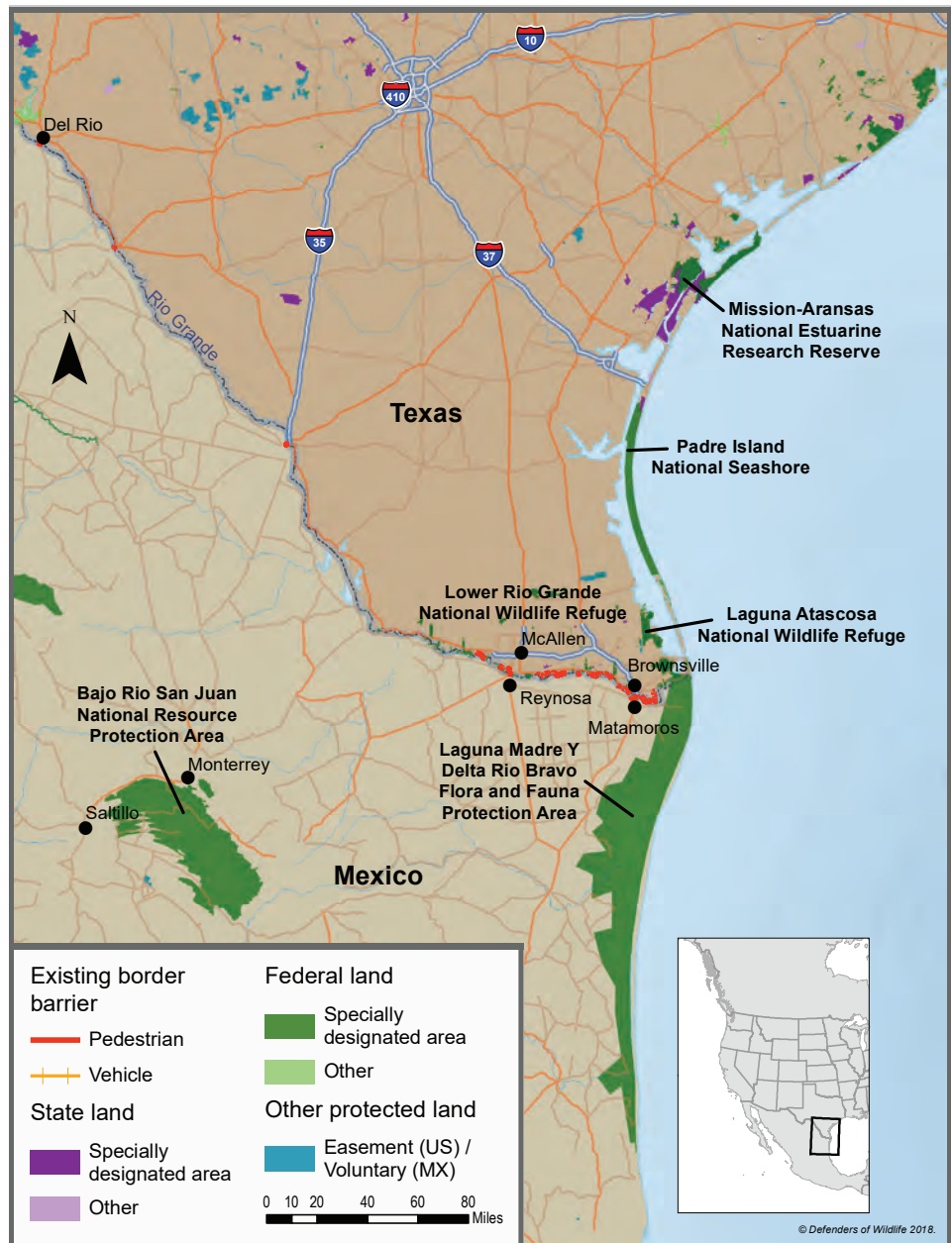


Figure 9a. Protected areas along the Lower Rio Grande

## THEN AND NOW

One hundred and fifty years ago, jaguars and ocelots prowled the hundreds of thousands of acres of subtropical riparian forest that lined the banks of the Rio Grande (Brown and López González 2001). Then the clearcutting started. Today, less than 5 percent of this forest remains in the United States, 1 percent in Mexico (Environmental Protection Agency 2003). Jaguars have

disappeared from Texas, and the ocelot population is down to fewer than 100, although more survive in Mexico. The native vegetation is largely gone, but volunteers, private landowners, nonprofits and government agencies on both sides of the border are heroically trying to restore it and create more habitat for wildlife.

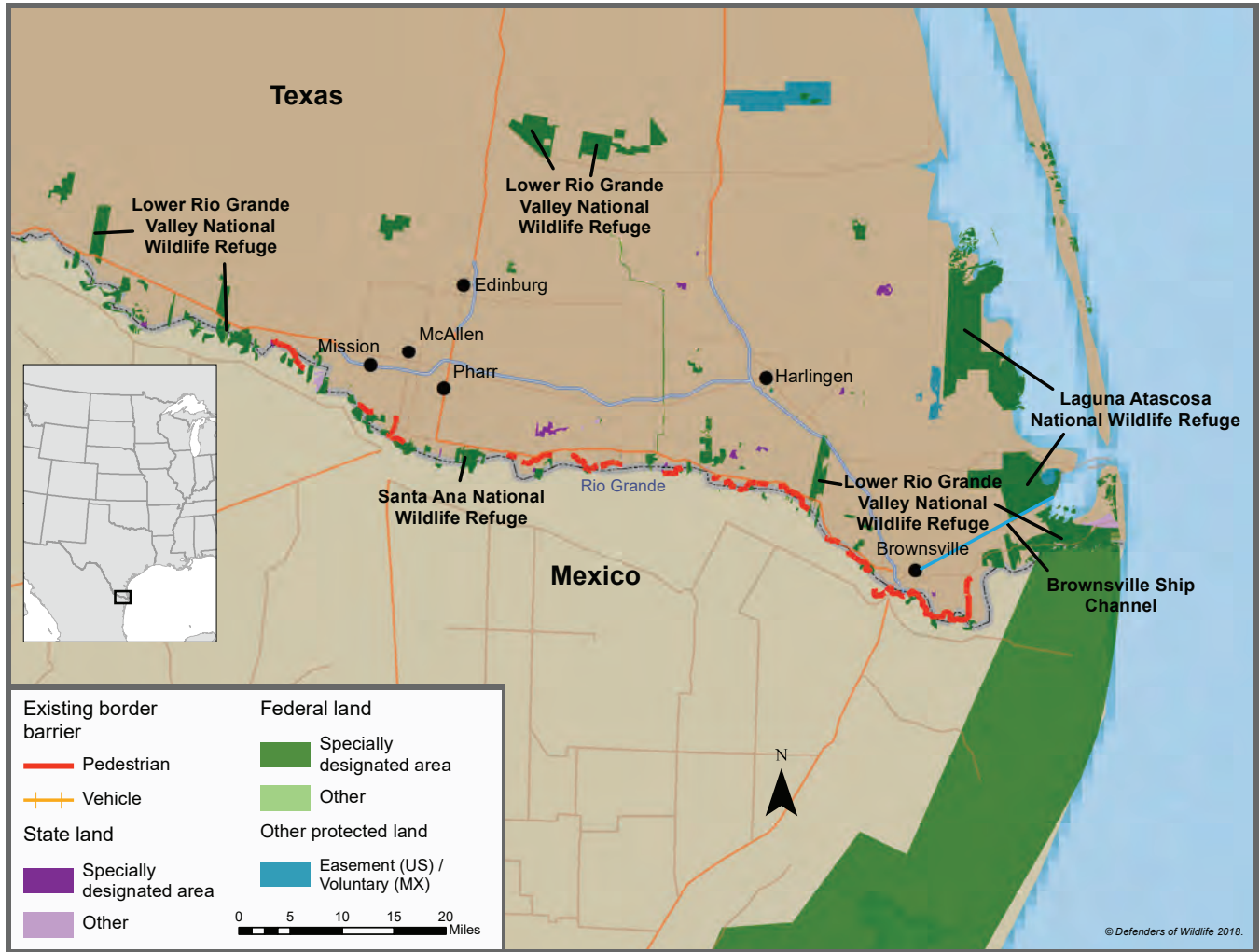


Figure 9b. Protected lands along the Lower Rio Grande—detail of national wildlife refuges

In winter, Laguna Madre hosts hundreds of thousands of shorebirds and waterfowl, including the largest concentration of redheaded ducks in the world (FWS 2013b). Bob Severson, vice-president of Friends of Laguna Atascosa National Wildlife Refuge, describes Laguna Madre as “a huge marine nursery that provides abundant food for birds and other marine life” (Severson 2017).

The third U.S. refuge, Lower Rio Grande National Wildlife Refuge, is a collection of more than 100 small tracts strung along a 275-mile stretch of river. FWS began acquiring these parcels in 1979 with the ambitious goal of protecting a wildlife corridor along the Rio Grande (FWS 2015) from the Laguna Atascosa refuge inland to the Santa Ana refuge and beyond.

Unfortunately, lack of money has kept FWS from completing the corridor, and the protected lands it manages along the river have no counterparts on the Mexican side.

### Conservation collaborations

U.S. and Mexican agencies and organizations have a decades-long history of collaborating on conservation projects in the Lower Rio Grande area. From volunteers planting native vegetation to scientists developing the jaguar recovery plan, cross-border collaboration is key to conservation on this stretch of the border.

#### *Tending to sea turtles*

A binational team is working to recover the world’s most endangered sea turtle, Kemp’s Ridley, which nests on beaches in the western Mexico state of Tamaulipas and to a lesser extent at Laguna Atascosa National Wildlife Refuge (Sierra Club 2011).

Agency staff and volunteers in both countries work together to move eggs from vulnerable nest sites to protected hatching corrals. In 2017, training support from the U.S. nonprofit Sea Turtle, Inc. helped a Mexican biologist protect 40 nests at Playa Bagdad, a beach visible from the U.S. border.

## DISAPPEARING SPOTS FOR OCELOTS

Ocelots need more room. The Lower Rio Grande national wildlife refuges have only 250 square miles fragmented in tiny tracts not large enough to sustain a healthy population of the endangered cats. The only refuge with a known ocelot population is Laguna Atascosa, with approximately 30 ocelots. A second, slightly larger population exists 20 miles away in Willacy and Kenedy counties, primarily on private ranches (FWS 2016c). With their remaining habitat largely surrounded by roads and developed land, the U.S. ocelots are often hit by vehicles—seven of them fatally from mid-2015 to 2016 (Friends of Laguna Atascosa National Wildlife Refuge 2016).

The best hope for long-term survival of Rio Grande ocelots is to enlarge and connect the two tiny, separated populations in United States with each other and with ocelots in Mexico (FWS 2016c). (See Figure 10.) Toward this goal, FWS is racing to acquire more refuge land before it is developed, but funds are lacking and development pressure is intense.

For example, windfarms are spreading through the

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valley (Kelley 2016a), and a private rocket-launching facility, SpaceX, is being built near refuge land. Liquid natural gas terminals proposed for both banks of the Brownsville Ship Channel (see Figure 9b) could prevent ocelots from swimming between refuge lands north and south of the channel (Nelson 2016).

Because FWS does not have the resources to acquire all the habitat ocelots need, The Nature Conservancy and other organizations are helping private landowners set up conservation easements, agreements to protect their land from development in perpetuity in exchange for federal tax benefits.

### *Recovering ocelots*

Experts from the United States and Mexico jointly developed an ocelot recovery plan with a major goal of ensuring that ocelots can freely cross the border to interbreed (FWS 2016c). The Mexican nonprofit Pronatura Noreste is working with the Dallas Zoo, Environmental Defense and others in Tamaulipas state to survey ocelots and help landowners with projects like fencing sensitive areas of brush—ocelot habitat—from grazing (Cooperative Conservation 2017). On the U.S. side, FWS and The Nature Conservancy are acquiring private land to expand the refuges and working with landowners to protect habitat on private land. U.S. irrigation districts signed agreements to maintain ocelot habitat along canals (Winton 2017), and in 2016 the Texas Department of Transportation began constructing a dozen highway crossings for ocelots, spending \$8 million to decrease road mortality (Kelley 2016a).

### *Protecting waterbirds*

The U.S.-based Coastal Bend, Bays and Estuaries Program collaborates with agencies and nonprofits to protect the

rookeries of egrets and other colonial waterbirds in the Laguna Madre of Texas and Mexico. The program worked with Mexican schools to educate communities and stop practices harmful to the birds like abandoning dogs on nesting islands, dragging fishing nets through nesting colonies, and using eggs and chicks as crab bait. The program also brought Mexican biologists to South Padre Island in Texas for training on identifying and banding shorebirds (Fitzsimmons 2017).

### *Reaching out to communities*

In Tamaulipas state in Mexico, staff at the Laguna Madre biosphere reserve work with volunteers on what could be the world's largest beach-cleaning day—5,000 people turn out to remove trash during this annual event. As many as 100 trained volunteers from local fishing communities in the reserve also work each year with Pronatura and CONANP to count reddish egrets and piping plovers and to replant mangroves. U.S.-based organizations like the Rio Grande Joint Venture and Texas A&M provide financial and

technical support (Lerma 2018). Guadalupe Muñoz Pérez, member of a long-time fishing family, won Mexico’s Premio Nacional al Mérito Forestal in 2016 for her volunteer work protecting the bird colonies and mangroves. “Before, people burned the mangroves. Now we protect them because we know that if the mangroves are healthy, we’ll catch more fish,” she says (Muñoz Perez 2017).

In the United States, Gisela Chapa, community engagement liaison for the South Texas Refuge Complex, helps teachers use refuge lands as outdoor classrooms. “We’ve also got a partnership with the City of Alamo where we share the cost of a park ranger who develops youth programs,” says Chapa (Chapa 2017).

**Volunteering at refuges**

Retirees Kurt and Virginia Naville are among the thousands of people who volunteer at Lower Rio Grande Valley refuges. “We’ve been volunteering at the refuges for eight years, doing everything from documenting animals to cutting brush on overgrown two-track roads and replacing shot-up signs,” says Kurt (Naville 2017).

Bob Severson and his wife, Mary Ann, started volunteering in 2005 at the refuge and loved it so much that they moved nearby. “We’ve led bird tours, worked the visitor center, and we’re now helping with ocelot research,” says Bob (Severson 2017).

The Seversons and Navilles have also turned out for Rio Reforestation Day, an annual FWS habitat restoration event that attracts more than 1,000 helpers. Local farmers prepare areas for planting, and FWS supplies and sets out seedlings. The volunteers bring the shovels and do the planting—more

than 250,000 native tree and shrubs on over 700 acres since the event began 25 years ago (Friends of the Wild 2017).

“We’re helping in preserving this land for the future generations so everyone can grow up with the birds and animals I grew up with,” says Brownsville resident Julia Saenz, who shows up every year for Rio Reforestation to help transform former croplands into wildlife habitat (FWS 2013c).

**Setting up conservation easements**

For rancher Frank Yturria and his family, conservation begins at home. By setting up conservation easements—land-trust

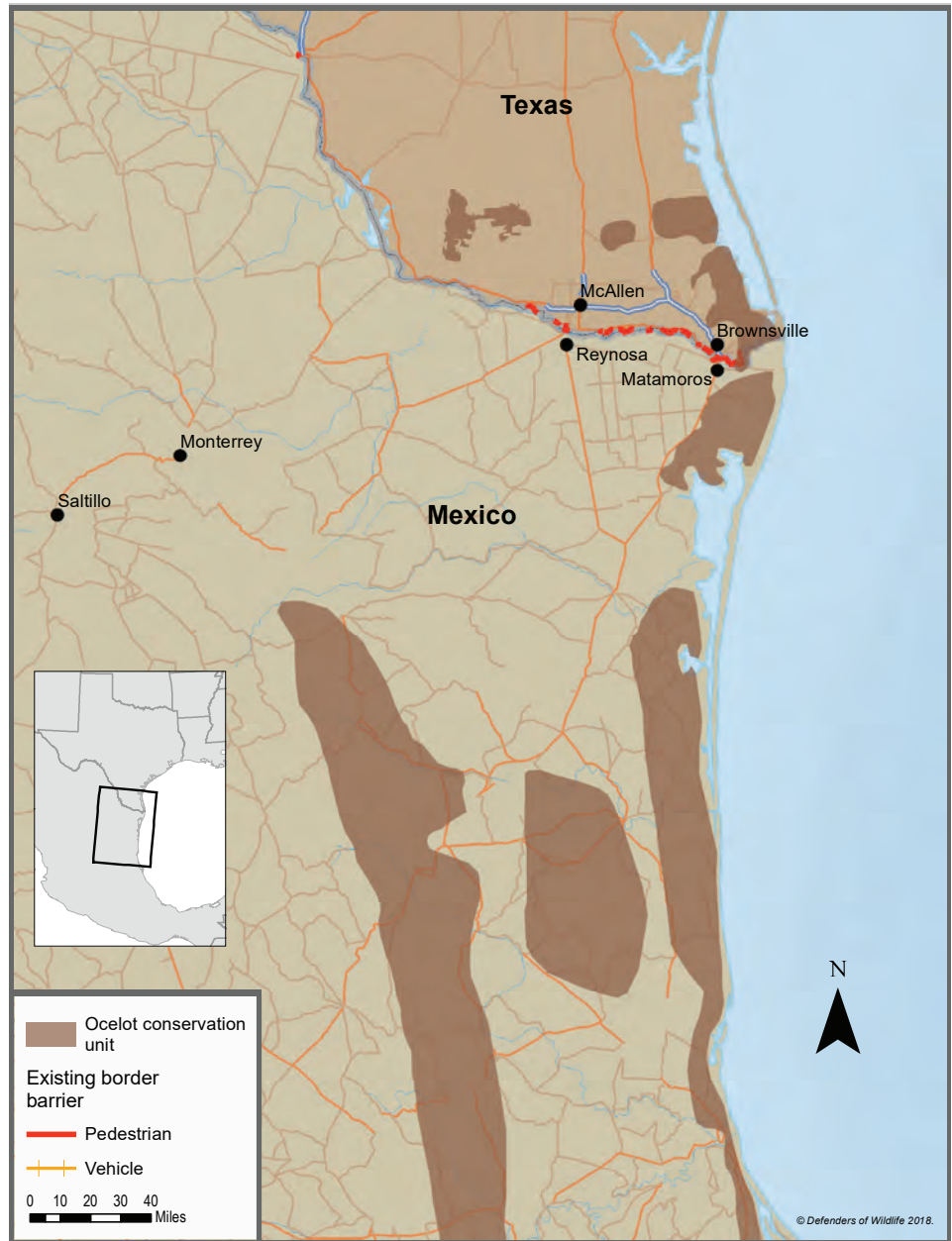


Figure 10. Ocelot conservation units



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Volunteer Bob Severson sets up a motion-triggered trail camera to document ocelot movement in Lower Rio Grande Valley National Wildlife Refuge.

agreements with tax benefits—they are protecting wildlife habitat on their ranch in Willacy County—and ensuring that it will never be developed. In 2016, two female ocelots birthed four kittens on this easement land (Petri 2016), which also harbors endangered Aplomado falcons. “If you can get the ocelot back, the falcon back, how’s it going to hurt us?” Yturria says (Brezosky 2011).

### The looming threat of the wall

Texas has 115 miles of existing pedestrian wall (U.S. Customs and Border Protection 2017), primarily in a series of disconnected segments in the Lower Rio Grande Valley. In the race to recover ocelots and other rare species in the region, the border wall adds a new level of threat. If completed in additional sensitive places, the wall could undo the decades and millions of dollars spent on building a complex of refuges. The work of dedicated volunteers would be undone, the careful planning of wildlife professionals disregarded, and local economies devastated by the loss of the millions of ecotourism dollars brought in annually by the refuges.

The impacts of the wall on wildlife and habitat and conservation overall include:

**Flooding.** In 2010, Hurricane Alex flooded the Santa Ana refuge with water that killed trees, Texas tortoises and other animals—staff reported seeing rabbits stranded in trees (Findell 2011). The Department of Homeland Security plans to build a 30-foot high concrete and steel wall along the north side of the refuge where future flood waters could trap animals (Collier and Miller 2017). If the border wall is completed all along the river, many more of the Lower Rio Grande refuges could be in danger of flooding.

**Blocked wildlife movement.** The section of wall that bisects the 30-acre Lacoma tract in Lower Rio Grande National Wildlife Refuge near the town of Weslaco keeps wildlife north of the wall from reaching the most reliable water source in the area, the river. Linking the existing wall segments would complete the job of separating U.S. and Mexican animal populations.

According to FWS and its Mexican equivalent, Comisión Nacional de Áreas Naturales Protegidas (CONANP), connecting U.S. and Mexican ocelot populations is essential to ensuring the continued presence of ocelots in the United States (FWS 2016c). An impenetrable border wall would make



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The malachite butterfly is one of the nearly 300 species of butterflies found in Santa Ana National Wildlife Refuge.

that impossible, leaving the difficult and expensive option of translocation—moving ocelots from Mexico to the United States—the only alternative for ensuring the genetic health of the small U.S. population.

In addition to the physical barrier of the wall, associated infrastructure and human activity—road construction, observation towers, lights, noise and off-road patrols—would deter many animals from approaching and crossing roads (Trombulak and Frissell 2000). Plans for the Santa Ana refuge include a cleared zone 150 feet wide running along the wall within the refuge.

**Reduced access for monitoring and management.**

Managers need access to all parts of a refuge to monitor and manage species, control weeds, restore vegetation and maintain signs and fencing. A barrier erected in the last round of wall building hinders managers accessing trails at the Hidalgo Pumphouse tract of the Lower Rio Grande National

Wildlife Refuge (Schwartz 2017). The levee border wall planned for Santa Ana National Wildlife Refuge would also hamper staff access to refuge lands.

**Loss of volunteer, recreation and education opportunities.**

Refuges along the river attract bird watchers, involve volunteers and educate students, enriching lives and fostering love for nature. The same wall segment that hinders management at the Hidalgo Pumphouse tract, a World Birding Center site, prevents visitors from accessing the trails (Schwartz 2017). The border wall construction planned for Santa Ana would make the popular refuge and its trails inaccessible from the visitors’ center.

**Hurdle to international cooperation.**

According to one U.S. conservationist with a long history of cross-border work, “The wall would make cooperation with Mexican partners difficult and management would suffer. Wildlife knows no political



MIKE CARLO/FWS

A willet feeds along the beach on the Boca Chica tract of the Lower Rio Grande Valley National Wildlife Refuge, a haven for migratory shorebirds.

boundaries, so countries must work together, but the wall signals lack of trust and friendship.”

**Diversion of resources.** The race to protect and restore habitat in the United States before it is developed is already being lost because funds are lacking. Not only is the current administration squeezing budgets for land acquisition and management, by pushing the border wall it is threatening considerable investments in the area, including the \$8 million spent in 2017 to create road crossings for endangered ocelots (Kelley 2016b) and the \$90 plus million invested in refuge acquisition since the 1940s (FWS 2017b). The access limitations associated with the wall segment proposed for the Santa Ana refuge would affect education programs for schoolchildren and the enjoyment of the thousands who visit the refuge annually and contribute \$35 million to the local economy (Mathis and Matisoff 2004). The cumulative effects of the border wall throughout the Lower Rio Grande Valley could threaten the \$463 million contributed annually by eco-tourists (Woosnam et. al. 2012).

“The wall would make cooperation with Mexican partners difficult and management would suffer. Wildlife knows no political boundaries, so countries must work together, but the wall signals lack of trust and friendship.”

—A U.S. conservationist with a long history of cross-border work (name withheld by request)