

**Petition to Designate Critical Habitat for the
Ocelot (*Leopardus pardalis*)**



Photo: US Fish and Wildlife Service/Tom Smylie

**Petition Submitted to the U.S. Secretary of Interior
Acting through the U.S. Fish and Wildlife Service**

Petitioner:
WildEarth Guardians
312 Montezuma Ave.
Santa Fe, New Mexico 87501
(505) 988-9126

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Executive Summary

WildEarth Guardians requests critical habitat designation for the Ocelot (*Leopardus pardalis*). The Endangered Species Act (ESA) has prevented the extinction of the Ocelot in the U.S. portion of its range, but the Ocelot has not recovered. Indeed, its current population levels are approximately the same in the U.S. as when this animal was listed in 1982: 50 or fewer Ocelots occur in the U.S. Research has shown that critical habitat is effective in promoting recovery of listed species, but the Ocelot has never enjoyed critical habitat protection.

Habitat protection is the most important way that the Ocelot can be safeguarded and its recovery achieved. In its 1982 listing rule through its 2009 action plan, the U.S. Fish and Wildlife Service (FWS) has recognized that habitat loss and degradation has been, and continues to be, the primary threat to this wild cat. Scientists recognize that habitat loss is the primary reason that Ocelots originally declined and continue to struggle in the U.S. portion of their range. Human population growth within the Ocelot's U.S. range is a driver of continued habitat loss and degradation.

The 50 Ocelots remaining in the U.S. occur in 2 populations in south Texas, which are isolated from each other and from populations in Mexico. The number of animals in each is far below the estimate by scientists of effective populations of more than 50 individuals in order to ensure even short-term viability. Augmentation of the U.S. populations with Ocelots translocated from Mexico has been proposed as one way to ensure the Texas populations persist. But these translocations cannot assure the survival of this species in the U.S. unless effective measures are taken to protect and enlarge the Ocelot's habitat in Texas.

The key issue raised in this petition is whether to rescue the Ocelot from its predicament of being stranded on small islands of suitable habitat surrounded by vast expanses of lands that have been converted to agricultural and urban uses. Ocelots avoid these open areas and a spiderweb of roads, or they die trying: many of these animals are killed by cars every year. While the Texas populations are reproducing, they are not growing, likely because they are at their carrying capacity and have been for years. Resident Ocelots may hold onto their territories, and produce young, but dispersing animals often perish because they simply have nowhere to go.

As a result, these small, stranded populations suffer from significant road mortality, genetic inbreeding, disease, predation, and infighting. And these tiny populations are at risk from extreme weather events such as drought and hurricanes, which are worsening due to climate change. To protect the Ocelot from extinction, its suitable habitat must be expanded and connected. Critical habitat can do what mere listing cannot – provide effective protection for unoccupied areas. Occupied and potential Ocelot habitat should be acquired, protected, and restored to ensure that this beautiful animal does not perish as a species from being stranded on tiny patches of habitat.

Introduction

WildEarth Guardians requests that the U.S. Fish and Wildlife Service (FWS) designate critical habitat for the Ocelot (*Leopardus pardalis*) under the Endangered Species Act (ESA) and Administrative Procedure Act (APA). FWS listed the Ocelot in the U.S. portion of its range in 1982, in recognition of historic and continued habitat loss (USFWS 1982).¹ The agency then issued a recovery plan for the Ocelot in 1990, which emphasized – above all else – the need to protect its habitat.²

But the recovery plan failed to lead to recovery. In 2009, FWS issued an “Action Plan” for the Ocelot finding that, despite 28 years of ESA protections in the U.S. portion of its range, this wild cat’s situation is bleak:

In the U.S., the ocelot, as well as some of its habitat on public land, is protected by the Endangered Species Act (ESA). However, in southern Texas, most remaining ocelot habitat is on private lands, many of which have never been surveyed for the presence/absence of the species. Most ocelot habitat in south Texas is not well protected from development. The ocelot is highly susceptible to extinction in the U.S. under current regulatory mechanisms. Habitat is not sufficiently protected by the species’ listing status. Currently, the ocelot is listed as a single species without designation of any distinct population segments (DPS), throughout the entire species’ range from south Texas to South America. As a consequence of being listed in this manner, loss of habitat or other threats that push the species toward extinction in any one area do not constitute jeopardy for the species as a whole. *Therefore, the ocelot could go extinct in the U.S. under current regulatory protections.*

See USFWS (2009: 2).³ Scientists agree with this bleak prediction. Researchers found that Ocelots face a 65% chance of extinction in 100 years if key recovery strategies are not implemented, most important of which is habitat protection and restoration (Haines et al. 2005a).⁴

¹U.S. Fish and Wildlife Service. 1982. Endangered Status for U.S. Population of the Ocelot. Final Rule. 47 Fed. Reg. 31670-31672. [Attachment 1]

²U.S. Fish and Wildlife Service. 1990. Listed Cats of Texas and Arizona Recovery Plan (With Emphasis on the Ocelot). U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 131 pp. [Attachment 2]

³U.S. Fish and Wildlife Service. 2009. Spotlight Species Action Plan for the Ocelot. Online at: http://ecos.fws.gov/docs/action_plans/doc3052.pdf [Accessed January 2010]. [Attachment 3]

⁴Haines, A.M., Tewes, M.E., Laack, L.L., Grant, W.E. and J. Young. 2005a. Evaluating recovery strategies for an ocelot (*Leopardus pardalis*) population in the United States. *Biological Conservation* 126: 512-522. [Attachment 4]. Subsequently, Haines et al. (2006; 2007) reported that reduction in road mortality and augmentation of Ocelot populations were the most important short-term measures to prevent extinction, but restoration of habitat and creation of corridors provided the best long-term protection from extinction. See Haines, A.M., Tewes, M.E., Laack, L.L., Horne, J.S. and J.H. Young. 2006. A habitat-based population viability analysis for ocelots (*Leopardus pardalis*) in the United States. *Biological Conservation* 132: 424-436. [Attachment 5]; and Haines, A.M., Tewes, M.E., Laack, L.L., Horne, J.S. and J.H. Young. 2007. Corrigendum to “A habitat-based population viability analysis for ocelots (*Leopardus pardalis*) in the

FWS has a tool at its disposal that could give this species the measure that FWS and scientists agree that Ocelots need most - increased habitat protection. That tool is critical habitat designation, which provides upgraded safeguards by allowing FWS to restrict any federal actions that may “result in the destruction or adverse modification” of critical habitat, rather than the much less restrictive prohibition on jeopardizing a listed species. 16 U.S.C. § 1536(a)(2). Moreover, critical habitat can safeguard both occupied habitat and unoccupied habitat necessary for the species’ survival. Given that the Ocelot is currently limited to very small pockets of habitat in Texas, the protection of unoccupied habitat is likely of paramount importance: both to connect and expand existing suitable habitat. Indeed, species are twice as likely to recover if provided with critical habitat, partly to the protection of unoccupied areas essential to the recovery of a listed species (Taylor et al. 2005).⁵

Scientists have specifically recommended the designation of critical habitat for the Ocelot in Texas. State Grigione and Mrykalo (2004: 75):⁶

Critical Habitat for Ocelots must be designated in Texas. Once designated, this habitat would be protected and enhanced to promote continued use by Ocelots (U.S. Fish and Wildlife Service, 1990)...Ocelot Critical Habitat designation in the Lower Rio Grande Valley should provide ample cover for Ocelots and their prey in protected areas and in non-protected corridor areas that connect protected refuge tracks. Doing so will provide nocturnal species with movement opportunities associated with foraging, mating, rearing of young, and dispersal.

Ocelots do not currently have these movement opportunities, rather, they are stranded on small islands of suitable habitat surrounded by vast expanses of lands that have been converted to agricultural and urban uses. Ocelots avoid these open areas and a spiderweb of roads, or they die trying: many of these animals are killed by cars every year. The two occupied areas in Texas have carrying capacities of just 38 and 22 animals, respectively (Haines et al. 2005a; Janecka et al. 2008).⁷ While the Texas populations are reproducing, they are not growing, likely because they are at their carrying capacity and have been for years. While residents may hold onto their territories, dispersing animals often perish because they simply have nowhere to go. As a result, these small, stranded populations are suffering from significant road mortality, genetic inbreeding, disease, predation, and infighting. A compounding threat is more frequent and severe droughts and hurricanes

United States” [Biological Conservation 132 (2006) 424-436]. Biological Conservation 136: 326-327. [Attachment 6]

⁵Taylor, M.F.J., Suckling, K.F., and J.J. Rachlinski. 2005. The Effectiveness of the Endangered Species Act: a Quantitative Analysis. *BioScience* 55(4): 360-367. [Attachment 7]

⁶Grigione, M.M., and R. Mrykalo. 2004. [Effects of artificial night lighting on endangered ocelots \(*Leopardus pardalis*\) and nocturnal prey along the United States-Mexico border: A literature review and hypotheses of potential impacts](#). *Urban Ecosystems* 7: 65–77. [Accessed January 2010]. [Attachment 8]

⁷Janecka, J.E., Tewes, M.E., Laack, L.L. Grassman, L.I. Jr, Haines, A.M., and R.L. Honeycutt. 2008. Small effective population sizes of two remnant ocelot populations (*Leopardus pardalis albescens*) in the United States. *Conserv. Genet.* 9: 869-878. [Attachment 9]

resulting from climate change. A driver of anthropogenic threats is human population growth. To protect the Ocelot from extinction, its suitable habitat must be expanded and connected. Critical habitat is a necessary measure to ensure these protections. FWS should therefore designate critical habitat for the Ocelot.

Legal Basis for Petition

WildEarth Guardians submits this petition under the ESA's provision to petition for the revision of a critical habitat designation (16 U.S.C. § 1533). The ESA requires a finding by the Secretary of Interior, acting through the FWS, within 90 days of its receipt of this petition, "as to whether the petition presents substantial scientific information indicating that the revision may be warranted." *Id.* at 1533(b)(3)(D)(i). If the 90-day finding is substantial, the ESA requires a finding within 12 months, in which "the Secretary shall determine how he intends to proceed with the requested revision." *Id.* at (ii).

In addition, we submit this petition pursuant to section 553 of the APA. We request that FWS designate critical habitat for the ocelot. Section 553 of the APA provides that "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule." 5 U.S.C. § 553(e). The APA defines a rule as the whole or a part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency. 5 U.S.C. § 551(4). As such, critical habitat clearly meets the definition of a rule under the APA.

WildEarth Guardians requests critical habitat designation revision or designation for the Ocelot because of its very dire biological status and because FWS has long described the primary threat to this species as habitat loss and degradation, or has reported other threats – including road mortality, predation, disease, genetics, small population size – which can all be linked back to the Ocelot's extremely limited and isolated habitat patches in its current U.S. range.

While the ESA generally provides that critical habitat should be designated for listed animals and plants, the importance of critical habitat is especially apparent in the case of the Ocelot. The Ocelot's listing (in 1982) and recovery plan (in 1990) were crucial steps for safeguarding the Ocelot, but critical habitat is imperative for not only preventing the extinction, but effecting the recovery of this diminishing species.

Critical habitat designation is vital to ensuring the key steps envisioned in the Ocelot's recovery plan: habitat protection, restoration, and acquisition. All are necessary to *conserve* the species. The very purpose of the ESA is to conserve species and the ecosystems on which they depend:

The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species... 16 U.S.C. § 1531(b).

Under the ESA, “conserve” is defined as:

...to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking. 16 U.S.C. § 1532(3).

In other words, “conserve” means “recover” under the ESA. Critical habitat designation is essential to recover this species. Some of the very measures cited above – habitat acquisition and maintenance, for example – are the most important ways to protect the Ocelot from extinction (e.g., USFWS 1990; Haines et al. 2005a). As noted above, scientists have explicitly recommended critical habitat designation for the Ocelot in Texas (Grigione and Mrykala 2004).

In a subsequent section, we discuss the value of critical habitat designation for the Ocelot and how FWS should determine its critical habitat. As noted above, the Ocelot occupies only small fragments of suitable habitat in Texas. But this animal’s future lies in its unoccupied habitat – whether presently suitable or capable of being restored to thornscrub – that can expand and connect areas in which Ocelots can grow their populations and eventually recover. Moreover, critical habitat designation can ensure that any actions by federal agencies in potential Ocelot habitat (occupied or unoccupied) better promote the best interests of this cat.

Description of Petitioner

WildEarth Guardians is a non-profit environmental organization whose mission is to restore wildlife, wild places, and wild rivers in the American West. WildEarth Guardians has over 4,500 members. The organization has an active endangered species protection campaign, with a geographic focus on the western United States (although the organization has a national scope). As part of this campaign, Guardians works to obtain or upgrade ESA protection for a wide variety of imperiled wildlife and plants and the ecosystems on which they depend.

Species Description

The Ocelot (*Leopardus pardalis*, Linnaeus 1758) is a medium-sized spotted cat, with weights averaging 10.3 kg (22.7 lbs) for males in Tamualipas and 7.3 kg (16.1 lbs) for

females (USFWS 1990; Ocelot Translocation Team 2009).⁸ Its body length is 70-100 cm (27.6-39.4 in), and its tail is 27-45 cm long (10.6-17.7 in) (Murray and Gardner 1997).⁹ Fur color and markings can vary greatly, even within a population. Fur background color varies from grayish to cinnamon and includes creamy or tawny coloration. Ocelots have dark stripes and spots, including black-bordered elongated spots enclosing the background color and forming chains down the animal's side. Its underparts are white, and spotted with black. Its tail is spotted and ringed with black. The Ocelot has small black spots and stripes on its head and face. They are born with blue eyes, which change to dark brown after approximately 3 months. *Id.* Ocelots in the U.S. are generally paler and smaller than those occurring farther south in Central and South America (USFWS 1990; Ocelot Translocation Team 2009).

The Ocelot's muscular forelimbs help it to be a powerful climber, and it often sleeps in trees during the day. Its thickened neck skin helps protect it from attacks. Its feet are broad and short, with hind paws smaller than front paws. This animal is nocturnal or crepuscular and spends the day in heavy brush. Its prey is small to medium vertebrates, primarily birds and mammals, but also reptiles and fish, and sometimes invertebrates. It captures prey primarily by lengthy walks until prey is encountered, rather than by stalking. Ocelots will rush at large birds, crouch in a waiting position, and pounce on small mammals. *Id.*

The male's range is typically larger than the female's, and may overlap with more than one female's range. Ocelots are territorial, with male home ranges excluding other males, and female home ranges excluding other females (USFWS 1990; Murray and Gardner 1997; Ocelot Translocation Team 2009).

Some sources indicate that female Ocelots generally reach reproductive status at 2 years of age (USFWS 1990; Ocelot Translocation Team 2009). However, for the Laguna Atascosa population, researchers have determined that Ocelots generally don't breed until 3-4 years of age, with a maximum reproductive age of 11 (Janecka et al. 2008, *see also* discussion in Murray and Gardner 1997 at pp. 2-3). Janecka et al. (2008) report a maximum lifespan of 10-11 years for Ocelots in Texas.

Estrus lasts approximately 7-10 days and occurs every 4-6 months (Murray and Gardner 1997). Gestation ranges from 70-89 days (USFWS 1990; Ocelot Translocation Team 2009). Births have been reported throughout the year, with litter size generally 1-2, although litter sizes of up to 4 kittens have been recorded. Ocelots have only 4 mammae, thus the maximum litter size is likely 4. Nursing may last 3-9 months. Juveniles may remain with their mothers after weaning. Subadult females up to 2 years old have been reported as occupying home ranges overlapping with their mothers (USFWS 1990; Murray and Gardner 1997; Ocelot Translocation Team 2009). The standard interval

⁸Ocelot Translocation Team. 2009. Plan for Translocation of Northern Ocelots (*Leopardus pardalis albescens*) in Texas and Tamaulipas. Report prepared by the Translocation Team, a subcommittee of the Ocelot Recovery Team. Dated May 2009. [Attachment 10]

⁹Murray, J.L. and G.L. Gardner. 1997. *Leopardus pardalis*. Mammalian Species 548: 1-10. [Attachment 11]

between successive wild litters is 2 years (Murray and Gardner 1997).

Dispersal age for Ocelots is approximately 2-3 years old (Haines et al. 2005a, 2005b).¹⁰ The maximum recorded dispersal distance in south Texas is 15 km (9.3 mi) (Haines et al. 2005a). Most transient Ocelots are dispersing subadults, and they have a 30% lower annual survival rate than resident animals (Haines et al. 2005b).

Habitat Requirements

Throughout its extensive range, the Ocelot inhabits tropical and subtropical forests, coastal mangroves, swampy savannas, and thornscrub (USFWS 1990). In the Texas portion of its range, its habitat is dense thornscrub, in which it spends 97% of its time (EDF 2006).¹¹ In the Lower Rio Grande Valley, the Ocelot requires dense cover and high rodent densities (Haines et al. 2005b). In this area, the Ocelot has been documented from the following habitat types: Mesquite-Granjeno Parks, Mesquite-Blackbrush Brush, Live Oak Woods/Parks, and Rio Grande Riparian. Topography is level to rolling, with elevations ranging from sea level to 305 m (1001 ft) (USFWS 1990). In Texas, the species inhabits the Tamaulipan Biotic Province (Harveson et al. 2004;¹² Janecka et al. 2008). Its most important remaining location, Laguna Atascosa National Wildlife Refuge (Laguna Atascosa NWR), has flat topography, elevations of 0-10 m (0-32.8 ft), and a range of salt flats and marshes, along with chaparral and brush-grasslands (Harveson et al. 2004; Horne et al. 2009).¹³

Plants occurring in its Texas habitat include: Spiny hackberry or granjeno (*Celtis pallida*), crucita (*Eupatorium odoratum*), Berlandier fiddlewood (*Citharexylum berlandieri*), honey mesquite (*Prosopis glandulosa*), desert olive (*Forestiera angustifolia*), snake-eyes (*Phaulothamnus spinescens*), colima (*Zanthoxylum fagara*), brasil (*Condalia hookeri*), Texas ebony (*Pithecellobium flexicaule*), lotebush (*Zizyphus obtusifolia*), and other thorny shrubs (Harveson et al. 2004; Haines et al. 2005b; EDF 2006). Preferred soil types for Ocelot habitat are Camargo, Laredo, Olmito, and Point Isabel (Harveson et al. 2004).

In 1990, FWS estimated prime habitat as consisting of 95% or greater shrub canopy, and minimum habitat block size is 40 ha (99 ac) of brush or 30 ha (74 ac) of two or more proximate brush stands (USFWS 1990). However, in 2009, the Ocelot Translocation Team estimated minimum habitat size as 65 acres of high quality habitat (Ocelot

¹⁰Haines, A.M., Tewes, M.E., and L.L. Laack. 2005b. Survival and sources of mortality in ocelots. Journal of Wildlife Management 69(1): 255-263. [Attachment 12]

¹¹Environmental Defense Fund. 2006. Safe harbor agreement between Environmental Defense, Inc. and the U.S. Fish and Wildlife Service to provide Safe Harbor assurances to landowners in South Texas who voluntarily agree to enhance habitat for the Endangered Ocelot. Dated February 17, 2006. [Attachment 13]

¹²Harveson, P.M., Tewes, M.E., Anderson, G.L. and L.L. Laack. 2004. Habitat use by ocelots in South Texas: implications for restoration. Wildlife Society Bulletin 32(3): 948-954. [Attachment 14]

¹³Horne, J.S., Haines, A.M., Tewes, M.E., and L.L. Laack. 2009. Habitat partitioning by sympatric ocelots and bobcats: implications for recovery of ocelots in southern Texas. The Southwestern Naturalist 54(2): 119-126. [Attachment 15]

Translocation Team 2009). However, Jackson et al. (2005)¹⁴ state: “Our research suggests that ocelots prefer medium to large-sized patches and avoid small patches of closed canopy (<28.9 ha)” (Jackson et al. 2005: 737). This would equate to areas greater than 71.4 acres. Moreover, Jackson et al. caution:

Ocelots utilized the largest patches of closed canopy available to them, but the mean patch size of this land cover was only 2.9 ha. No large patches of closed canopy were found...It would be expected that, if large tracts of closed canopy were available to ocelots, the mean patch size would increase accordingly. *Id.*

Therefore, even a 71.4 acre-patch size may be suboptimal for Ocelots in south Texas.

Horne et al. (2009) found that ocelots are habitat specialists that select almost exclusively for dense thornscrub, with canopy cover greater than 75%. Approximately 90% of Ocelot locations were in this type of closed cover. *Id.* Harveson et al. (2004) showed that Ocelots selected for greater than 95% dense shrub canopy and avoided areas with less than 75% canopy cover. Indeed, this selection was despite the occurrence of greater than 95% canopy in just 1% of the study area. *Id.* See also Jackson et al. (2005).

According to the Recovery Plan, average adult home range in south Texas is 17.67 km² (4,352 ac) for males and 11.04 km² (2,752 ac) for females. Haines et al. (2005a) estimate a male’s home range at 10.5 km² (2,595 ac) and a female’s at 6.5 km² (1,606 ac).¹⁵ Home ranges may be larger in winter than summer. The smallest area continuously inhabited by an individual ocelot was 122 ha (301 ac) (USFWS 1990).

Unfortunately, the species’ habitat is much diminished (USFWS 1990; Ocelot Translocation Team 2009). FWS states that “Little thorn forest classified as optimal habitat for ocelots remains in south Texas” and “very little optimal habitat remains in the current U.S. range of the ocelot” (USFWS 1990: 18). The agency quantifies suitable habitat as follows:

The total habitat available to ocelots in the Lower Rio Grande Valley is estimated to be less than 20,000 hectares (49,400 ac), with the largest block of thorn forest being the Laguna Atascosa NWR, with 3,352 hectares (8,280 ac) of remaining thorn forest. Laguna Atascosa NWR probably supports 25 to 30 ocelots...The remaining habitat in the area exists as numerous smaller thorn forest tracts, most less than 100 hectares (247 ac) and widely separated from other blocks...Lack of corridors between these thorn forest islands may restrict the use of these potential habitat sites. (USFWS 1990 at p. 16).

Currently, Laguna Atascosa NWR contains 75 km² (18,530 ac) of suitable habitat

¹⁴Jackson, V.L., Laack, L.L. and E.G. Zimmerman. 2005. Landscape metrics associated with habitat use by ocelots in South Texas. *Journal of Wildlife Management* 69(2): 733-738. [Attachment 16]

¹⁵However, EDF (2006) describes the home range as 6 km² (1,472 ac).

(Haines et al. 2005a). The private land habitat in Texas known to be currently occupied by the Ocelot consists of 2 dense thornscrub patches that measure 3.8 km² (939 ac) and are less than 0.2 km (0.1 mi) apart (Janecka et al. 2008). Ocelots travel between these two patches, but the total carrying capacity is estimated at 22 individuals. *Id.*

Range

The Ocelot occurs in Central, South, and North America. There are two subspecies of Ocelot in the United States: the Northern (or Texas) Ocelot (*L.p. albescens*) and the Sonoran Ocelot (*L.p. sonoriensis*). They represent the northern extent of the full species' range (USFWS 1990; Ocelot Translocation Team 2009). The Northern Ocelot historically ranged from northern Coahuila, north through Tamaulipas, Nuevo León, and parts of Texas, Louisiana, and Arkansas. The Sonoran Ocelot historically ranged from Sonora through southeastern Arizona. The two subspecies are separated from each other by the Sierra Madre highlands (USFWS 1990). FWS predicted in 1990 that the Texas and Mexican populations would soon be separated from each other due to destruction of habitat corridors. *Id.*

In the 1980 listing proposal to list the Ocelot in the U.S. portion of its range, FWS described that range as:

Formerly the ocelot was known to occur in the United States as far north as Fort Verde, and in the southern Rio Grande plain of Texas, westward to Eagle Pass; scattered but documented reports indicate it may once have occurred as far north as Kerrville, Texas. Today, populations are known to exist only in the Rio Grande area of southeastern Texas, where signs indicate their presence in eastern Cameron County, and in scattered pockets in Willacy and Kenedy Counties (USFWS 1980: 49845).¹⁶

The Recovery Plan lists the following Texas counties as containing Ocelots: Cameron, Duval, Hidalgo, Jim Wells, Kenedy, Kleberg, Live Oak, Nueces, San Patricio, Starr, Willacy, and Zapata (USFWS 1990).¹⁷ The plan describes the northern boundary of the present Texas range as running from the northern edge of Maverick County east to Calhoun County, with any areas south of that boundary “considered potential habitat if it contains suitable brush.” *Id.* at p. 12. In the final listing rule in 1982, FWS stated that, “Ocelots at present *do* continue to survive in south Texas on about 50,000 acres of public and private land” (USFWS 1982: 31672).

FWS's position in the final rule was that the Ocelot is a resident in extreme southeastern Texas and wanders into Arizona from Texas. *Id.* The recovery plan considered Arkansas and perhaps Louisiana to also be historic range for the Ocelot (USFWS 1990 at Figure 2). Researchers include northeastern Mexico, Texas, Louisiana, and Arkansas in the range

¹⁶U.S. Fish and Wildlife Service. 1980. Proposed endangered status for U.S. populations of five species. 45 Fed. Reg. 49844- 47. [Attachment 17]

¹⁷In comments on the plan, the FWS Field Supervisor in Corpus Christi, TX recommended that McMullen and LaSalle counties be added to this list, as ocelot sightings had occurred there (USFWS 1990 at p. 101).

description for the *albescens* subspecies (e.g., Murray and Gardner 1997; Janecka et al. 2008). Indeed, the type specimen for the Texas Ocelot was from southwestern Arkansas in 1855, on the Red River (USFWS 1990).

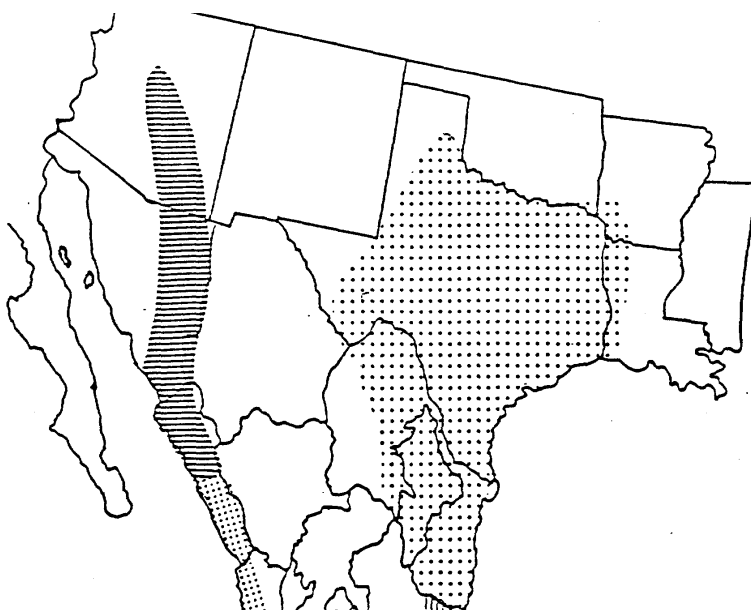


Figure 1. U.S. range of the Ocelot. Source: USWFS 1990, from Hall 1981.

Texas Ocelot  Sonora Ocelot 

Population Status

The 1982 Listing Rule estimated the population at 12-60 animals in the U.S. FWS stated that, “the population, however, is still viable and is known to breed within its restricted range” (USFWS 1982: 31672). In 1986, the U.S. population was estimated at 80-120 individuals (Tewes and Everett 1986, cited in Janecka et al. 2008). But as of 2009, the U.S. population was estimated at 50 animals, in two separate populations in south Texas, isolated from Mexican populations of this species (Ocelot Translocation Team 2009). Moreover, in its 2009 Action Plan, FWS described the two Texas populations as declining (USFWS 2009).

One of the Texas populations is centered on the Laguna Atascosa NWR in eastern Cameron County (called the “Cameron” population), and the other on the Lower Rio Grande Valley NWR and a private ranch in northern Willacy County (called the “Willacy” population). These are the only known breeding populations in the U.S. USFWS (2009) described each population as having fewer than 30 individuals and thus vulnerable to extinction. Janecka et al. (2008) estimated 38 Ocelots at Cameron, with the population at Willacy unknown (but carrying capacity for that area is estimated at 22 animals). Their estimate of the effective population size is 8.0-13.9 Ocelots at Cameron and 2.9-3.1 Ocelots at Willacy, which falls woefully short of scientists’ recommendations of an effective population size of more than 50 to guarantee even short-term viability. *Id.* Haines et al. (2005a) likewise estimate Cameron’s population at 38 and describe the

population size as being at carrying capacity of the available habitat.

The Cameron and Willacy populations are isolated from each other as well as from populations in Mexico. Cameron is located approximately 30 km (18.6 mi) southeast of Willacy. They have been separated for more than 30 years due to unsuitable, open habitat such as crops and rangeland that has apparently been a complete obstacle for Ocelots. Both U.S. populations are located more than 150 km (93.2 mi) north of the nearest Mexican populations, in Tamaulipas. Agriculture and development have isolated the U.S. from the Tamaulipas populations (Janecka et al. 2008).

There are Ocelot sightings outside of the Cameron and Willacy populations, but these are not known to be part of other breeding populations (Haines et al. 2005a). More surveys are needed to determine whether additional Ocelot populations exist in the U.S. (USFWS 1990; Janecka et al. 2008).

In short, despite having been listed for 28 years, the Ocelot's population numbers are approximately 50 animals in total. Moreover, these populations may now be declining.

Regulatory History

Listing in the U.S. (1982)

The Ocelot was listed as a foreign species under the ESA's predecessor, the Endangered Species Conservation Act, on March 30, 1972. 37 Fed. Reg. 6476. However, FWS later realized that the species had inadvertently not been listed within the U.S. portion of its range. To rectify this oversight, in 1980, FWS proposed this species for listing in the U.S., and that rule was finalized in 1982 (USFWS 1980; 1982).

In the 1980 proposal, FWS declined to propose critical habitat for the Ocelot, stating:

Because of the impossibility of determining where the occasional wanderer may turn up, no Critical Habitat can be determined at this time. If time, and additional study, should demonstrate patterns involving the movements of any of these species into the United States so that areas vital to their survival become apparent, such areas may be determined as Critical Habitat for any of them. For the present, however, it is impossible to make such determinations and therefore no Critical Habitat is proposed in this action (USFWS 1980: 49844).

On this basis, FWS determined that it was not prudent to propose critical habitat for the species in 1980, but added: "In the future, the Service may propose and determine Critical Habitat" for the ocelot "as data become available." *Id.* at p. 49845. FWS considered the species as peripheral and only occasionally wandering into the U.S. *Id.* However, FWS further stated that if populations became established in the U.S., "Critical Habitats may have to be determined, and steps would have to be taken to assure that such habitats are not adversely modified by Federal agencies." *Id.* at p. 49846.

In the 1982 U.S. listing rule for the Ocelot, FWS went further, stating that critical habitat designation was not in the best interest of the species, on two bases: 1) it would draw attention to the species' location and might cause illegal attempts to capture the economically valuable Ocelot for its fur or other use; and 2) the species habitat was already protected on the Laguna Atascosa National Wildlife Refuge (USFWS 1982: 31671). Publicly available documents, including the Ocelot Recovery Plan, Safe Harbor Agreement, and others, have subsequently indicated where this species exists in the U.S. Moreover, in the past two decades, FWS and scientists have become increasingly aware that protection of the Ocelot on Laguna Atascosa NWR is not sufficient to ensure either the survival or recovery of this species.

The final listing rule also described the animal as inhabiting approximately 50,000 acres in Texas, 30,000 of which was privately held and 20,000 of which was managed on the refuge. The private acres were used for lease hunting and livestock grazing, which FWS stated are compatible with the listing, and "no planned changes in land uses are known." *Id.* As this petition demonstrates, a number of ongoing land uses within the Ocelot's occupied and unoccupied habitat in the U.S. conflict with the survival of this species.

Recovery Plan (1990)

FWS issued a recovery plan for the Ocelot in 1990 (USFWS 1990). The plan considered the ocelot to have been "regularly documented recently in the United States." *Id.* at p. 1. The plan summarized needed actions as follows:

The major steps needed to meet the recovery criteria include: determining the precise population sizes and habitat sizes required for viability and the necessary spatial arrangement of habitat, and determining the impact of disease and other factors on the population; increasing ocelot numbers in Texas, in part by protecting at least 20,000 hectares of prime ocelot habitat in Texas (either in a single block or continuous blocks connected by corridors); determining ocelot distribution and status in Arizona and the northern states of Mexico; and determining the status, ecology, and conservation needs of the jaguarundi in Texas, Arizona, and the northern states of Mexico. *Id.* at p. ii.

Therefore, in addition to research and investigation, the overriding action of the Recovery Plan is to increase numbers in Texas by protecting at least 20,000 hectares (49,400 acres) of prime ocelot habitat, in a single block or connected blocks. This goal has not yet been met.

Primary methods of habitat protection specified in the plan for Texas were:

1. Implement an ocelot habitat protection plan;
2. Implement plans outlined in U.S. Fish and Wildlife Service Plan for the Lower Rio Grande Valley National Wildlife Refuge;

3. Minimize human disturbance on protected habitats;
4. Preserve habitat adjacent to occupied habitat;
5. Encourage private sector habitat protection;
6. Increase habitat through restoration and restoration research; and
7. Identify potential habitat sites in historical range of ocelot in Texas.

See USFWS (1990: 26). In addition, the plan provided for identification of suitable habitat in Arizona and its subsequent protection through similar measures as provided for Texas. *Id.* at pp. 29, 35.

In its implementation schedule for the Recovery Plan (Part III), the *solitary* Priority 1 measure - defined as “Actions absolutely necessary to prevent extinction of the species” – was to “Protect and manage occupied habitat” of the Ocelot in Texas (USFWS 1990: 33, 64). Some Priority 2 measures – defined as “Actions necessary to maintain the species’ current population status” – included identifying and protecting potential habitat of the Ocelot in south Texas and Arizona; increasing Ocelot populations and distribution in Texas; and protecting and managing occupied habitat in Sonora. *Id.* at pp. 64-67.

Moreover, FWS indicated the importance of federal or state authority over key Ocelot habitat:

Habitat currently used by ocelots that is now under Federal or state management authority should be protected and modified to enhance probability of continued use by ocelots. A variety of methods should be considered to protect habitat used by ocelots that is not now under Federal or state management authority. (USFWS 1990 at p. 33).

In addition, given the crucial importance of the Laguna Atascosa NWR, FWS specified that adjacent areas be protected:

Important ocelot habitat adjacent to Laguna Atascosa NWR and corridors known to be used by ocelots should be protected. A variety of methods to protect this land should be considered, including acquisition. Laguna Atascosa NWR contains the largest known U.S. ocelot population and may now be at or near its carrying capacity for ocelots. Adjacent habitat and travel corridors to this habitat should be protected. This habitat is needed to connect the core population with the wildlife corridor along the lower Rio Grande. Five ocelots have been hit by vehicles when the cats left Laguna Atascosa NWR. (USFWS 1990 at pp. 33-34).

The Lower Rio Grande Valley NWR is also important:

The goals outlined in this [Lower Rio Grande Valley NWR] plan should be attained as soon as possible. Critical ocelot habitat should be identified and incorporated into the acquisition process. Addition of important habitat adjacent to existing used habitats is also essential to population

survival of the ocelot in south Texas. Loss of target habitat to other uses such as agriculture and development is a distinct possibility, and once lost future retrieval is unlikely. *Id.* at p. 34.

Overall, the Recovery Plan emphasized the need to protect Ocelot habitat:

Land protection is essential to securing long-term survival of the ocelot and other endangered and threatened species in south Texas. Critical cat habitat in the Rio Grande Valley should be identified. A land protection plan should be developed for areas around Laguna Atascosa NWR, the Lower Rio Grande Valley, and counties north of this area to protect important ocelot and jaguarundi habitat. *Id.* at p. 19.

Unless major habitat sites and supporting corridor habitats are acquired or otherwise protected, it is unlikely that ocelots will exist as more than isolated remnant populations in south Texas. *Id.* at p. 35.

FWS specifically pointed to the long-term plan for the Lower Rio Grande Valley, which determined that it was necessary to increase the amount of land in the area under wildlife management agency administration from 40,000 acres to 100,000 acres. It pointed to the threat of brush clearing on private land (USFWS 1990).

Not only was occupied habitat considered important, so too was unoccupied habitat:

Loss of habitat adjacent to occupied habitat may result in the loss of corridors and the formation of biological barriers to ingress and egress of listed cats within a deme. *Id.* at p. 51.

However, the plan only described full protection for Ocelots in occupied habitat: “Within the occupied habitat...no activities that potentially could impact an ocelot are allowed, unless the activities are in compliance with the Endangered Species Act” (USFWS 1990: 20). It allowed “live-trapping” for activities proposed in “potential” habitat. *Id.* at pp. 20-21. *See* Figure 2. Critical habitat can provide protection for both occupied and unoccupied habitat of a listed species.

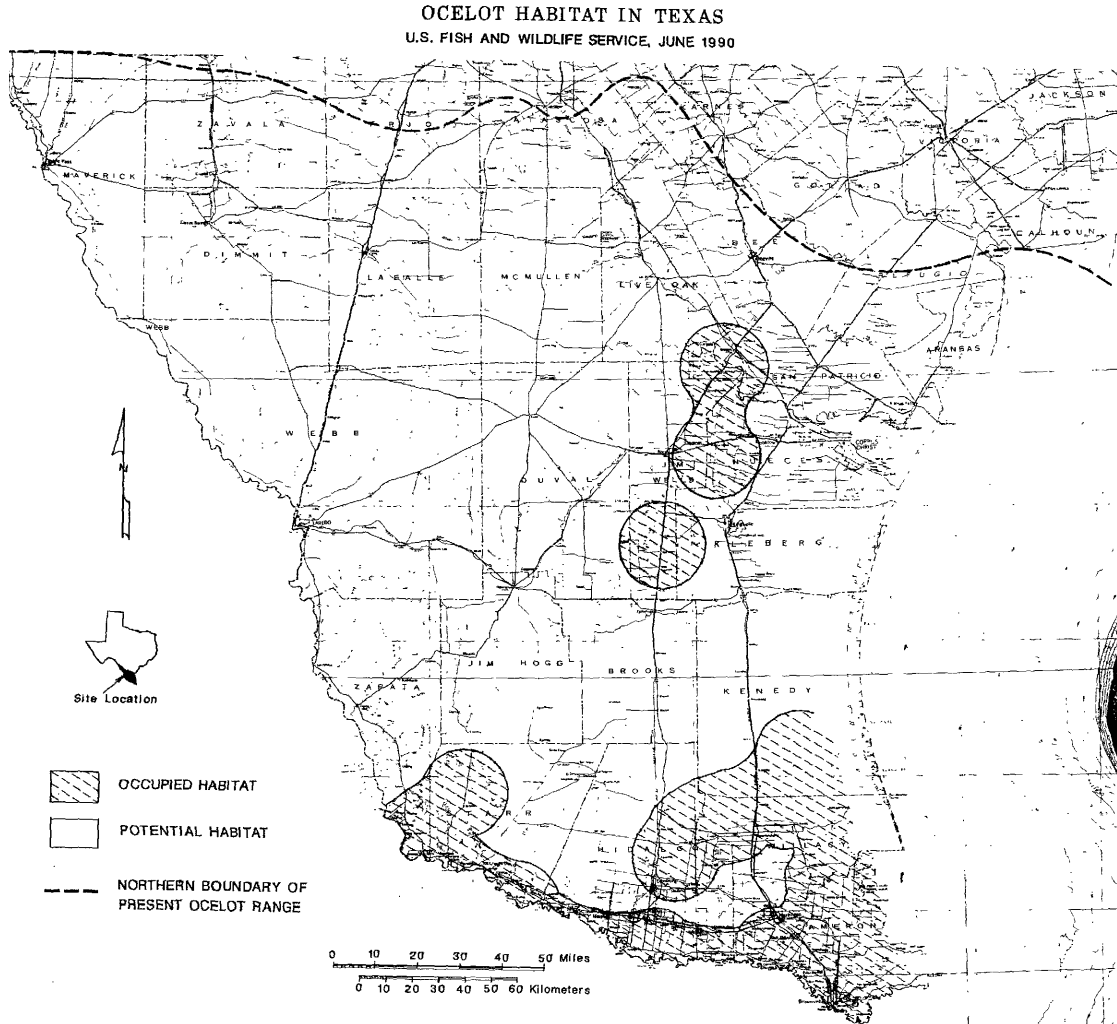


Figure 2. Ocelot Habitat in Texas.

Source: USFWS 1990.

In comments on the recovery plan, the Arizona State Director for the Bureau of Land Management (BLM) wrote that FWS had not provided BLM with clear guidance for managing for ocelot habitat. Without guidance, he wrote, this habitat may be disposed of. Conversely,

If known habitat was identified, we would work toward management of those lands for endangered species. Should ocelot habitat be identified in the future, we would consider the new information in the next planning cycle, or when our plans needed revision or amendment (USFWS 1990: 111).

The importance of critical habitat determinations in providing guidance to federal agencies in their plans and operations cannot be overstated. But there has been very little recovery planning or attention to the Ocelot in Arizona since the BLM state director

wrote his comments. Critical habitat designation could help remedy that oversight.

Protection from human activities other than habitat destruction was also specified in the recovery plan. These include recreation, hunting, and predator control. Regarding predator control, the plan stated that chemical, mechanical, or other means of predator control that could adversely affect the Ocelot should not be used in its occupied habitat. *Id.* at p. 35.

Safe Harbor Agreement (2006)

In 2006, FWS approved a Safe Harbor Agreement (SHA) developed by the Environmental Defense Fund for the Ocelot. The SHA is designed to encourage restoration of private lands to provide suitable habitat for the Ocelot and to provide connectivity between areas currently occupied by Ocelots. This agreement prioritizes lands adjacent to public lands with Ocelot habitat, including Laguna Atascosa and Lower Rio Grande Valley NWRs. The SHA has a term of 30 years and was designed to provide legal coverage from ESA Section 9 take prohibitions for activities conducted on enrolled lands, under Section 10(a)(1)(A) (16 U.S.C. § 1539(a)(1)(A)). Properties eligible for enrollment must occur within the following Texas counties: Cameron, Hidalgo, Kenedy, Starr, and Willacy; and must have a zero baseline at the time of enrollment. As of 2006, four landowners in south Texas had enrolled, for a total of 15,800 acres. Two landowners in Tamaulipas enrolled, for a total of 3,580 acres there (EDF 2006). FWS indicated recently that there has been no activity under this SHA (pers. comm., M. Tuegel, USFWS, January 14, 2010).

A zero baseline effectively means they lack suitable habitat at the time of enrollment because of shrub and tree canopy cover of less than 50%; or if the lands exceed that canopy cover, they are dominated by one species. If lands contain more than 20 acres, they can include no greater than 10 contiguous acres of optimal habitat (95% or greater shrub canopy) to be eligible. Management activities to restore Ocelot habitat include: site preparation (shredding, disking, herbicides, mulching, and burning); planting thornscrub seedlings; water systems to irrigate seedlings; tree tubes to enhance seedling survival; post-planting measures (shredding, burning, herbicides) to enhance survival of seedlings; and creation of pathways for other wildlife to use. The restored properties must enable Ocelot use for 6 successive years, but it may take 15 years or more for suitable habitat to be created. *Id.*

Enrolled landowners would be protected from Section 9 take of Ocelots so long as take was incidental to lawful activities, including habitat restoration for this species; agricultural, silvicultural, recreational, or other activities after restoration efforts have commenced; and any lawful use of the property after habitat restoration measures have been fully implemented. However, the SHA acknowledges that FWS can revoke incidental take coverage if it determines activities are jeopardizing the Ocelot. *Id.*

Translocation from Mexico (2009)

In 2009, the Ocelot Translocation Team, a subcommittee of the species' recovery team, plans translocation of Ocelots from Tamaulipas to Texas to reduce the probability of extinction of the species from Texas (Ocelot Translocation Team 2009). Janecka et al. (2007) recommend animals from Tamaulipas as a source population for translocation.¹⁸ Translocation is supposed to be accompanied by longer-term habitat protection, acquisition, and restoration efforts. Under the proposal, at least 4 Ocelots would be translocated into multiple release sites every 1-3 years for 20 years, with the goal of at least 50% of the translocated animals integrated into an extant population in Texas. Five release sites have been identified for Cameron County, centered on the Laguna Atascosa NWR. While translocation is also planned into Willacy County, that area is thought to be at carrying capacity for Ocelots. In addition to augmenting existing Ocelot populations in Texas, the 2009 plan envisioned creating a third population, geographically separate from the two existing populations (Ocelot Translocation Team 2009).

Ocelot Action Plan (2009)

In 2009, FWS released an action plan for the Ocelot (USFWS 2009). This plan aims to stabilize and increase the Texas Ocelot population by 15-20% in 5 years. The Action Plan establishes a quantitative recovery goal of 2-3 distinct but interbreeding populations of Ocelots in Texas, with a total of at least 200 individuals. The populations themselves should comprise 75 or more animals. Ideally, these animals would interbreed with Ocelots in Mexico. *Id.*

The Action Plan describes a number of governmental and non-governmental organizations who will work together to: translocate Ocelots into Texas from Mexico; protect habitat around Laguna Atascosa NWR and the Lower Rio Grande Valley NWR; restore habitat around extant Ocelot populations in Texas; expand monitoring; reduce road mortality via safe road-crossings; creation of a bi-national corridor to connect Ocelot populations in Texas with those in Tamaulipas; education and outreach efforts to expand participation in Ocelot recovery efforts and increase public awareness; minimize impacts to Ocelots and their habitats through ESA consultation; and assure adequate drinking water during droughts. *Id.*

Importantly, the Ocelot Action Plan recognizes a rule for ESA consultation in recovering this species. The plan envisions the measure "Impacts to ocelots and their habitats will be minimized in development projects, including roads & bridges, residential and commercial construction, and border security infrastructure" through consultation: "Section 7 consultations will request avoidance and minimization of impacts to ocelots and their habitat for all projects within Kenedy, Willacy, Cameron, and Hidalgo counties" (USFWS 2009: 6). As indicated in this petition, critical habitat designation would greatly increase the protective value of such consultations to the Ocelot.

¹⁸Janecka, J.E., Walker, C.W., Tewes, M.E., Caso, A., Laack, L.L. and R.L. Honeycutt. 2007. Phylogenetic relationships of ocelot (*Leopardus pardalis albescens*) populations from the Tamaulipan Biotic Province and implications for recovery. *The Southwestern Naturalist* 52(1): 89-96. [Attachment 18]

Threats to Survival and Recovery

ESA Section 4 (16 U.S.C. § 1533(a)(1)) sets forth listing factors under which a species can qualify for ESA protection (see also 50 C.F.R. § 424.11(c)):

- A. The present or threatened destruction, modification, or curtailment of habitat or range;
- B. Overutilization for commercial, recreational, scientific, or educational purposes;
- C. Disease or predation;
- D. The inadequacy of existing regulatory mechanisms; and
- E. Other natural or manmade factors affecting its continued existence.

To recover, a listed species must no longer face threats under these listing factors. FWS and scientists have long recognized a multitude of threats to the species in the U.S. In its 1980 listing proposal, FWS identified habitat loss and degradation; lethal control; and inadequacy of regulatory protections as threats to this species. FWS wrote:

Factors [A] and [D] have posed, and continue to pose, severe threats to the ocelot in the United States. The clearing of the brush in the Texas Rio Grande region to grow citrus crops, vegetables and cotton began in the 1920's and by 1940 most of the suitable habitat for the species was gone in Texas. Today, very little of the native brushland exists, except for the Laguna-Atascosa and Santa Ana Wildlife Refuges and small, scattered spots elsewhere. The ocelot apparently never was firmly established in Arizona and predator control operations there, as well as in Texas, helped to extirpate or reduce populations to their current endangered status. (USFWS 1980: 49845).

The 1982 listing rule reiterates these multiple threats as well as noting that the limited area of habitat and small population size, make the species "extremely Endangered" in Texas (USFWS 1982: 31671). More recently, the Ocelot Safe Harbor Agreement of 2006 (EDF 2006: 2) described multiple threats as well:

Historically (prior to the 1930s), hunting was probably the greatest threat to the ocelot, while in recent times (post 1930) habitat loss (primarily agricultural conversion), vehicle strikes, disease, and genetic inbreeding are considered to be the greatest threats to the remaining individuals.

In 2009, the Ocelot Translocation Team indicated that the species continues to face many threats and is "at high risk of extinction in the U.S.":

Habitat conversion, fragmentation, and loss comprise the primary threats to the ocelot today throughout its range. Human population growth and development continue in both Texas and Tamaulipas, creating and

widening gaps between once-contiguous ocelot populations. Ocelots attempting to move between remaining habitat fragments are faced with open areas, fences, roads, and other barriers. Collision with vehicles is a leading cause of ocelot mortality in Texas, contributing to reduced numbers and population isolation. Small population size and isolation from conspecifics in Mexico have resulted in severely reduced genetic diversity in the Texas population, which can lead to lower reproductive and survival rates, reduced disease resistance, and increased susceptibility to stochastic events. *As a result of these cumulative factors, ocelots are at high risk of extinction in the U.S.*

See Ocelot Translocation Team (2009 at pp. 1-2), emphasis added.

Most concerning is FWS's recent description of the two Texas populations as declining. Its description of causes is as follows:

The Texas declines are likely the result of populations becoming genetically isolated from core populations in Tamaulipas, Mexico, large-scale loss and degradation of habitat, increased road mortality, and severe droughts that occurred from 1999-2003.

See USFWS (2009: 4).

ESA Listing Factor A: Habitat Loss and Degradation

Scientists agree that habitat loss has long been the primary threat, and is a continued threat, to the Ocelot in the U.S. (Murray and Gardner 1997; Harveson et al. 2004; Jackson et al. 2005; Janecka et al. 2008; Haines et al. 2005a, 2005b; Horne et al. 2009). Murray and Gardner (1997) state that by 1960, 99% of the Ocelot's habitat in Texas had been cleared for agriculture and urbanization. The lack of suitable habitat forces Ocelots into areas where they face increased challenges to survival. State Harveson et al. (2004: 952), "the limited availability of thornshrub on LANWR may be forcing ocelots to use less dense, suboptimal habitat." In addition to the problem of diminishing habitat, that habitat is generally fragmented and isolated:

The removal of over 95% of this type of [thornscrub] habitat from the Lower Rio Grande Valley and Northeastern Mexico is the primary cause for decline in the ocelot population. Currently, only a handful of relatively small habitat 'islands' remain. (EDF 2006: 3).

FWS has also recognized habitat loss as the primary threat to this animal (USFWS 1982; USFWS 1990; USFWS 2009). Brush clearing for agriculture, development, and other land uses has historically reduced the species' habitat and continues to cause habitat decline. *Id.* FWS estimated a 90% decline in Lower Rio Grande Valley brushland; predicted in 1990 that more would be lost on private lands within five years; and described the habitat as rapidly disappearing along the Rio Grande in Mexico as well

(USFWS 1990: 84). The agency underscored that habitat loss and fragmentation “critically threaten the long-term survival of the ocelot” in the U.S. and urged rapid implementation of recovery efforts as “Hesitation may result in loss of key habitat and biological corridors necessary for the survival of the entire ocelot population.” *Id.* at p. 21. But hesitation by FWS in providing critical habitat protection for the Ocelot’s habitat has indeed resulted in loss of key habitat. Jackson et al. (2005) report that, from 1991-2000, approximately 45,800 ha (113,126 ac) of closed canopy suitable for Ocelots was destroyed in south Texas.

The Ocelot Translocation Team (2009) also notes that Ocelot populations in Texas are isolated from each other by extensive agriculture and urbanization. This group indicated that urbanization, housing developments, road development, and increases in human populations in Texas may threaten expansion of Ocelot populations and their connectivity.

Human population growth is indeed the primary driver of habitat loss for the Ocelot in the U.S. Indeed, in its 2009 Action Plan, USFWS described how human population growth

...has produced another wave of land use change, as agricultural land has given way to residential development, causing further loss of remaining brush land and increasing the threat of future habitat loss due to the sale and/or subdivision of formerly large land tracts...

See USFWS (2009: 1). Human population growth is discussed under ESA Listing Factor E, below.

Border issues are also important for this cat. There are a range of activities, including immigration, drug trafficking, and police and military efforts to address these concerns, that are causing habitat loss and further isolation of Texas populations from Mexican populations of Ocelots (USFWS 2009). Border installations and activities threaten the Ocelot by restricting mobility and disrupting animals through artificial lighting (Grigione and Mrykalo 2004; Bies 2007;¹⁹ List 2007;²⁰ Grigione et al. 2009).

In summary, habitat loss and degradation has been, and continues to be a threat to the Ocelot in the U.S. Scientists, FWS, and the Ocelot Translocation Team recognize this. Whether from agriculture, urbanization, roads, border activities, or other land uses, habitat destruction is the principal obstacle to the Ocelot’s survival and recovery.

¹⁹Bies, L. 2007. Bordering on disaster: new Homeland Security legislation jeopardizes wildlife. *The Wildlife Professional* Spring 2007: 24-28. [Attachment 19]

²⁰List, R. 2007. The impacts of the border fence on wild mammals. Pp. 77-86 In *A Barrier to Our shared Environment: the Border Fence Between the United States and Mexico*. Eds. A. Cordova and C.A. de la Parra. Secretariat of Environment and Natural Resources, National Institute of Ecology, El Colegio de la Frontera Norte, Southwest Consortium for Environmental Research and Policy. See, especially, Map 1. [Attachment 20]

ESA Listing Factor B: Overutilization

FWS has recognized predator control as an important cause for the decline of this species in the U.S. (USFWS 1982, 1990). The Ocelot Translocation Team (2009) also pointed to both predator control and furbearer trapping as potential threats in Texas. Murray and Gardner (1997) recommend banning leg-hold traps and neck snares in Ocelot areas in south Texas. Haines et al. (2005b) reported an Ocelot mortality during their 1983-2002 study in south Texas from organophosphate aldicarb, an illegal predator control toxicant.

ESA Listing Factor C: Disease or Predation

The Ocelot Translocation Team (2009) indicated that both disease and predation could be potential threats in Texas. The Recovery Plan described disease, such as feline distemper, as a potential threat to the species in the U.S. (USFWS 1990). Haines et al. (2005b) found that disease accounted for 3 of 29 mortalities in their research in Texas (chronic ear infection, heartworm, and mange).

Non-human predators on the Ocelot include feral dogs, coyotes, bobcats, mountain lions, feral pigs, great horned owls and other large raptors, alligators, and snakes (USFWS 1990). Young Ocelots are likely more susceptible to predation than adults. *Id.* Horne et al. (2009) reported that, while Ocelots and bobcats may compete, they occupy different types of habitat, which may enable these similar predators to coexist in the same landscape. These researchers found that, while Ocelots select for greater than 75% closed canopy, bobcats select for under 75% closed canopy. *Id.* Haines et al. (2005b) reported that at least 3 of 29 mortalities were from a rattlesnake bite, attack by a domestic dog, and predation on an Ocelot. An additional 3 of 29 mortalities were intraspecific. *Id.*

In its 2009 Action Plan, FWS further elaborates on these issues. Regarding disease, FWS writes:

As habitat for ocelots shrinks in the U.S. and Mexico, exposure of ocelots to domestic cats, dogs, and livestock has increased, thus increasing exposure to diseases to which the ocelot may not have any natural immunity. Feral cats, coyotes, and raccoons may be potential reservoirs for diseases to which the ocelot is susceptible. At the same time that habitat is decreasing in extent and becoming ever more fragmented in distribution, and interactions with domestic cats, dogs and livestock are increasing, the ocelot's prey populations are declining, *making this a race against time* to carry out research needed to understand the dynamics of these disease patterns.

See USFWS (2009: 2, emphasis added). Regarding predation, FWS states,

Mortality of some ocelots has been attributed to attacks by, or fights with, other ocelots, dogs, coyotes, mountain lions, as well as unknown mammals, and potentially American alligators...

Id. It therefore appears that the risks of disease and predation are threats, and may be increasing threats, to the Ocelot.

ESA Listing Factor D: Inadequacy of Regulatory Mechanisms

The Ocelot is listed as Endangered under the Endangered Species Act and is on Appendix I of the Convention on International Trade in Endangered Species (CITES). Both designations protect the Ocelot from direct, intentional take and commerce. However, while the Ocelot is listed under the ESA, critical habitat designation would increase regulatory protections for this species. In its 2009 Action Plan, FWS writes frankly about the current inadequacy of regulatory protections for this species:

In the U.S., the ocelot, as well as some of its habitat on public land, is protected by the Endangered Species Act (ESA). However, in southern Texas, most remaining ocelot habitat is on private lands, many of which have never been surveyed for the presence/absence of the species. Most ocelot habitat in south Texas is not well protected from development. *The ocelot is highly susceptible to extinction in the U.S. under current regulatory mechanisms. Habitat is not sufficiently protected by the species' listing status.* Currently, the ocelot is listed as a single species without designation of any distinct population segments (DPS), throughout the entire species' range from south Texas to South America. As a consequence of being listed in this manner, loss of habitat or other threats that push the species toward extinction in any one area do not constitute jeopardy for the species as a whole. Therefore, *the ocelot could go extinct in the U.S. under current regulatory protections.*

See USFWS (2009: 2, emphasis added).

Habitat loss has even occurred on NWR lands managed by FWS, primarily through planting grain crops for waterfowl (USFWS 1990). The total suitable acreage on Laguna Atascosa was described in the Recovery Plan as approximately 8,000 acres, with plans to convert 500 additional acres to brush. *Id.* In addition to protecting suitable habitat from degradation, NatureServe (2009) indicates the importance of habitat restoration at Laguna Atascosa NWR.²¹

FWS has previously indicated the need to “obtain the maximum amount of funding” for work on the Ocelot (USFWS 1990: 101). However, expenditure reports from 1996-2007 indicate that relatively little spending on this animal, despite its dire biological status. In particular, habitat acquisition has long been described by FWS as an important recovery strategy. Yet, a total of just \$103,700 was spent on acquisition of Ocelot habitat from

²¹See NatureServe Account for Ocelot. Downloaded from www.natureserve.org [Accessed January 2010]. [Attachment 21]

1996-2007;²² Table 1.

Table 1. Federal and State Expenditures on the Ocelot.

Source: FWS Expenditure Reports 1996-2007.

Year	FWS	Other Federal	State	Land Acquisition
1996	\$122,000	\$86,900 ^a	\$6,500	\$0
1997	\$57,800	\$78,480 ^b	\$500	\$500
1998	\$46,000	\$126,700 ^c	\$500	\$0
1999	\$68,500	\$16,200	\$500	\$0
2000	\$28,000	\$13,700	\$1,000	\$0
2001	\$64,100	\$16,050	\$1,000	\$0
2002	\$46,400	\$1,500	\$3,000	\$0
2003	\$62,200	\$586,560 ^d	\$3,000	\$0
2004	\$153,200	\$18,120	\$53,000	\$0
2005	\$92,500	\$42,840	\$8,195	\$0
2006	\$111,475	\$10,860	\$7,610	\$0
2007	\$160,007	\$7,780	\$53,500	\$103,200

^aMost of this was expended by the Navy (\$75,000).

^bMost of this was expended by the Natural Resources Conservation Service (\$65,000).

^cMost of this was expended by the Federal Highway Administration (\$101,000).

^dMost of this was expended by the Federal Highway Administration (\$500,000).

By FWS's own admission, current regulatory mechanisms are not sufficient to safeguard the Ocelot from extinction. Moreover, the agency is failing to spend adequate funds on a measure that has long been held to be key to the recovery of this species: habitat acquisition.

ESA Listing Factor E: Other Natural or Manmade Factors

Vehicle mortalities. The Recovery Plan reported that 6 of 9 ocelot mortalities in Texas were from motor vehicle collisions. Five of these were directly south of Laguna Atascosa NWR. Of the 3 deaths for which cause was unknown, all three were on refuges (2 on Laguna Atascosa NWR and 1 on Santa Ana NWR) (USFWS 1990). EDF (2006) ties vehicular collisions to habitat loss and states that vehicular collisions are now the leading cause of Ocelot mortality. Similarly, the Ocelot Translocation Team (2009) stated that motor vehicle collisions are a leading cause of mortality for Laguna Atascosa/Cameron County Ocelots. Haines et al. (2005b) found that vehicle collisions were a leading threat to this species, accounting for 35% of Ocelot deaths (10 of 29). *See also* Murray and Gardner (1997) and USFWS (2009). Haines et al. (2005b) underscored the need for underpasses, as well as exclusion of artificial lights and domestic pets from culverts needing for safe Ocelot passage. Haines et al. (2006) reported that reduction in road mortality (as well as augmentation) was an important short-term strategy to prevent Ocelot extinction.

²²Expenditure reports for endangered species for 1998-2007 are online at <http://www.fws.gov/Endangered/pubs/index.html> [Accessed January 2010]. [Attachments 22-32]

Human population growth. As indicated above, habitat destruction and other threats, including the proliferation of roads, to the Ocelot in the U.S. are propelled by human population increases (Ocelot Translocation Team 2009; USFWS 2009). Multiple studies have pointed to rapid human population growth in the Lower Rio Grande Valley as a driver of threats such as habitat loss and road mortality (Harveson et al. 2004; Haines et al. 2005a, 2005b). Haines et al. (2005a) found that Ocelot carrying capacity will decline 0.5% per year for 40 years due to human population growth, leaving Laguna Atascosa NWR completely isolated, with a carrying capacity of 30 Ocelots. These authors describe this valley as having “the most impoverished and rapidly growing border population of humans in the U.S.” (Haines et al. 2005a: 513). For example, census data for Cameron County, Texas show rapid population growth (Figure 3).

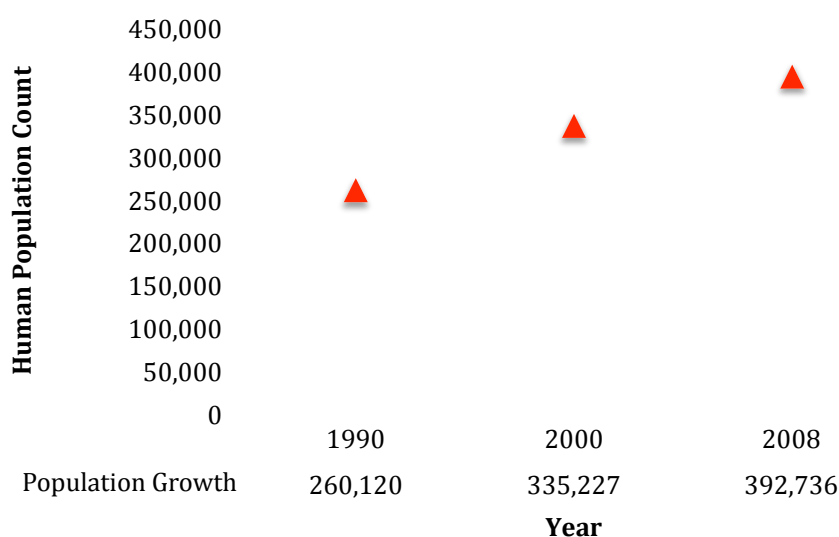


Figure 3: Human Population Growth in Cameron County, TX, from 1990-2008.

Source: US Census Bureau 2010; www.factfinder.census.gov [Accessed January 2010]

Climate change. Drought, tropical storms, and hurricanes all occur within the Ocelot’s U.S. habitat (USFWS 1990; Ocelot Translocation Team 2009). Climate change has, and will continue to, increase the frequency and severity of these weather events in this region of the U.S. (e.g., Karl et al. 2008; 2009).²³ Indeed, USFWS acknowledged the climate change threat to Ocelots:

²³CCSP, 2008: *Weather and Climate Extremes in a Changing Climate. Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands.* A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Thomas R. Karl, Gerald A. Meehl, Christopher D. Miller, Susan J. Hassol, Anne M. Waple, and William L. Murray (eds.)]. Department of Commerce, NOAA’s National Climatic Data Center, Washington, D.C., USA, 164 pp. Online at: <http://www.climate-science.gov/Library/sap/sap3-3/final-report/sap3-3-final-all.pdf> [Accessed November 2009]. [Attachment 33]. Karl, T.R., Melillo, J. M., and T.C. Peterson (eds). 2009. *Global Climate Change Impacts in the United States*, Cambridge University Press, 2009. Online at <http://www.globalchange.gov/whats-new/286-new-assessment-climate-impacts-us> [Accessed November 2009]. [Attachment 34]

A severe drought from 1997-2002 in the Lower Rio Grande Valley was associated with increased mortality and lack of reproduction in the Cameron County ocelot population. Since that time, the number of ocelots found in the Cameron County population has declined substantially and may be at a critically low level. Possible impacts from climate change, including predicted rises in sea level and loss of coastline habitats, could also have severe impacts on U.S. populations that could result in extirpation. Actions to increase the size, improve the demographics, and increase available habitat for U.S. populations will be needed to increase resilience to drought and other stochastic events. Actions to expand U.S. populations inland through habitat protection, restoration, and creation of corridors will be needed to allow populations to shift and adapt to possible impacts of climate change. (USFWS 2009: 3).

Haines et al. (2005a) estimated that drought decreases Ocelot survival by 10% and reproduction by 25%. Haines et al. (2005b) indicated that more research is needed on the effects of drought on Ocelots in south Texas.

Small population size. The small and isolated status of extant Ocelot populations in Texas is causing genetic erosion as well as increased exposure to stochastic events, such as extreme weather caused by climate change (USFWS 2009). Haines et al. (2005a) point to genetic issues as an important threat to Ocelots in the U.S., along with habitat destruction and road mortality. Janecka et al. (2008) found low genetic diversity in extant Texas Ocelots, and found that the Willacy population's genetic variation is rapidly declining, by 16% each generation. These researchers suggested that even a one or a few new migrants each generation might help to avoid severe inbreeding depression. Most alarming in their study was the low effective population size they report: $N_e = 8-13.9$ for Cameron and $N_e = 2.9-3.1$ for Willacy, far lower than what is needed to ensure even short-term population viability ($N_e < 50$). *Id.* Scientists warn that this small effective population size "may limit the recovery of this species in the United States." *Id.* at p. 876. They state that "Immediate actions should be taken to increase the [effective population size] of the remaining endangered ocelot populations in the United States to ensure their persistence." *Id.*

Contaminants. FWS has raised concerns in the Recovery Plan about the effect of pesticides, herbicides, and other contaminants on the ocelot (USFWS 1990 at pp. 101, 106). It again noted this danger in the 2009 Action Plan (USFWS 2009). As described under Listing Factor B, an Ocelot was found dead from a predator control toxicant in south Texas (Haines et al. 2005b). While Mora et al. (2000) found that some contaminants in sampled Ocelots in Texas occurred at low enough levels that they didn't seem to pose a threat, they indicated that their study did not address herbicides and new generation pesticides such as organophosphorus and carbamate insecticides, which warrant further study.²⁴ Yet, the Ocelot SHA expressly provides for the use of herbicides

²⁴Mora, M.A., Laack, L.L., Lee, M.C., Sericano, J., Presley, R., Gardinali, P.R., Gamble, L.R., Robertson, S., and D. Frank. 2000. [Environmental contaminants in blood, hair, and tissues of ocelots from the Lower](#)

near or within Ocelot habitat (EDF 2006).

Cumulative factors. As indicated by the above excerpts from the listing proposal and rule, recovery plan, Ocelot SHA, Ocelot Translocation Plan, and Ocelot Action Plan, the Ocelot faces multiple threats, and these threats intersect. For example, habitat loss causes more vulnerability to vehicle mortalities; habitat loss can lead to shrinking populations which are then more susceptible to disease and genetic inbreeding; climate change can reduce suitable habitat and habitat loss can make the species more vulnerable to hurricanes, droughts, and other dynamics resulting from climate change. This list is not comprehensive but provides demonstrations of ways in which cumulative threats endanger the Ocelot. Scientists recognize the intersecting nature of the threats the Ocelot faces:

We documented 29 total mortalities with human activity causing 45% of the cumulative mortality. However, natural mortality may be indirectly related to anthropogenic habitat fragmentation. Reduced habitat availability may cause ocelot populations to be more crowded, thus increasing intraspecific conflict, competition, and disease transmission.

See Haines et al. (2005b: 261).

The Value of Critical Habitat Designation

Species with critical habitat designations are twice as likely to recover as those lacking such designations (Taylor et al. 2005). The need to use all available means to recover the Ocelot is made clear in the 2009 Action Plan, which discloses that, “The ocelot is highly susceptible to extinction in the U.S. under current regulatory mechanisms. Habitat is not sufficiently protected by the species’ listing status” (USFWS 2009: 2). It also indicates that the 5-year plan is but a subset of actions required to recover the species, and even this subset will only be implemented if there is adequate funding. As petitioners discussed, overall funding for the Ocelot from 1996-2007 has been low. Moreover, the Action Plan recommends not only that current declines be arrested, but the total Texas population must be quadrupled to achieve recovery (from 50 animals to more than 200). *Id.* at p. 8.

Given that FWS believes the Texas population must be quadrupled, but the population has either remained stable at the low level of 50-60 animals, or is declining, the challenge to the Ocelot’s recovery is clear. Indeed, the Ocelot is facing bleak prospects of survival within its range in the U.S. Scientists indicate that habitat protection and restoration is the most important way the Ocelot can avoid extinction in the U.S. and that both public and private lands are important in this recovery effort (Haines et al. 2005a).²⁵ While

[Rio Grande Valley, Texas, 1986-1997](#). Environmental Monitoring and Assessment 64:447-492. [Accessed January 2010]. [Attachment 35]

²⁵This study found that the second most effective recovery strategy was linking existing populations and reducing road mortality. The least effective of the four strategies tested was augmenting existing Texas populations.

Laguna Atascosa NWR offers the most suitable habitat at present, it also has potential to increase suitable habitat through restoration of areas that contain preferred soils to thornscrub (Figure 4). Habitat restoration on Laguna Atascosa NWR and in select areas within a 15 km (9.3 mi) radius of the refuge could increase the carrying capacity to 64 Ocelots within 40 years, up from 38 Ocelots at present (Haines et al. 2005a). In addition, Shinn (2002)²⁶ indicates that there are several areas on the Lower Rio Grande NWR that contain suitable habitat but lack Ocelots.

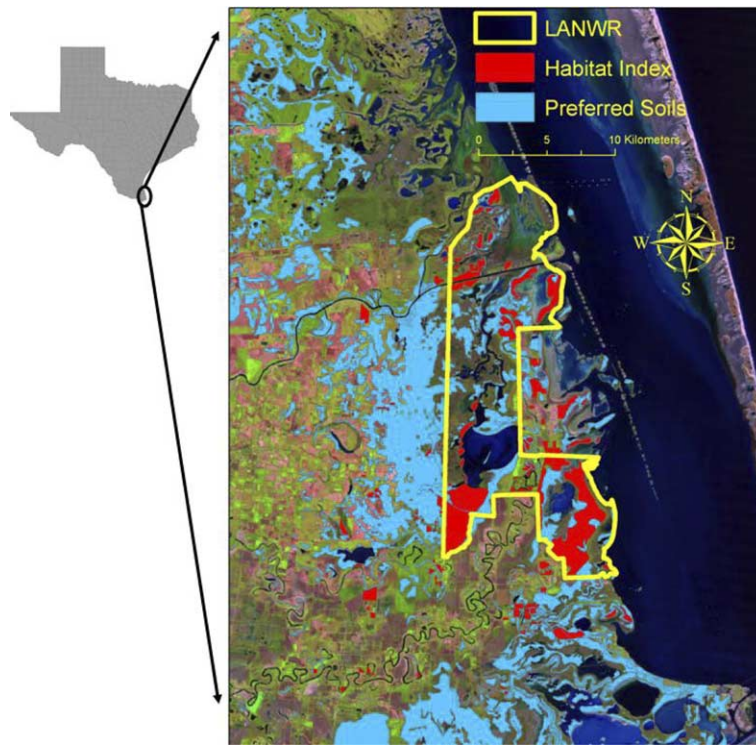


Figure 4. Map of Laguna Atascosa National Wildlife Refuge and vicinity showing Ocelot habitat patches and preferred soil types for Ocelot habitat restoration in the Lower Rio Grande Valley. Source: Haines et al. (2005a).

²⁶Shinn, K.J. 2002. [Ocelot distribution in the Lower Rio Grande Valley National Wildlife Refuge](#). M.S. thesis, University of Texas-Pan American, 85 pp. [Accessed January 2010]. [Attachment 36]

Critical habitat designation would help this animal in a multitude of ways, particularly given that habitat loss (which leads to more vehicle collisions, encounters with predators, exposure to disease, etc.) is the leading threat to this species. In particular, critical habitat on those lands essential to the conservation of the Ocelot would provide FWS with added impetus to restore habitat under its management authority to thornscrub; better curtail threats; and prescribe conservation measures on projects with a federal nexus. Actions executed, funded, or permitted by Laguna Atascosa NWR, Lower Rio Grande Valley NWR, U.S. Department of Transportation, Environmental Protection Agency, Federal Emergency Management Agency, Natural Resources Conservation Agency, and any other federal agency that permits, funds, or conducts activities that may affect the Ocelot would have to avoid the destruction or adverse modification of any areas designated as critical habitat by FWS. 16 U.S.C. § 1536(a)(2).

Critical habitat designation could also provide guidance for federal acquisition of key habitats, including core, buffer, and corridor areas, under ESA Section 5. 16 U.S.C. § 1534. In the Ocelot's Recovery Plan, FWS underscored the need to bring more land under wildlife management authority (USFWS 1990). Brown (1990)²⁷ indicated that these activities were underway 20 years ago:

The principal need of the ocelot in Texas is the continuation and acceleration of the aggressive land-acquisition program being conducted in the lower Rio Grande Valley by FWS, the Texas Parks and Wildlife Department, and private conservation organizations. Special emphasis should be given to acquiring the remaining tracts of Tamaulipan riparian semideciduous forest and areas of dense thornscrub or *encinals* shown to harbor resident ocelots. Land management agencies also should consider increasing the size of tracts already in public ownership. Once acquired these lands should be managed for ocelots and other species characteristic of Tamaulipan biotic communities...Management practices would consist of protecting existing thickets and allowing cleared areas to revert to brush. Cleared areas should be restocked with native trees and shrubs if necessary. Under no circumstances should brush be cleared from public lands where ocelots are present.

Similarly, Murray and Gardner (1997: 7) noted more than a decade ago:

The United States is trying to increase the amount of land under the jurisdiction of federal, state, and private organizations from 13,355 to 43,504 ha in an effort to protect the ocelot and 114 other species occurring in Texas...

Harveson et al. (2004: 948) stated more recently, "land acquisition and restoration are essential to increase ocelot habitat and sustain or increase current populations."

²⁷Brown, D.E. 1990. [The ocelot](#). Pp. 420-433 in Audubon Wildlife Report 1989/1990 (W.C. Chandler, ed.). Academic Press, Inc., San Diego, CA. [Accessed January 2010]. [Attachment 37]

Unfortunately, as discussed above, the acquisition part of this formula, which is recommended in the Recovery plan, has actually been little used by FWS for the Ocelot in the past decade or more.

The primary way agencies have been spending funds on the Ocelot is through the consultation process. Expenditure reports indicate Ocelot expenditures by a variety of agencies, but the expenditures are usually small.²⁸ Involved agencies include, but are not limited to: FWS, Animal Plant Health Inspection Service, Army Corps of Engineers, Bureau of Land Management, Bureau of Reclamation, Federal Energy Regulatory Commission, Federal Highway Administration, Geological Survey, Natural Resource Conservation Service, Navy, and U.S. Forest Service.²⁹ Any of these funds spent on consultations would have provided increased protection for the Ocelot and its habitat if the agencies were required to avoid adverse modification of critical habitat, rather than the current standard of avoiding jeopardy to the species.

Specific actions that would result from ESA consultation over the effects of federal spending, permitting, or operations within Ocelot critical habitat include (but are not limited to):

- **Effective measures to address the loss of habitat.** For lands managed by federal agencies, actions by federal agencies, and actions on non-federal lands requiring federal permits or involving federal monies, critical habitat provides heightened protection for the species from habitat loss.
- **Effective measures to address the threat of vehicular collisions.** Increased obligations to limit construction of new roads or improvement of existing roads; and construction of safe passages, including underpasses.
- **Effective measures to address threats from contaminants.** Critical habitat would increase FWS' ability to ensure that actions by the Environmental Protection Agency and other actors on herbicides and pesticides do not adversely affect the Ocelot's designated habitat.
- **Effective measures to address threats from climate change.** Critical habitat designation for the Ocelot would increase FWS' ability to regulate factors causing climate change, with resultant impacts from drought, hurricanes, and other climate change-related events on this species.

Determination of Critical Habitat for the Ocelot

FWS should develop a critical habitat proposal based on the habitat essential to the Ocelot's survival and recovery. The ESA defines critical habitat as:

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special

²⁸See Attachments 22-32.

²⁹*Id.*

management considerations or protection; and
(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

16 U.S.C. § 1532(5)(A). To determine critical habitat, FWS must analyze the physical and biological features the Ocelot requires. These are called “primary constituent elements,” and include:

- (1) Space for individual and population growth, and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally;
- (5) Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

See 50 C.F.R. § 424.12(b). As discussed previously in this petition, the most important factors for Ocelots appear to be dense thornshrub with canopy cover greater than 95%; and adequately sized habitat patches, based on male home ranges of 1,600 acres and female home ranges of 2,600 acres; and connectivity of these habitats. In addition, Harveson et al. (2004) recommended that target areas for restoration be partly based on preferred soil types (Camargo, Laredo, Olmito, and Point Isabel).

In December 2003, a group of 29 scientists and conservationists developed a list of priority conservation areas for three felids (Ocelot, jaguar, and jaguarundi) that occur in the U.S./Mexico border area (Grigione et al. 2009).³⁰ They developed two types of priority areas: Cat Conservation Units (CCUs) and Cat Conservation Corridors (CCCs). CCUs were defined as “habitat areas important to the long-term survival of a species, often where populations are currently located or areas likely to support relocated populations.” *Id.* at p. 79. CCCs were defined as “strips of habitat connecting otherwise isolated Units that had documented Class 1 sightings.”³¹ *Id.* The most important features of the units were size, habitat quality, and connectivity; while the most important feature of the corridors was connectivity.

The map (Figure 5) they created of Ocelot CCUs and CCCs was based on 161 Class I Ocelot sightings. These scientists recommended conservation areas totaling 45,387 km² (11.2 million ac) in the eastern bioregion and 31,535 km² (7.8 million acres) in the western bioregion for the Ocelot. They found that only 2.4% of the eastern bioregion areas and 1.9% of the western bioregion areas currently had any level of protection.

³⁰Grigione, M.M., Menke, K., Lopez-Gonzalez, C., List, R., Banda, A., Carrera, J., Carrera, R., Giordano, A.J., Morrison, J., Sternberg, M., Thomas, R., and B. Van Pelt. 2009. Identifying potential conservation areas for felids in the USA and Mexico: integrating reliable knowledge across an international border. *Oryx* 43(1): 78-86. [Attachment 38]

³¹A Class I sighting is defined as a reliable sighting that includes physical evidence, such as a carcass.

Most of the existing protections even for these scant percentages were classed as Category VI, representing the lowest level of protections (Grigione et al. 2009, see especially pp. 81-82 and Table 3).

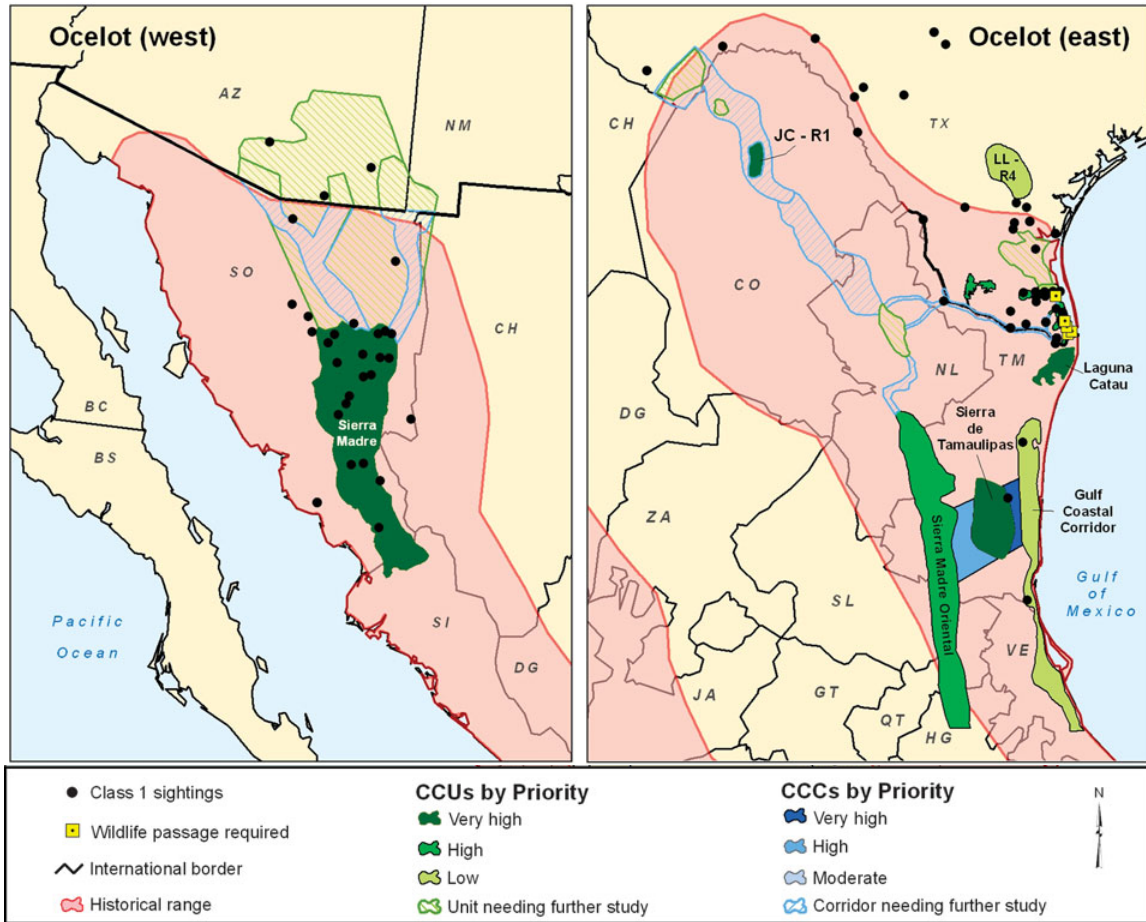


Figure 5. Cat Conservation Units (CCUs) and Cat Conservation Corridors (CCCs) for ocelot (western and eastern bioregions). Units and Corridors are ranked by level of importance. JC-R1, LL-R4, and AB-1 are names given to Units during the mapping workshop. Source: Grigione et al. (2009).

Grigione et al. (2009: 84) summarized their findings as follows:

There are two major outcomes of this analysis. The first is the lack of protection associated with areas identified as Units and Corridors. Because land development and conversion in the border region are the primary threats to all three species, *there needs to be greater protection of important habitat areas and dispersal corridors to ensure long-term viability of these populations.* Although there is more nominal protection for Units (8.9%) than Corridors (1.1%), both lack protection beyond south-east Arizona and south-west New Mexico. (emphasis added)

Petition to Designate Critical Habitat for the Ocelot

They further noted that climate change habitat shifts should be factored into which areas should be protected: it may be that areas north of the Ocelot's current range should be protected for future expansion. Additionally, Grigione et al. (2009) underscored the need for transboundary protections for the Ocelot, as well as measures to ensure its mobility is not hindered by border installations. Finally, these scientists point out that habitat protections for transborder felids can also safeguard other species that share their habitat.

FWS's critical habitat designation should include, but not be limited to, the CCCs, CCUs, and study areas for the Ocelot reported in Grigione et al. (2009), within the species's historic range in the U.S. In addition, FWS should include in its critical habitat designation the 11 habitat patches identified by Haines et al. (2006, 2007) (Figure 6); as well as any current or potential habitat (indicated by soil types) on Laguna NWR indicated in Figure 4.

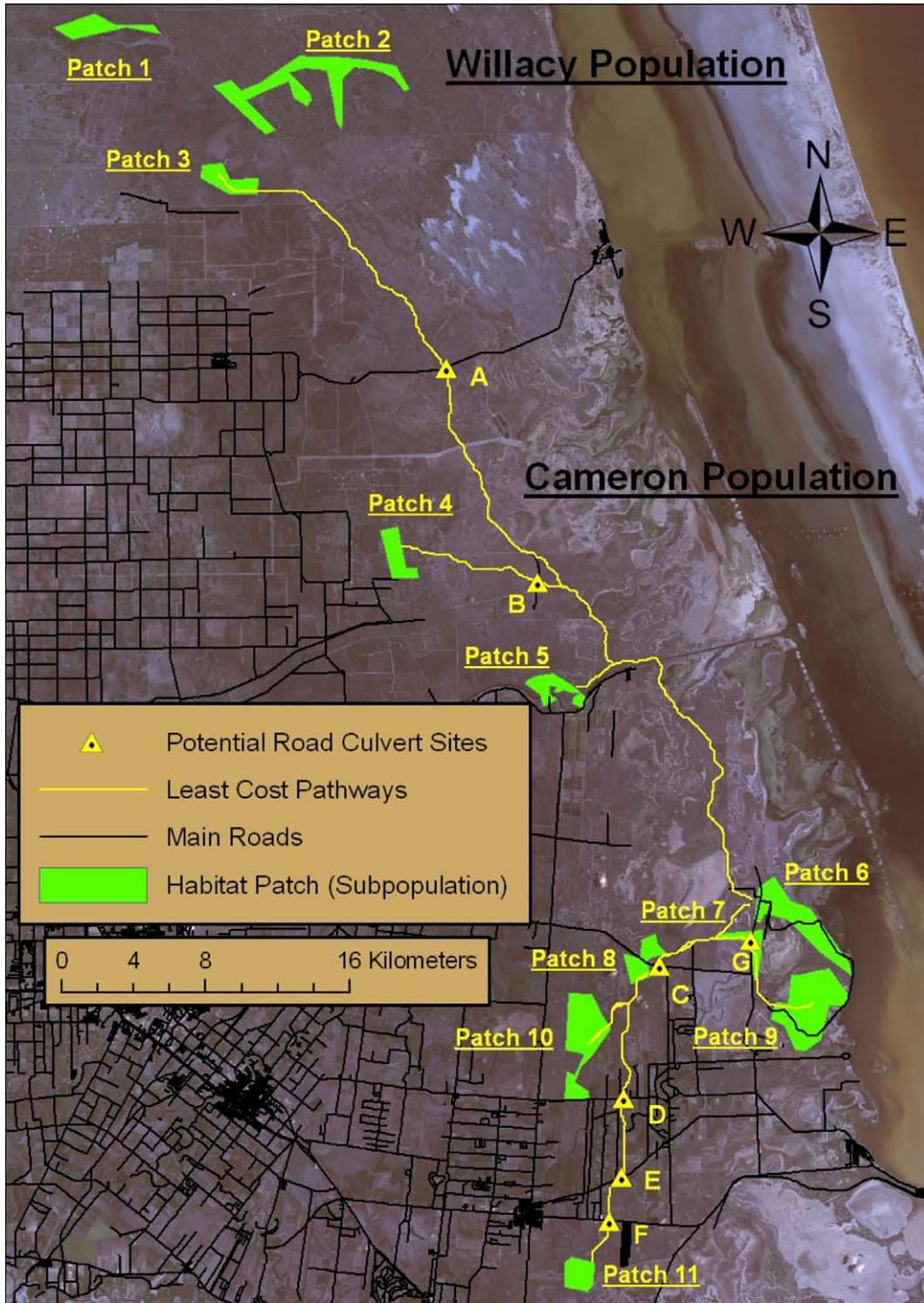


Figure 6: Locations of 11 habitat patches identified by Haines et al. (2006) within and in the vicinity of the Willacy and Cameron Ocelot populations in Texas. UTM coordinates in Haines et al. (2006).

Exclusions

The ESA provides exclusions from critical habitat based on economic and management considerations. Section 4(b)(2) provides the ability, within specified parameters to exclude areas from critical habitat designation:

The Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat. The Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned.

See 16 U.S.C. § 1533(b)(2). While Petitioners presume that FWS would consider whether the Ocelot SHA, Refuge plans, and other measures are adequate to justify exclusion of those lands from the Ocelot's critical habitat, FWS should err on the side of inclusion, enveloping all lands within the Ocelot's historic range in the U.S. that currently contain dense thornshrub habitat suitable for the Ocelot; or could be restored to such habitat given their soil type (e.g., Camargo, Laredo, Olmito, and Point Isabel soils, as reported in Harveson et al. 2004) or other biotic or abiotic characteristics.

Conclusion

The Ocelot is in dire straits. As discussed above, in its most recent Action Plan, FWS has itself suggested that this animal will go extinct unless recovery efforts are dramatically increased. The current population estimate – of approximately 50 animals – is perilously low, but likely reflects the carrying capacity of its current occupied sites. Critical habitat designation would provide an important hedge against extinction. FWS has long indicated the need to protect, restore, and acquire habitat to prevent the extinction and effect the recovery of this species. On this basis, WildEarth Guardians requests the revision or designation of critical habitat for the Ocelot (*Leopardus pardalis*).