5-Year Review: Summary and Evaluation

Ocelot (Leopardus pardalis)
Endangered

U.S. Fish and Wildlife Service
Laguna Atascosa National Wildlife Refuge
Los Fresnos, TX

1.0 GENERAL INFORMATION

1.1 Reviewers

Lead Regional Office:
Southwest Regional Office, Region 2,
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Lead Field Offices:
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Texas Coastal Ecological Services Field Office, Corpus Christi, TX
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Cooperating Field Office(s):
Arizona Ecological Services Field Office, Tucson, AZ
Erin Fernandez, Fish and Wildlife Biologist, (520) 670-6150, ext. 238
1.2 Purpose of 5-Year Reviews:
The U.S. Fish and Wildlife Service (USFWS) is required by section 4(c)(2) of the Endangered Species Act (Act) to conduct a status review of each listed species once every 5 years. The purpose of a 5-year review is to evaluate whether or not the species’ status has changed since it was listed (or since the most recent 5-year review). Based on the 5-year review, we recommend whether the species should be removed from the list of endangered and threatened species, be changed in status from endangered to threatened, or be changed in status from threatened to endangered. Our original listing as endangered or threatened is based on the species’ status considering the five threat factors described in section 4(a)(1) of the Act. These same five factors are considered in any subsequent reclassification or delisting decisions. In the 5-year review, we consider the best available scientific and commercial data on the species, and focus on new information available since the species was listed or last reviewed. If we recommend a change in listing status based on the results of the 5-year review, we must propose to do so through a separate rule-making process including public review and comment.

1.3 Methodology used to complete the review:
This review was accomplished through the status review conducted for the Recovery Plan for the Ocelot (Leopardus pardalis), First Revision (USFWS 2016). We developed our final recovery plan under the authority of section 4(f) of the Act, 16 U.S.C. 1533(f). USFWS biologists worked with the Ocelot Recovery Team Technical Subgroup, a team of experts from both the United States and Mexico, to prepare the Final Ocelot Recovery Plan, First Revision (USFWS 2016). The draft ocelot recovery plan was made available through a Federal Register notice published on August 26, 2010 (75 FR 52547); this notice opened a comment period that ran through October 25, 2010, and requested comments from local, State, and Federal agencies; Tribes; and the public. Information received from these entities, as well as that obtained from seven independent peer reviewers, was considered in finalizing this revised recovery plan. The final Recovery Plan for the Ocelot (Leopardus pardalis), First Revision was signed July 28, 2016. This updated plan calls for adaptive, active management and ongoing monitoring to address threats and eventually attain delisting.

Since publication of the Recovery Plan for the Ocelot (Leopardus pardalis), First Revision in July 2016 (USFWS), we have contacted ocelot researchers, the Arizona Ecological Services Field Office in Tucson, Arizona, and the Texas Coastal Ecological Services Field Office in Corpus Christi, Texas, and conducted a literature search for new information that applies to the status of the ocelot as of May 2018. The literature search produced over 60 articles primarily in peer-reviewed journals (please see Appendix A), and their content provided greater detail regarding life history aspects of ocelots, survey results in areas where ocelots were already known to exist, and comparisons with other neo-tropical felid species. The literature review did not produce any significant new information that would affect the listing status of the ocelot.

1.4 FR Notice citation announcing initiation of this review:
This review was initiated February 6, 2013, in the Federal Register (78 FR 8576). A subsequent notice of initiation was published in the Federal Register on May
2.0 REVIEW ANALYSIS

2.1 Application of the 1996 Distinct Population Segment (DPS) Policy:

2.1.1 Is the species under review a vertebrate? Yes

2.1.2 Is there relevant information that would lead you to re-consider the classification of this species with regard to designation of DPS? No

2.1.3 Is there any new information for this species regarding the application of the DPS policy? No

2.2 Review Summary:
Please refer to the Recovery Plan for the Ocelot (*Leopardus pardalis*), First Revision completed in July 2016 (USFWS) for the status of the species, description and taxonomy, distribution and population trends, life history and demography, habitat and ecosystem characteristics, five factor analysis of threats, biological constraints to ocelot recovery, captive-breeding and management, public education, conservation actions to date, recovery goals, recovery strategy, recovery objectives, recovery criteria, threats tracking table, recovery actions, and the implementation schedule for recovery actions including estimated costs and responsible parties. The appendices for the Recovery Plan for the Ocelot discuss the status of other neotropical felids in the United States, the status of the ocelot outside the United States, an ocelot population viability analysis for the Texas-Tamaulipas Management Unit, a list of programs and resources to assist partners in implementing the recovery plan, the comments that were submitted by the public and the responses to those comments.

The Recovery Plan for the Ocelot (*Leopardus pardalis*), First Revision (USFWS 2016) provided substantiation for the endangered status of the species as well as concrete recovery actions to counter the threats faced by ocelots.

The ocelot in the U.S. is federally listed as endangered under the authority of the Act throughout its range in the western hemisphere where it is distributed from southern Texas and southern Arizona through Central and South America into northern Argentina and Uruguay. In the 1982 final rule (47 FR 31670), the USFWS made a determination that the designation of critical habitat was not prudent because such a designation would not be in the best interests of conservation of the species. The species has a recovery priority number of 5C, meaning that it has a high degree of threat, a low potential for recovery, and a relatively high degree of conflict with development projects. The ocelot is listed as endangered by the state of Texas (Texas Parks and Wildlife Department and is protected from hunting and live collection in Arizona (Arizona Fish and Game department) where it is listed as a species of “special concern.”
As a species that is listed throughout its range, including 22 countries, the ocelot presents a significant challenge for recovery planning. Our knowledge regarding the status of the species in much of its range is limited. The USFWS and its partners lack the resources and authority to coordinate large scale international research and recovery for the entire species. However, the recovery plan establishes the framework to better understand the status and conservation needs of ocelots for recovery throughout their range.

The recovery plan’s main focus is on two cross-border management units, the Texas/Tamaulipas Management Unit (TTMU) and the Arizona/Sonora Management Unit (ASMU). Establishing management units is a useful tool for species occurring across wide ranges with multiple populations, varying ecological pressures, or different threats in different parts of their range. The recovery plan helps focus efforts to conserve and recover ocelot populations in the northern limits of the species’ range. Additionally, it establishes specific recovery criteria and actions that will conserve viable ocelot populations in the borderlands (Arizona, Sonora, Tamaulipas, and Texas).

Currently, the Texas ocelot population is estimated at 80 ocelots, which are found in two separated populations in southern Texas. This estimate is based on a combination of 55 known individuals, identified by their unique coat patterns, and the extrapolation of an additional 25 ocelots based on existing suitable habitat on private lands near or adjacent to existing ocelot-occupied habitat. A third and much larger population of the Texas/Tamaulipas ocelot (*L. p. albescens*) occurs in Tamaulipas, Mexico, but is geographically isolated from ocelots in Texas. In Arizona, four individual ocelots were detected between 2009 and 2013; prior to these findings, the last known ocelot in Arizona was lawfully shot on Pat Scott Peak in the Huachuca Mountains in 1964. In addition to the recent Arizona sightings, a number of ocelots have been documented just south of the U.S. border in Sonora, Mexico.

Habitat conversion, fragmentation, and loss, comprise the primary threats to the ocelot today. In Texas, over 95 percent of the dense thornscrub habitat in the Lower Rio Grande Valley has been converted to agriculture, rangelands, or urban land uses. Small population sizes in Texas and isolation from conspecifics in Mexico endanger the ocelot in Texas with genetic impoverishment and increased susceptibility to stochastic events. Connectivity among ocelot populations or colonization of new habitats is discouraged by the proliferation of highways and subsequent increase in road mortality among dispersing ocelots as more roads are built. Issues associated with developing and patrolling the border between the United States and Mexico further exacerbate the isolation of ocelots in Mexico from those in Texas and Arizona.

3.0 RESULTS

3.1. Recommended Classification:

- [ ] Downlist to Threatened
- [ ] Uplist to Endangered
- [ ] Delist (Indicate reasons for delisting per 50 CFR 424.11):
3.2. **New Recovery Priority Number:**
No change recommended; remain as 5C.

**Brief Rationale:**
A listed species with a recovery priority number of 5C is one that has a high degree of threats, a low potential for recovery, and a relatively high degree of conflict with development projects. Ocelots continue to be threatened by a high degree of habitat conversion, fragmentation, and loss. Additionally, the small population size in Texas and the lack of connectivity represent significant challenges to recovery.

3.3. **Listing and Reclassification Priority Number:** N/A

4.0. **RECOMMENDATIONS FOR FUTURE ACTIONS**
Additional research and continued active management of ocelots in accord with the recommendations of the Recovery Plan for the Ocelot (*Leopardus pardalis*), First Revision (USFWS 2016) are necessary to improve the status of the ocelot. Recovery action numbers follow recommendations in parentheses. A single recommendation listed here may encompass several recovery actions from the Recovery Plan for the Ocelot (*Leopardus pardalis*), First Revision (USFWS 2016).

Note the majority of the recommendations listed below require partnerships and coordination with other federal and state agencies, non-profit organizations, land owners, researchers, and/or other stakeholders, which is listed as Recovery Action 4 in the Recovery Plan for the Ocelot (*Leopardus pardalis*), First Revision (USFWS 2016). Recommendations for high priority future actions, many of which are ongoing, include:

**Research**
1. Identify existing and proposed conservation lands in current and potential ocelot range in Texas and Tamaulipas (1.1.7; 4) and Arizona and Sonora (1.3.2.2; 4)
2. Use of GPS collar data from reproductive females in Texas to better understand ocelot reproductive success and mortality factors (i.e. congenital defects, predation) that affect kittens (3.1.1; 3.5; 3.7.1)
3. Continued data collection and analysis of Texas ocelot spatial patterns using GPS collars to assist road planning efforts regarding when and where the installation of wildlife crossings would benefit ocelots by reducing vehicle collision rates (1.1.8; 1.1.12; 2.1; 4)
4. Continued data collection and analysis of ocelot use of installed and to-be-installed wildlife underpasses by the Texas Department of Transportation (TXDOT) designed for ocelots in south Texas (2.1; 4)
5. Identify status, threats, and spatial requirements of Arizona ocelots (1.3; 4)
6. Camera monitoring in Arizona to detect ocelots and their movements; special attention to monitoring for the presence of female ocelots in Arizona, which has yet to be observed (1.3; 4)
7. Best practices for faster thornscrub habitat restoration with higher success rates in southern Texas (1.2.4; 4)
8. An analysis of the sperm quality of male ocelots in Cameron County, Texas to better assess effects of inbreeding (3.1; 4)

Management
1. Finalize the Ocelot Connectivity Model from the Inventory and Monitoring Division of the USFWS Southwest Regional Office, to provide a conservation tool for working with other agencies and private landowners to improve landscape level habitat connectivity for ocelots in Texas (1.1.8; 1.1.9; 1.1.10; 4)
2. Continue efforts toward ocelot translocation of one or more female ocelots from the Tamaulipas, Mexico population to the Cameron County, TX and possibly the Willacy County populations to improve genetic diversity of Texas ocelots (3.1; 3.2; 4)
3. Continue land acquisition (e.g., purchase and conservation easements) efforts, including coordination with partners (state and federal agencies, non-profits, and private landowners) to increase available, quality habitat for ocelots in Texas for occupation by ocelots and for connectivity between Texas populations (1.2.2; 1.2.3.2; 4)
4. Continue efforts toward creation of a thornscrub habitat corridor to connect Texas and Tamaulipas ocelot populations (1.1; 1.2.2; 1.2.3.5; 1.2.4; 4)
5. Continue strategic thornscrub habitat restoration in areas within and surrounding ocelot occupied areas in Texas (1.1.11; 1.2.2; 4)
6. Continue coordination with the TXDOT to include wildlife underpasses in plans for road development and improvement in Cameron and Willacy counties (1.1.12; 2.1; 4)
7. Establish a long-term repository for storage of ocelot specimens and samples in Texas to be accessible to researchers globally (3.5.2; 3.5.3; 3.5.5; 4)
8. Expand education and outreach efforts to promote ocelot awareness and conservation (4.3)

5.0 LITERATURE CITED

U.S. FISH AND WILDLIFE SERVICE
5-YEAR REVIEW of the Ocelot (*Leopardus pardalis*)

Current Classification: Endangered

Recommendation resulting from the 5-Year Review:

- [ ] Downlist to Threatened
- [ ] Uplist to Endangered
- [ ] Delist
- [X] No change needed

Appropriate Listing/Reclassification Priority Number, if applicable: N/A

Review Conducted By: Hilary Swarts, Laguna Atascosa National Wildlife Refuge

FIELD OFFICE APPROVAL:

Refuge Manager, Laguna Atascosa National Wildlife Refuge

Approve ___________________________ Date 7/26/2018

Field Supervisor, Texas Coastal Ecological Services Field Office

Approve ___________________________ Date 24 July 2018
Appendix A

Literature search results for ocelot related articles published between 2016 and 2018


Arais-Alzate et al 2017 Un caso potencial de depredacion de puercoespin por Ocelote en La Reserva Natural La Mesenia-Paramillo, Jardin, Antioquia. Mammology Notes 4: 27-29.


