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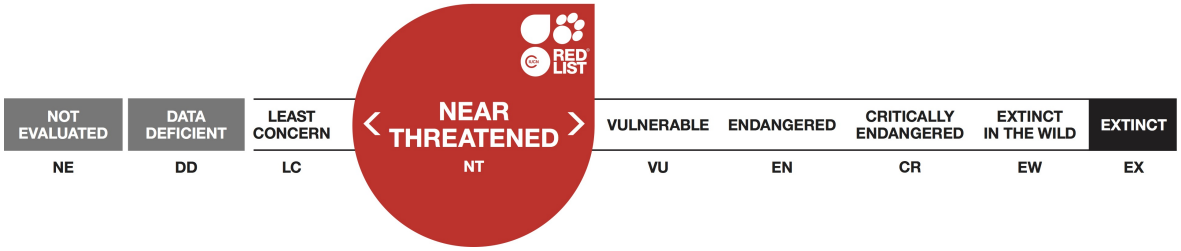
Leopardus wiedii, Margay

Assessment by: de Oliveira, T., Paviolo, A., Schipper, J., Bianchi, R., Payan, E. & Carvajal, S.V.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Carnivora	Felidae

Taxon Name: *Leopardus wiedii* (Schinz, 1821)

Common Name(s):

- English: Margay, Tree Ocelot
- Spanish: Caucel, Gato Montés, Gato Pintado, Tigrillo

Taxonomic Notes:

Taxonomy is currently under review by the IUCN SSC Cat Specialist Group. This species is genetically very diverse across its range and shows a high degree of population structure, with three distinct clusters: Central America and Mexico, northern South America and southern South America. The demarcation between northern and southern South America was identified as the Amazon river. In Central America, there were weaker differences between populations from the north (Mexico and Guatemala) and those from the south of this region (Eizirik *et al.* 1998).

Assessment Information

Red List Category & Criteria: Near Threatened ver 3.1

Year Published: 2015

Date Assessed: May 10, 2014

Justification:

Margay populations are declining through much of its range due to human induced conversion of native forest habitats to agriculture, pasture and infrastructure development, and is predicted to continue at a rate approaching (but less than) 30% over the next 18 years (three generations), which qualifies it as Near Threatened. However, several populations are considered threatened. Although the species shows a large extent of occurrence, its area of occupancy is much smaller. In Amazonia, which is often considered a stronghold for the species, estimates suggest that Margay is not as abundant as previously perceived, but rather uncommon (Payán 2009, Oliveira *et al.* 2010, Oliveira 2011). Additionally, Margay is negatively impacted by Ocelots (through 'the ocelot effect'), which are fairly abundant and the dominant felid species in most areas of tropical America, including protected areas (Oliveira *et al.* 2010, Oliveira 2011). Thus, Margay conservation would concentrate outside protected areas and likely only in Amazonia could long-term viable populations be sustained. In most areas *L. wiedii* is typically rare to uncommon, reaching densities around 0.01–0.05/km² (Payán 2009, Oliveira *et al.* 2010, Bianchi *et al.* 2011, Oliveira 2011, S. Carvajal pers. comm.). Over the next 10 years it is predicted that degradation of the Amazon by roads, hydroelectric dams, fire and deforestation will fragment and isolate remaining populations of its main stronghold. Habitat loss and fragmentation in other biomes of occurrence is also impacting the remaining populations, where the species is much rarer than in Amazonia. Protected areas outside of the Amazon are not expected to retain viable populations over the next few years (and likely do not at present) (Oliveira *et al.* 2010, Oliveira 2011). This species will likely qualify for VU A3cde

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in the near future and should be periodically reviewed.

Previously Published Red List Assessments

2008 – Near Threatened (NT) – http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T11511A3290201.en

2002 – Least Concern (LC)

1996 – Lower Risk/least concern (LR/lc)

1994 – Insufficiently Known (K)

1990 – Vulnerable (V)

1988 – Vulnerable (V)

1986 – Vulnerable (V)

1982 – Vulnerable (V)

Geographic Range

Range Description:

The Margay ranges from the tropical lowlands of Mexico south through Central America and the Amazon basin to southern Brazil and Paraguay (Nowell and Jackson 1996). Its southernmost limits reaches northeastern Argentina, north-central Rio Grande do Sul state in Brazil and northern Uruguay along riverine forest (Dotta *et al.* 2007, Tortato *et al.* 2013). Its occurrence in the northeastern part of Brazil is restricted to the Atlantic Forest domain (Oliveira and Cassaro 2005, Tortato *et al.* 2013). It generally occurs from 0-1,500 m, however, it has rarely been recorded up to 3,000 m in the Andes (Oliveira 1994). Although the species has a very broad distribution range, its area of occupancy is considerably smaller.

Country Occurrence:

Native: Argentina; Belize; Bolivia, Plurinational States of; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; French Guiana; Guatemala; Guyana; Honduras; Mexico; Nicaragua; Panama; Paraguay; Peru; Suriname; Uruguay; Venezuela, Bolivarian Republic of

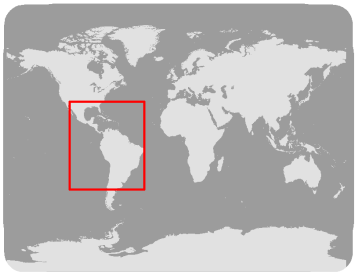
Distribution Map

Leopardus wiedii

Range

Extant (resident)

Compiled by:
International Union for the Conservation of Nature



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

This species is predominantly uncommon to rare throughout its range (Payán 2009, Oliveira *et al.* 2010, Tortato *et al.* 2013, S. Carvajal pers. comm.). In general, Margays occur at densities of 1-5 ind./100 km², but have been estimated as high as 15-25 ind./100 km² in a very few and highly localized areas (Oliveira *et al.* 2010, Oliveira 2011). Where Ocelots co-occur in densities >10 ind./100 km², Margay densities are expected to be much lower than 5 per 100 km² (Oliveira *et al.* 2010). The Margay is negatively impacted by Ocelot numbers and does not seem to attain effective population size for long term persistence in any Conservation Unit outside the Amazon basin possibly due to the "ocelot effect" (Oliveira *et al.* 2010, Oliveira 2011). Thus, viable populations are expected to occur mostly outside protected areas or where Ocelot numbers are low. With the exception of the Amazon mega-reserves, it is not expected to be adequately protected anywhere else. Margays are undergoing a continuing decline due primarily to habitat loss to deforestation (IUCN Cats Red List workshop 2007). Considered Vulnerable in Brazil (Tortato *et al.* 2013) and Argentina (Diaz and Ojeda 2000), Near Threatened in Colombia (Rodriguez-Mahecha *et al.* 2006), Threatened in Mexico (SEMARNAT 2002), and in Costa Rica (MINAE).

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

The Margay is strongly associated with forest habitat/tree cover, from continuous forest to small forest fragments in savanna ecosystems, both evergreen and deciduous, although it has been occasionally reported outside forested areas (Nowell and Jackson 1996, Oliveira 1998, 2011). It seems to be absent from the semi-arid scrub of the Caatinga domain in Brazil, with the exception of some evergreen forest enclaves (T. de Oliveira pers. comm.). This species is thought to be more arboreal and better adapted to live in trees than other cat species. It is perceived as being a little less tolerant of human settlement and altered habitat than its close relatives, the ocelot and tiger cat. Nevertheless, Margay will use highly disturbed forest, abandoned plantations and other agroforestry systems which provide sufficient tree cover (J. Schipper pers. comm., Oliveira *et al.* 2010, Tortato *et al.* 2013).

The Margay is a small-sized (3.3 kg) solitary felid, with an average litter size of 1.09 (1–2) (Oliveira and Cassaro 2005). Activity pattern is predominately nocturno-crepuscular, with very few records of daytime activity. Prey base consists mostly of terrestrial and scansorial small mammals, but lizards and especially birds can comprise important items at some sites. Larger medium-sized mammals, like squirrels, rabbits, agoutis, and small monkeys are also taken, but to a lesser extent. The average prey size is around 250 g. Although Margay has high arboreal abilities, it hunts mostly on the ground and most prey recorded are terrestrial (Oliveira 1998, Wang 2002, Oliveira and Cassaro 2005, Bianchi *et al.* 2011). Given its arboreal capabilities there has been a recurring myth that this cat is either scansorial or arboreal. It indeed possesses several unique arboreal skills, but that does not necessarily make it arboreal per se. In fact, evidence is highly suggestive of terrestrial locomotion and hunting, but nevertheless with resting time notably up in trees (Oliveira 1998, Oliveira *et al.* 2010, Tortato *et al.* 2013). The limited information on home range size varies from 1 to 20 km² (Oliveira *et al.* 2010). Home range reported for Mexico was 4.1 km² for four males and 1 km² for a female (Carvajal-Villarreal *et al.* 2012). The Margay occurs at low population densities throughout most of its range, and its numbers/densities are negatively impacted by the larger Ocelot, its potential intra-guild predator/competitor (Oliveira *et al.* 2010, Oliveira 2011).

Systems: Terrestrial

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Threats (see Appendix for additional information)

The Margay has been one of the most heavily exploited Latin American cats decades ago. Margays began to appear in international trade at a time of concern over the level of exploitation of the Ocelot, and species of spotted cats in trade were rarely verified. Illegal hunting for domestic markets or for the underground skin trade has been reported to be a continuing a problem in some areas (Nowell and Jackson 1996). Current threats to this species include habitat loss, fragmentation, roads, illegal trade (pets and pelts - animals sometimes enter the pet trade), and retaliatory killing (animals are often shot due to depredation on poultry). Populations, especially outside the Amazon basin, are severely fragmented and are being reduced by habitat conversion to plantations and pasture. The species is susceptible to disease outbreaks (in Tamaulipas, Mexico there is an ongoing threat from disease). In Brazil, populations of the Atlantic forest are more threatened than those of the Amazon (IUCN Cats Red List workshop 2007).

Conservation Actions (see Appendix for additional information)

Included on CITES Appendix I. This species is protected across most of its range, with hunting and trade prohibited in Argentina, Brazil, Bolivia, Brazil, Colombia, Costa Rica, French Guiana, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela (Nowell and Jackson 1996). Populations in protected areas are expected to be very low, likely because of the impact of the higher ocelot densities, thus conservation efforts should concentrate outside protected areas (Oliveira *et al.* 2010, Oliveira 2011). Further studies are required on the species ecology, demographics, natural history, and threats.

Credits

Assessor(s): de Oliveira, T., Paviolo, A., Schipper, J., Bianchi, R., Payan, E. & Carvajal, S.V.

Reviewer(s): Nowell, K., Hunter, L., Breitenmoser-Würsten, C., Lanz, T. & Breitenmoser, U.

Contributor(s): Eizirik, E., Leite-Pitman, M.R.P., Kelly, M. & Valderrama, C.

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External Resources

For Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.5. Forest - Subtropical/Tropical Dry	-	Suitable	Yes
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	-	Suitable	Yes
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	-	Suitable	Yes
2. Savanna -> 2.2. Savanna - Moist	-	Suitable	-
3. Shrubland -> 3.6. Shrubland - Subtropical/Tropical Moist	-	Suitable	-

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.2. Commercial & industrial areas	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.2. Agro-industry plantations	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.3. Agro-industry grazing, ranching or farming	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

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4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.2. Unintentional effects (species is not the target)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.3. Persecution/control	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.5. Motivation Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.3. Trend Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.11. Dams (size unknown)	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.1. Unspecified species	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
8. Invasive & other problematic species & genes -> 8.2. Problematic native species	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.3. Indirect species effects -> 2.3.2. Competition		
9. Pollution -> 9.2. Industrial & military effluents -> 9.2.3. Type Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place
In-Place Land/Water Protection and Management

Conservation Actions in Place
Occur in at least one PA: Yes
In-Place Species Management
Subject to ex-situ conservation: Yes
In-Place Education
Included in international legislation: Yes
Subject to any international management/trade controls: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.2. Species recovery
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.1. Population trends

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Additional Data Fields

Distribution
Lower elevation limit (m): 0
Upper elevation limit (m): 1500
Population
Population severely fragmented: No
Habitats and Ecology
Generation Length (years): 6

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