Ocelot (Felis pardalis)
Based on the report by Broad [1988].

A. Current Status

The species is Endangered, CITES Appendix II, except for F.p. mearnsi and F.p. mitis which are Appendix I.

1. Distribution:

Distributed widely in Central and South America (except Chile, Uruguay and Trinidad), throughout Mexico, and marginally in the SW USA [CITES 1982]. Eleven subspecies are recognized:

F.p. aequatorialis (Mearns 1902): NW South America, throughout the montane zone of Columbia, Ecuador [Cabrera 1957] and Peru, west of the Andes in the low selva Amazon zone south towards the Bolivian border [Grimwood 1969]. Populations in Panama and Costa Rica which have been referred to as this subspecies are generally included in F.p. mearnsi.

F.p. albescens (Pucheran 1855): E and S Texas, and south along the Gulf coast into the NE states of Mexico [Hall 1981]. However a recent study concluded that this subspecies was probably extinct and that the Texas population probably represented another subspecies F.p. limitis, previously treated as a synonym of F.p. albescens. It is thought that the species is restricted in Texas to habitat south of 30 N [Navarro 1985].

F.p. maripensis (Allen 1904): NE South America from the Orinoco basin to the lower Amazon Basin [Cabrera 1957], including NE Brazil, French Guiana, Guyana, Suriname and E Venezuela.

F.p. mearnsi (Allen 1904): Nicaragua [Hall 1981], most of Costa Rica [Vaughan 1983] and Panama, probably extending into Columbia [Hall 1981].

F.p. mitis (Cuvier 1920): E and C Brazil, south of the Amazon basin to the Rio Grande do Sul [Cunha Vieira 1955], the Chaco of Paraguay [Wetzel & Lovett 1974] to N Argentina, from Misiones and Corrientes to Tucuman [Cabrera 1957].

F.p. nelsoni (Goldman 1925): Tropical strip along the W coast of Mexico, from Puerto Angel, Oaxaca north to Escuinapa, southern Sinaloa [Hall 1981].

F.p. pseudopardalis (Boitard 1842): N Venezuela and N Columbia [Cabrera 1957]. The population of Trinidad and Tobago may be of this subspecies [Bacon & ffrench 1972].

F.p. pusaeus (Thomas 1914): SW Ecuador in coastal regions [Cabrera 1957], extending into coastal NW Peru [Grimwood 1969].

F.p. pardalis (Linne 1758): From N Veracruz and Oxaca to the Yucatan Pennisula, Mexico, through Belize, Guatemala and El Salvador into Honduras [Hall 1981].

F.p. sonorensis (Goldman 1925): SE Arizona, USA to S Sinola, Mexico, although absent in the arid plains of W Sonora [Hall 1981].

F.p. steinbachi (Pocock 1941): C Bolivia and may extend north into Brazil [Cabrera 1957].

2. Population:

Widely distributed, although depleted in many areas due to over-harvest and habitat destruction. No population estimates are available; however, general comments on status throughout much of its range indicate that populations have declined [Broad 1987].

a. ARGENTINA: Rare to uncommon [Anon. 1976]; listed as endangered in the national wildlife protection legislation. Reported to be rare to uncommon in 1976 and threatened in 1980 [Thornback & Jenkins 1982].

b. BELIZE: More common than margay, the population of which was considered to be fairly high [Florence 1986].

c. BOLIVIA: Found in the lowland areas but absent from the high plateaus [Guiggsberg 1975]. Described in 1981 as endangered [Thornback & Jenkins 1982]. However, Tello [1986] reported that the species was widely distributed and out of danger. The species was scarce in the provinces of Cercado, Marban and Vacadiaz and abundant in the provinces of Itenes, Mamore, Yacuma and Villivan.

d. BRAZIL: The population is thought to have remained stable despite heavy hunting pressure [Smith 1976], although it was described as vulnerable by Ayres and Best [1981, cited in Thornback & Jenkins 1982] and hunted throughout Amazonia.

e. COLUMBIA: Found in the lowland areas [Tewes & Schmidly 1987].

f. COSTA RICA: Numbers greatly reduced, listed as endangered [Mena Moya 1978]. Population estimates vary from 200 [Lopez, cited in Melquist 1984] to 2,000-3,000 in large forest areas alone [Vaughan 1983]. Between 2,400 and 4,300 ocelots are believed to inhabit the country [Tewes & Schmidly 1987].

g. ECUADOR: Found in the lowland areas [Tewes & Schmidly 1987]. Considered to be rare [Melquist 1984]. Now threatened with extinction [Paz y Mino 1988].

h. EL SALVADOR: Endangered [Serrano 1978]. The species is rare and confined to two forests: Montecristo and El Imposible [Boursot 1979 in litt. cited in Thornback & Jenkins 1982].

i. FRENCH GUIANA: Reported to be slowly declining [Berger & Portal 1982].

j. GUATEMALA: No information.

k. GUYANA: Probably reasonably common with large areas of suitable habitat remaining [Melquist 1984]. Good populations still exist in the interior [P. Quillen, pers. comm. 1989].

l. HONDURAS: Threatened or endangered [Aquilar 1978]. Population described as small and available habitat had declined markedly [Honduras CITES MA 1985].

m. MEXICO: Presently occurs in the eastern and western lowlands [Tewes & Schmidly 1987]. Endangered [Ceballos & Navarro, in prep. cited in Broad 1988].

n. NICARAGUA: Endangered [Salas 1978].

o. PANAMA: Endangered [Vallester 1978].

p. PARAGUAY: A great reduction in numbers was seen in the Chaco region during the 1970s due to habitat destruction and the increase in road building which permitted greater access to ocelot habitat [Thornback & Jenkins 1982].

q. PERU: Found in the lowland areas but absent from the high plateaus of southern Peru [Guiggisberg 1975]. Reported to be under considerable threat due to over-harvesting. However, it may still be plentiful in some areas [Grimwood 1969]. Protective legislation may have caused populations to recover somewhat [Pacheco 1983]. Reported to be common in the Cocha Cashu area of the Manu National Park [Terborgh et al. 1984]. Preciado [1986] reported the species as vulnerable in the Amazonian region.

r. SURINAM: May still be reasonably common with extensive areas of suitable habitat remaining [Melquist 1984]. Described in 1977 as not endangered [Thornback & Jenkins 1982].

s. TRINIDAD AND TOBAGO: Status uncertain, but considered common in some areas [Anon. 1984].

t. USA: Population less than 100 in Texas in only two significant areas in parts of Starr, Hidalgo, Cameron and Willacy counties and in Jim Wells, Live Oak, McMullen and Atascosa counties. Six to seven smaller populations may also occur. One other area which may support ocelots is the Edwards Plateau Region west of San Antonio [Tewes & Everett 1986]. Very rare [Anon. 1980] and possibly extinct [Anon. 1982; U.S. Dept. Interior 1982; Emmons pers. comm. cited in Broad 1988] in Arizona. Extirpated from Arkansas [Goldman 1943], Louisiana [Lowery 1974] and eastern Texas [Baker 1956, Russell 1971]. Reported from southern Florida but probably a released pet [Eaton & van Oosten 1974].

u. VENEZUELA: Distributed in lower altitudes on the Venezuelan mainland (sea level-1,000 m). Also found on the Island of Margarita. Moderately common in some forested areas but becoming increasingly scarce [Mondolfi 1986]. Considered moderately common by some [Melquist 1984]. Hoogersteijn [in litt. cited in Broad 1988] described the species as still common in forests and on private ranches with good gallery forest, and in some heavily forested national parks north of the Orinoco. South of the Orinoco, there is reportedly little human settlement or habitat destruction and populations were reported to be good. Noticeable depletion of populations in several localities of the llanos and in the states of Zolia, Falcon, Yaracuy and Bolivar [Mondolfi 1986].

3. Habitat:

Found in a variety of habitats including humid and subtropical forests, savannahs, semi-arid thorn scrub, coastal mangroves, swamp forests and other kinds of dense cover [Koford 1973a]. Often associated with gallery forest around streams and rivers [J.F. Eisenberg in litt. cited in Broad 1988]. Described as more adaptable than the jaguar, persisting in

partly-cleared forests, dense cover near large towns, secondary growth woodland and abandoned settlements [Koford 1973ab]. It is generally, but not exclusively, nocturnal, normally solitary and territorial [Navarro 1985].

Estimates of home range size vary from 252 ha for males and 207 ha for females [Navarro 1985], to 600 ha for males and 150 ha for females [Sunquist & Ludlow 1985]. Adult females defend an exclusive territory, while the territories of males overlap one or more female territories. In riparian habitats with high carrying capacity, it can exist at densities of approximately three ocelots/km^2 [J.F. Eisenberg in litt. cited in Broad 1988], but it only reaches such high densities in areas of dense vegetation cover. Other density estimates include 0.4/km^2 in the mosaic habitats in Venezuela and one adult/km^2 in forests in Peru [M. Sunquist, in litt. cited in Broad 1988].

It will rest in trees, but most hunting is terrestrial [J.F. Eisenberg in litt. cited in Broad 1988]. It is less arboreal than the margay [Koford 1973ab]. Diet has been found to consist of mainly small rodents under 1 kg. [L. Emmons in litt. cited in Broad 1988], but reptiles, birds and small mammals such as young deer and peccaries, monkeys, coatis, agoutis and pacas are also taken [Guggisberg 1975]. The species has been identified as a pest of poultry production in the Amazon basin [Smith 1976], but in Venezuela it has been recognized as an efficient rodent-eater.

In Venezuela, they inhabit lowland tropical humid evergreen forest, premontane humid evergreen forest, lowland tropical semideciduous forest, premontane semideciduous forest and tropical dry thorny forest. Although they prefer gallery (riverine) forest, they also use mangroves, pasturelands, upland savannas and swampy savannas [Mondolfi 1986]. Habitat preferred was gallery forest and only occasionally sandhills [Ludlow & Sunquist 1987]. Hoogesteijn [1987, cited in Anon. 1987a] reported that ocelot were common in forests, on ranches with good gallery forest and in some heavily-forested national parks. Home ranges were reported to be 2-3 km^2 in females and 9-10 km^2 in males [Ludlow 1986; Ludlow & Sunquist 1987]. A study of scats in Venezuela indicated that it fed primarily on rodents but maintained a flexible diet [Sunquist & Ludlow 1985]. Reptiles and birds constituted 18% and 4% of the diet [Ludlow & Sunquist 1987].

In Peru, Emmons and Terborgh [in litt. cited in Konecny, in press] reported almost equal occurrences of birds and reptiles in the diet, and all areas of the habitat (forest, river and lake edge) were intensively used, but frequented exposed areas were used only at night [Emmons 1987].

In Belize, Konecny [in press] found ocelot to be nocturnal and the diet to consist of 95-98% vertebrate prey, especially mammals. Home ranges were found to be 14 km^2 for females and 31 km^2 for males. Ranges were entirely within areas of second growth vegetation and only small areas of late second growth forest. Males prefered old fields and early successional forest and then moved into late successional forest. Females exhibited no habitat preference. Prey taken included opposums, brocket deer and tamandua indicating that they may take larger prey than jaguarundis and margays. Armadillo were also consumed, and birds, fruit and arthropods were found less often than in jaguarundi and margay.

In Texas, optimal habitat is considered to be canopy cover followed by foliar cover [Tewes & Everett 1986]. Ocelots occur also in the dense thorny chaparral of the Rio Grande Valley [Tewes 1986] and formerly inhabited dense juniperus spp. communities of the Edwards Plateau region [Russell 1971; Davis 1974]. In southern Texas, ocelots prefer dense brush communities which generally occur on certain fertile soil types, such as silty clay, silty clay loam and clay loam. The cats evidently key on the proximate cue of dense brush, or possibly dense screening cover in the lowermost 1.0 m layer of vegetation. The ultimate factor may be the substrate or soil characteristics that determine the plant community [Tewes & Schmidly 1987]. The major problem is that the fertile soil required to produce the dense vegetation preferred by these cats is also of considerable economic importance to the agricultural industry. Ocelot home ranges vary from 17 km^2 from males to 11 km^2 for females with dense brush habitat occupying a larger percentage of the home range than open areas [Tewes 1986].

In Bolivia, a wide distribution is seen with the cat occurring from the tropical valleys of the Andes at elevations of 3,000 m to lower areas in the east. Ocelots were collected in lowland swampy evergreen forest, in a severely degraded palm riverine relict forest and in sub-montane transitional forest. May also occur in the tropical forests of the Andean Yungas, dry savanna-thicket mosaic country of the Bolivian Chaco, lowland riverine forests and lowland flood plains-thickets-forest country. They have a wide habitat tolerance and adapt well to woody secondary vegetation as well as to human settlement [Tello 1986].

In Columbia, ocelots are very adaptable occupying lowland and premontane tropical moist and dry thorn forests, gallery forests of the Llanos, mangroves, pasturelands, and upland and swamp savannas and even rice fields [Mondolfi cited in Melquist 1984].

In Brazil, Crawshaw and Quigley [in prep.] found female ocelot home ranges to be approximately 126 ha. The cats were active at all times of the day but more active overall at night. Habitat was primarily semideciduous forest with an average canopy height of 15 m. Estimated density in the Pantanal region of the Mato Grosso was 0.7 animals/km^2. Smith [1976] estimated ocleot density to be approximately 1 animal/10km^2 in the Amazon region.

In Costa Rica, it is the best-known of the small cats. It lives in woodlands, near towns and in abandoned fields [Vaughan 1984]. Ocelots use a variety of habitats ranging in elevation from sea level to about 3,800 m including dense forest, secondary forest, swamp forest, mangrove, scrub, pasture, subalpine paramo and occasionally coffee plantations [Vaughan 1983]. Based on the area of present habitat, ocelots ahould be present at a density value of 0.14-0.25 individuals/km^2 [Tewes and Schmidly 1987].

In Mexico, it lives in all areas of tropical forest in mesquite forest, in the least cold areas of the mountains and in conifer forests. They are especially abundant in the perennial tropical forest and in sometimes in mangroves and the marshy zones of the coast of Chiapas [Arana & March

1987]. Ocelot habitat varies from heavy rain forest to sparse tropical deciduous forest [Leopold 1959; Hall & Dalquest 1963]

4. Principal Threats:

The major threats have been hunting and habitat loss. The species has also been utilized for the pet trade [Domalain 1977]. The animals entering the pet trade are usually kittens obtained after the female has been killed. The species has been often persecuted because of alleged livestock (mainly poultry) depredation [USA CITES MA 1987].

Prime ocleot habitat has been eliminated by cultivation of coastal lowlands largely for cotton, cane and bananas, noteably in Central America, Columbia and Venezuela [Koford 1973ab]. Large areas of habitat have been destroyed but the effect of this on ocelot populations is poorly documented. The species is adaptable to some habitat alterations [Vaughan 1983] and will use dense cover near large towns [Koford 1973a; 1976]. The critical habitat component is probably dense cover near the ground [Tewes 1986] with ocelots completely avoiding open country [Guiggsberg 1975]. A great reduction in numbers was seen in the Chaco region in Paraguay during the 1970s due to habitat destruction and the increase in road building which permitted greater access to ocelot habitat [Thornback & Jenkins 1982].

The species has been heavily exploited for the fur trade, and in many areas it has been the most frequently hunted cat. This was the main spotted cat species in trade until the mid-1970s but was replaced by other species during the latter half of that decade. Recent CITES data during 1980-85 show that the numbers of skins of this species in trade have declined since the heavy exploitation in the late 1960s. The CITES Italian Management authority reported in 1985 that skins of this species from South America have practically ceased [Anon. 1987b].

Melquist [1984] concluded that, if properly controlled, the harvest of this species was probably feasible. The concensus of opinion among experts with knowledge of this species is that far more data are required before such decisions can be safely made [Broad 1987].

Net trade in skins included: 1976-12,986; 1977-19,342; 1978-34,521; 1979-17,088; 1980-30,563; 1981-17,730; 1982-9,676; 1983-69,294; 1984-4,574; and 1985-556 [Broad 1987]. Minimum net imports of ocelot skins reported to CITES in 1980-85 [Broad 1987] were:

Importing Country	Year 1980	1981	1982	1983	1984	1985
Argentina	300	-	-	-	-	-
Australia	-	1	-	-	-	-
Austria	1851	843	150	62	11	16
Belgium	4887	59	17	95	-	-
Brazil	28	-	-	-	-	-
Canada	-	72	140	301	111	-
China	-	-	54	-	-	-
Denmark	574	-	-	2	-	-
Finland	24	-	14	-	1	-

France	48	14	-	-	4100	-
F.R. Germany	16418	7885	7941	67281	-	-
Greece	202	-	-	-	-	-
Hong Kong	180	108	416	395	-	140
Ireland	4	4	-	-	-	-
Israel	140	12	68	24	124	-
Italy	4680	4639	657	593	-	195
Japan	98	587	84	40	5	120
Lebanon	-	-	26	-	-	-
Liechtenstein	765	-	-	-	-	-
Luxembourg	-	98	12	12	-	-
Mexico	39	-	-	-	-	-
Netherlands	59	-	-	-	-	-
Norway	-	29	14	-	-	-
St. Lucia	-	-	-	2	2	-
Spain	227	3292	-	201	14	-
Switzerland	-	-	-	128	99	-
Turkey	-	-	-	41	18	26
USA	39	87	77	117	89	-
Unknown	-	-	-	-	-	58
Total	30563	17730	9676	69294	4574	556

a. ARGENTINA: Garments made from the skins of this species continued to appear in fur shops in Buenos Aires during 1986 [J. Villalba-Macias, in litt. cited in Broad 1988]. Some illegal hunting occurs in Iguazu National Park [IUCN 1982].

b. BELIZE: Although relatively large areas of habitat remain, pressure for land is increasing [Florence 1986]. Konecny [in press] found a reduced population probably due to a low replacement rate from continued human hunting pressure.

c. BOLIVIA: Roportedly not threatened by habitat loss, except, perhaps, locally in areas of intensive farming, where natural vegetation is totally destroyed. Large-scale professional hunting was thought to be the greatest potential threat, but no such activity was thought to continue in the mid-1980s. Skins have been seen in souvenir shops of Trinidad, Santa Cruz, Concepcion, San Ignacio and Porto Suare. Amboro National Park has no permanent wildlife staff, and uncontrolled shooting and trapping occur as well as habitat destruction. Noel Kempf Mercado National Park has no wildlife staff and logging, cattle grazing and some other human disturbance occur there. Manuripi Heath National Wildlife Reserve is unstaffed and poorly protected. Chimanis Reserve is being deforested for sawmills and agriculture, and cats are shot on sight. All small cats are shot on sight by numerous "sport" hunters and even the skins are not saved. Professional hunters do not hunt small cats deliberately but also shoot them on sight as do farmers, sawmill workers and subsistence hunters [Tello 1986].

d. BRAZIL: Poaching and habitat loss remain major threats despite legal protection [Melquist 1984]. In Emas National Park, uncontrolled fires, insufficient funds and water pollution are threats [IUCN 1982].

Lumbering is a problem in San Joaquim National Park. Threatened by mining activities at Carajas and by hunting at Jari [Johns 1986].

e. COLUMBIA: Formerly a major exporter of skins of this species, but commercial hunting ceased in the early 1970s [Foote & Scheuerman 1973]. No information available on recent threats.

f. COSTA RICA: Illegal skin trade had greatly reduced numbers [Mena Moya 1978]. From 1940-77 over 50% of the suitable dense forest habitat was destroyed [Vaughan 1983]. Considerable disturbance due to cattle grazing and agriculture is found in Barra Honda National Park [IUCN 1982].

g. ECUADOR: Aggressive colonization of tropical forests from accelerated population increase; conversion of forest to cacao, coffee and African palm as well as cattle ranching and pasture. Petroleum exploration has destroyed broad areas of the wet tropical forest. Subjected to decades of heavy exploitation and despite controls, skins are still sold in local markets [Paz y Mino 1988].

h. EL SALVADOR: No information.

i. FRENCH GUIANA: There is a flourishing trade in wildlife products with French Guiana [J. Villalba-Macias, in litt. cited in Broad 1988], but there is no evidence that this poses any threat to the native fauna at present.

j. GUATEMALA: Some illegal hunting occurs in Tikal National Park and Rio Dulce National Park [IUCN 1982].

k. GUYANA: Persecuted by farmers [Melquist 1984] and by hunting and small-scale mining in Kaieteur National Park [IUCN 1982].

l. HONDURAS: Subject to hunting pressure in the past [Barquero 1976]. Most recently, there has been no large-scale commercial hunting, but occasional animals are captured as pets [Honduras CITES MA, 1985]. Forest destruction is a major problem in Olancho Hardwood Forest Reserve and illegal hunting and the threat of timber exploitation exist in Rio Platano Biosphere Reserve [IUCN 1982].

m. MEXICO: Ramos [1986] indicated that hunting of spotted cats remains a problem in Mexico.

n. NICARAGUA: Reported in 1977 to have been a source of live animals for the pet trade. Young were captured by killing the mother [Thornback & Jenkins 1982].

o. PANAMA: The Pan-American Highway will bisect the Darien National Park [IUCN 1982] and may threaten the wildlife.

p. PARAGUAY: Hunting and commercial trade were extensive until the late 1970s. It has been suggested that Paraguay may remain a source of illegal trade although the harvest was believed to have reduced

considerably. Habitat loss remains a problem, especially in the east of the country [Melquist 1984].

q. PERU: Relentlessly hunted for its pelt. Over 138,000 skins were exported from Iquitos between 1946-66 [Grimwood 1969]. Around 12,000 skins were reported to have been exported each year in the 1960s. Hunters reported that it was becoming more difficult to obtain skins [Hvidberg-Hansen 1970]. Melquist [1984] reported that some commercial trade, although illegal, was believed to continue and habitat had been threatened as a consequence of extensive oil exploration. Pacheco [1983], who noted some recovery in wildlife populations since the introduction of protective legislation in 1973, reported that illegal trade persisted. At Macchu Picchu Natural Monument, deforestation for grazing and agriculture are threats as well as the construction of a hydroelectric dam [IUCN 1982].

r. SURINAM: No information.

s. TRINIDAD AND TOBAGO: Exploration for oil, involving cutting and clearing, and poaching occur at Trinity Hill Wildlife Sanctuary. Introduction of teak plantations, poaching and squatting occur at Southern Watershed Wildlife Sanctuary [IUCN 1982].

t. USA: Habitat destruction and degredation from brush-clearing operations were thought to have been primarily responsible for the status of the population. Also affected by predator control activities and persecution [Anon. 1980]. Now only about 1% of the South Texas region supports optimal habitat [Tewes & Everett 1986]. During the past 60 years, over 95% of the native vegetation in the Rio Grande Valley has been transformed from luxurious subtropical plant communities to cotton, sorghum, sugar cane, vegetable crops, and citrus orchards [Purdy 1983]. Ocelot-vehicle collisions are another major source of mortality [Tewes & Miller 1987].

u. VENEZUELA: Decline has been caused by over-harvest and loss of habitat [Melquist 1984]. Hoogersteijn [1987, cited in Anon. 1987a] reported that trade was not a problem in Venezuela, although some small scale smuggling persisted. The main problem was thought to be loss of habitat, on the scale of 50,000 ha per year in the western plains and 100,000 ha per year in the country as a whole. This land is largely being converted to agriculture, primarily rice, sorghum, cotton, corn or sown pastures. A large percentage of the forest cover has been eliminated north of the Orinoco River and in western Venezuela. South of the Orinoco, in the State of Bolivar, forest areas have been eliminated by the Caroni River Guri Dam. Ocelot are sometimes hunted as chicken raiders, but there is no active hunting, such as formerly existed in the past. Eliminated in some sites due to overhunting and habitat destruction [Mondolfi 1986]. Hunting, agriculture and mining threaten Parque Nacional Canaima [IUCN 1982].

5. Conservation Measures Taken:

The species is protected by legislation throughout much of its range; however the level of implementation of these controls has varied considerably [Broad 1987].

a. ARGENTINA:

(1) Legislation and enforcement: CITES signed in 1981; hunting, trade and export banned in 1981 [Fuller et al. 1987]. *F.p. mitis* listed as CITES Appendix I and as a National Protected Species [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Iguazu National Park on the border with Brazil and less than 5 km from the Paraguayan frontier in Misiones Province, northern Argentina [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-47; 1981-1; and 1982-1 [Broad 1987]. The EEC prohibited the import of CITES Appenidix I subspecies of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Some faunal research has been carried out at Iguazu National Park, but no scientific facilities exist [IUCN 1982].

b. BELIZE:

(1) Legislation and enforcement: CITES signed in 1981; hunting, trade and export banned in 1981 [Fuller et al. 1987]. Listed as CITES Appendix II and as a National Protected Species [Fuller & Swift 1984].

(2) Occurrence in protected areas: Known to exist in the Cockscomb Basin Forest Reserve in south central Belize [Konecny in press].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-181; 1982-68; 1983-28; and 1984-1 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Konecny [in press] studied this species in conjunction with two other sympatric felids by radio telemetry in the Cockscomb Basin Forest Reserve in south-central Belize in 1985-86. The study concentrated on movement patterns, diet and habitat use.

c. BOLIVIA:

(1) Legislation and enforcement: CITES signed in 1979; hunting, trade and export banned in 1979 [Fuller et al. 1987]. Listed as CITES

Appendix II and as a National Protected Species [Fuller & Swift 1984]. The Centro de Desarrollo Forestal is directly responsible for all aspects of the administration and management of wildlife resources. There is not a single wildlife ecologist, biologist or wildlife technician in the Centro de Desarrollo Forestal. The vast majority of the present staff of the Wildlife Department does not have any true interest in any of the wildlife fields. A decree was published in 1975 to protect wildlife; however, the C.D.F. did not publish the regulations and ordinances necessary to implement the decree. Therefore, there are in fact, no wildlife laws in Bolivia [Tello 1986].

(2) Occurrence in protected areas: Observed in Chimanis and Manuripi Heath Reserve and Amboro and Kempf Mercado National Parks [Tello 1986].

(3) Occurrence in secure and nonsecure habitats outside protected areas: Animals have previously been collected at Buenavista, Rio Machupo, 30 km SE of Caradayti, the mouth of Rio Chapare, 52 km south of the mouth of Rio Chapare, 50 km northwest of Villa Tunari, Rio Quiquibey and Rio Nareuda. All of these specimens were F.p. steinhachi [Tello 1986]. Tello [1986] collected cats at Rio Mamore, San Pablo, Piedras Blancas, Zapoco, Rio Aperi, Los Totumus, San Silvestre, Laguna Bay, Guajaramirin and El Zorro. Observers have also reported cats in Monte de San Pablo, San Javier, Totaitu, Los Palmares, El Cusi, the southern region of San Pablo river, Salinas, Puerto Suerez Zudanaz, Monteagudo, Tariqueia, Cotagaita and Coroico.

(4) Regulation of harvesting: At present there is no legal professional cat hunting in Bolivia. Few poachers are punished and the only punishment is confiscation of the skins [Tello 1986]. Reported exports of pelts include: 1981-2; 1983-4; and 1984-1,500 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Status of the wild cats in Bolivia commissioned by CITES to determine status and distribution of species. A total of 80 days was spent in the field in the areas of Beni, Santa Cruz and Pando Departments [Tello 1986].

d. BRAZIL:

(1) Legislation and enforcement: CITES signed in 1975; trade and export banned in 1967 [Fuller et al. 1987]. F.p. mitis listed as CITES Appendix I, other subspecies as Appendix II. Not listed under the national protected species legislation [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Emas National Park in the center west region, state of Goias near the Mato Grosso border; Serra da Capivara National Park in southeastern Piaui State, 220 km south of Floriano; Chapada dos Veadeiros National Park in the west central region, Goias state, about 200 km north of Brasilia; San Joaquim National Park in the south region, Santa Catarina state, 175 km southwest of Florianopolis; Itatiaia National Park, south-east region, 150 km north-west of Rio de Janeiro in the state of Rio de Janeiro; and Serra dos Orgaos National Park, southeast region of Rio de Janeiro state, 55 km northwest of the center of Rio de Janeiro [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: Found at Igarape Azul, Serra dos Carajas in a heavily mined area at an approximate density of 0.3/10 km². Present at Jari in the forestry project area [Johns 1986]. Also found by Crawshaw and Quigley [in prep.] at the Miranda Ranch in the southern Pantanal in the state of Mato Grosso do Sul.

(4) Regulation of harvesting: Thousands of illegal skins were burned in 1988 to prevent their sale [Anon. 1988]. Reported exports of pelts include: 1981-114; 1982-50; and 1983-10 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Crawshaw and Quigley [in prep.] completed a seven month study on the movement and activity patterns of three female ocelots by radio telemetry in the Pantanal region of the Mato Grosso. No research on carnivores has been completed in the protected areas; however, housing for scientists exists at Emas National Park, and Serra dos Orgaos National park, and a natural history museum exists at Itatiaia National Park [IUCN 1982].

e. COLUMBIA:

(1) Legislation and enforcement: CITES signed in 1981; hunting, trade and export banned in 1973 [Fuller et al. 1987]. Listed as CITES Appendix II and as a species protected under Columbian Legislation as of 1973 [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Parque Nacional Natural la Macarena in the Columbian mountains [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-6; 1981-15; 1982-12; 1983-13; and 1984-1 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Taxonomic and other biological studies have been carried out at Natural la Macarena National Park although no scientific facilities exist [IUCN 1982].

f. COSTA RICA:

(1) Legislation and enforcement: CITES signed in 1975; hunting, trade and export banned in 1984 [Fuller et al. 1987]. *F. p. mearnsi* listed as CITES Appendix I with other subspecies listed as Appendix II. Listed as a Costa Rican Endangered Species [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in La Amistad and Chirripo National Parks and adjacent forest reserves in subalpine meadows. Probably exists in Braulio Carrillo National Park and adjacent La Selva Biological Reserve [Vaughan 1984]. Found in Corcovado National Park on

the Peninsula de Osa in Puntarenas province in southwestern Costa Rica; Santa Rosa National Park on the Pacific coast in the northwest province of Guanacaste; Tortuguero National Park, on the Atlantic coast in the Tortuguero Plains of Limon state; Barra Honda National Park, located in Nicoya Peninsula, Guanacaste Province; and Cabo Blanco National Reserve at the southernmost tip of the Nicoya Peninsula on the Pacific coast of the Province of Puntarenas. May exist in Hitoy-Cerere Biological Reserve on the lower slopes of the Talamanca Cordillera, on the Atlantic side of southeastern Costa Rica [IUCN 1982]. Found also in Monteverde Cloud Forest Biological Reserve on the Cordillera de Tilaran, Guanacaste Province and in Cano Negro National Wildlife Refuge, but in danger of extinction there [Pizarro 1986].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: All traffic is prohibited and enforced. It is illegal to maintain any of these cats in captivity except in a zoological garden [Vaughan 1984]. Reported exports of pelts include one pelt in 1980 [Broad 1987]. The EEC prohibited the import of CITES Appendix I subspecies of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Vaughan [1984] began a study on feline ecology focusing on all of Costa Rica's cats in La Selva Biological Reserve. The first year of the study was funded by OAS, OTS, the National University of Costa Rica, and the Costarican Wildlife Department. The study is now in hiatus. General inventories of the fauna have been carried out in Corcovado National Park, Chirripo National Park and Braulio Carrillo National Park. Limited scientific facilities are available at Chirripo and a biological field station is under construction at Corcovado [IUCN 1982]. Mammal ecology projects have been carried out at Santa Rosa. Field facilities exist at La Selva, Santa Rosa and the Monteverde Cloud Forest Reserve. A large field station exists at Tortuguero National Park [IUCN 1982].

g. ECUADOR:

(1) Legislation and enforcement: CITES signed in 1975; export banned in 1981 [Fuller et al. 1987]. Listed as CITES Appendix II; no special National legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Exists in the Cuyabeno Reserve in near the Laguna Grande [Paz y Mino 1988]. Found also in the Sangay National Park in Amazonia, Machalilla National Park in the Ecuadorian dry forest, and Cotacachi-Cayapas Ecological Reserve on the Columbian coast [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: May exist in the areas of Lago Agrio, Coca, Mishahualli, Tena, Puyo, Archidona, Tarapor and Tipischca, as well as the riverine areas of Amazonia [Paz y Mino 1988].

(4) Regulation of harvesting: Reported exports of pelts include: 1980-3; 1981-8; 1982-23; 1983-3; and 1984-3 [Broad 1987]. The EEC

prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: A faunal survey has been completed at Sangay National Park and scientific facilities are planned for both Sangay and Cotacachi-Cayapas [IUCN 1982]. G. Paz y Mino [1988] completed a study on the status and conservation of the cats in Amazonian Ecuador.

h. EL SALVADOR:

(1) Legislation and enforcement: CITES signed in 1987 [Fuller et al. 1987]. Listed as CITES Appendix II; no special national legislation exists [Fuller & Swift 1984]. No current export ban.

(2) Occurrence in protected areas: No information.

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include one in 1980 and one in 1981 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: None known.

i. FRENCH GUIANA:

(1) Legislation and enforcement: CITES signed in 1978; hunting, trade and export banned in 1975 [Fuller et al. 1987]. Listed as CITES Appendix II but import must meet special EEC criteria. Listed as a National Protected Species [Fuller & Swift 1984].

(2) Occurrence in protected areas: No information.

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: None known.

j. GUATEMALA:

(1) Legislation and enforcement: CITES signed in 1980; hunting, trade and export banned in 1970 [Fuller et al. 1987]. Listed as CITES Appendix II and as a Species Prohibited from Export [Fuller & Swift 1984]. All hunting, capture, local trade, export and re-export of wild fauna has been provisionally suspended from March, 1986, while a study is carried out on the country's faunal resources and conservation [IUCN 1986].

(2) Occurrence in protected areas: Found in Tikal National Park, Peten Department, northeastern Guatemala and Rio Dulce National Park on the coast of eastern Guatemala [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include one in 1980 and one in 1984 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: None known.

k. GUYANA:

(1) Legislation and enforcement: CITES signed in 1977; export banned in 1987 [Fuller et al. 1987]. Listed as CITES Appendix II; no special national protection legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Kaieteur National Park, on Pacaraima Plateau in central western Guyana [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include one in 1981 and one in 1983 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: A local faunal survey has been carried out at Kaieteur National Park, but no scientific facilities exist there [IUCN 1982].

l. HONDURAS:

(1) Legislation and enforcement: CITES signed in 1985; trade and export banned in 1978 [Fuller et al. 1987]. Listed as CITES Appendix II; no special national protection legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in La Tigra National Park in the mountains of south central Honduras, Olancho Hardwood Forest Reserve on the Patuca River, the proposed Cusuco National Park in the Sierra de Omoa in northwestern Honduras, and Rio Platano Biosphere Reserve [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-15; 1981-3; 1982-2; 1983-2; and 1984-2 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Some basic inventory research has been carried out at La Tigra and Rio Platano. Research laboratory exists at La Tigra and some

facilities are available at Rio Platano including an education center [IUCN 1982].

m. MEXICO:

(1) Legislation and enforcement: Hunting regulated in 1951; export banned in 1982 [Fuller et al. 1987]. Listed as CITES Appendix II, but Mexico is not a CITES participant; no special national protection legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Montes Azules Biosphere Reserve in Chiapas state in southeast Mexico [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-2; 1981-15; 1982-14; 1983-6; and 1984-3 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: A mammal survey has been completed at Montes Azules Reserve and a scientific laboratory is proposed for the site [IUCN 1982].

n. NICARAGUA:

(1) Legislation and enforcement: CITES signed in 1977; hunting, trade and export banned in 1977 [Fuller et al. 1987]. *F. p. mearnsi* listed as CITES Appendix I and as a Species Prohibited from Hunting [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Saslaya National Park about 75 km southwest of Bonanza and 34 km west of Siuna in the hinderland of the Department of Zelaya [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1981-2; 1982-7; and 1984-1 [Broad 1987]. The EEC prohibited the import of CITES Appendix I subspecies of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: None known.

o. PANAMA:

(1) Legislation and enforcement: CITES signed in 1978; hunting, trade and export banned in 1980 [Fuller et al. 1987]. *F. p. mearnsi* listed as CITES Appendix I and as a Species Protected Under Panamanian Legislation [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Darien National Park in the province of Darien, and Barro Colorado National Monument on Barro Colorado Island in Gatun Lake [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include 2,765 in 1980 and 3 in 1983 [Broad 1987]. The EEC prohibited the import of CITES Appendix I subspecies of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: General ecological studies have been carried out at Darien National Park and on Barro Colorado Island. A major research station exists on Barro Colorado and limited facilities exist at Darien [IUCN 1982].

p. PARAGUAY:

(1) Legislation and enforcement: CITES signed in 1977; hunting, trade and export banned in 1975 [Fuller et al. 1987]. *F. p. mitis* listed as CITES Appendix I; no special protection legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Parque Nacional Defensores del Chaco in Chaco Boreal [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-25,390; 1981-17,069; 1982-9,370; 1983-68,928; 1984-2,741; and 1985-315 [Broad 1987]. The EEC prohibited the import of CITES Appendix I subspecies of these cats from this country in October, 1986 [Anon. 1987c]. In 1985, imports to France of Paraguayan origin included skins of 2,600 ocelot which may have been from *F. p. mitis* , an Appendix I subspecies [Anon. 1986].

(5) Research: A faunal inventory has been carried out at Defensores del Chaco and minimum scientific facilities exist there [IUCN 1982].

q. PERU:

(1) Legislation and enforcement: CITES signed in 1975; hunting and trade regulated in 1977; export banned in 1977 [Fuller et al. 1987]. Listed as CITES Appendix II; not a Protected Species; listed as a Vulnerable Species [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found by Emmons [1987] to be common at Estacion Biologica de Cocha Cashu, Parque Nacional Manu, Dpto. Madre de Dios. Estimated population density of 0.8 ocelot/km^2. Found also at Cerros de Amotape in the Ecuadorian dry forest, on the north coast of Peru, Tingo Maria in the central Andes, and at Macchu Picchu Natural Monument in the Department of Cuzco [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: Reported exports of pelts include: 1980-1,884; 1981-38; 1982-2; and 1983-9 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Emmons [1987] studied ocelot feeeding ecology in a tropical rainforest at Manu National Park. Manu has been the site of much faunal research and a biological station exists there for scientists. A museum is present at Macchu Picchu [IUCN 1982].

r. SURINAM:

(1) Legislation and enforcement: CITES signed in 1981; hunting, trade and export banned in 1970 relating only to the northern settled region of the country [Fuller et al. 1987]. Listed as CITES Appendix II; no special protection legislation exists [Fuller & Swift 1984].

(2) Occurrence in protected areas: Found in Voltzberg-Raleighvallen Nature Reserve in the north-central part of the country and in Brownsberg Nature Park situated at the edge of Brockopondo Reservoir, 130 km south of Paramaribo [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information

(4) Regulation of harvesting: The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Scientific facilities and study camps for environmental education exist at Brownsberg Nature Park and a major research center is planned for Voltzberg-Raleighvallen Nature Reserve [IUCN 1982].

s. TRINIDAD AND TOBAGO:

(1) Legislation and enforcement: CITES signed in 1984; hunting and trade banned in 1933 [James 1983]. No current export ban.

(2) Occurrence in protected areas: In Trinity Hill Wildlife Sanctuary in the southeastern portion of the country, Trinity Ward in the county of Mayaro, the ocelot is now rare if not completely absent. May still be found in Southern Watershed Wildlife Sanctuary in the southwest, county of St. Patrick [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: No information.

(4) Regulation of harvesting: The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: None known.

t. USA:

(1) Legislation and enforcement: CITES signed in 1975; hunting, trade and export banned in 1982 [Anon. 1982]. Listed as Endangered on the U.S. Endangered Species List.

(2) Occurrence in protected areas: Found in Laguna Atascosa National Wildlife Refuge in Cameron County, Texas [Tewes 1986].

(3) Occurrence in secure and nonsecure habitats outside protected areas: Found on private ranchland in Willacy County, Texas [Tewes 1986].

(4) Regulation of harvesting: The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Seven years of intensive research have been carried out at Laguna Atascosa and nearby counties by Tewes and associates from the Caesar Kleberg Wildlife Research Institute of Texas A & I University [Tewes 1986; Navarro 1985]. Future research will address habitat islands and corridors, ocelot mortality on highways, translocation, habitat and prey improvements, interspecific competition, specific status and distribution, and genetic variability [Tewes & Miller 1987].

u. VENEZUELA:

(1) Legislation and enforcement: CITES signed in 1975; hunting, trade and export banned in 1970 [Fuller et al. 1987]. Listed as CITES Appendix I, as a Game Species and as a Protected Species [Fuller & Swift 1984]. The restriction is seldom enforced in the rural areas [Mondolfi 1986].

(2) Occurrence in protected areas: Occurs in suitable habitats in at least half of the 25 National Parks of Venezuela, in the two Faunal Reserves and in one of the two Faunal Refuges. In several of these areas, the ocelot is more or less protected from hunting and habitat destruction. Occurs in some sites of Henry Pittier National Park, Rancho Grande, State of Aragua and in the Forest Reserve of Rio Grande, near El Palmar, State of Bolivar. It is also found in all of the ten Forestry Reserves where no protection is afforded and uncontrolled hunting is practiced by lumbermen and campesinos [Mondolfi 1986]. Some of the other National Parks include: Parque Nacional Canaima in the state of Bolivar; Parque Nacional La Neblina in the extreme south of the border with Guyana, in the Department of Rio Negro, the Federal Amazonian Territory; Parque Nacional Aguaro-Guariquito in the central llanos of Guarico State; Parque Nacional Sierra de Perija in Zulia State; Parque Nacional El Tama in the Andes of Apure State; Parque Nacional Guatopo in the States of Miranda and Guarico; Parque Nacional Morrocoy in the State of Falcon; Parque Nacional Yurubi in Yaracuy State; Parque Nacional El Guacharo in the states of Monagas and Sucre; Parque Nacional Macareo in Miranda State; Parque Nacional Yacambu in the Andes; Monumento Natural Maria Lionza in the state of Yaracuy; Monumento Natural Cerro Santa Ana in Falcon state; Monumento Natural Aristides Rojas in Guarico state; Monumento Natural Piedra de Cocuy in the Federal

Amazonian Territory; and Chiriguare Fauna Refuge in the central llanos [IUCN 1982].

(3) Occurrence in secure and nonsecure habitats outside protected areas: Observed by Mondolfi [1986] in gallery forest habitat of Cano Caracol, a branch of the Guarico river and on two adjoining cattle ranches (Flores Moradas and Masaguaral) in the central llanos of Venezuela in the State of Guarico (8 34´ N 67 35´ W). Density at Masaguaral was 0.4 ocelots/km^2 [Ludlow & Sunquist 1987]. Also seen at Lake Maracaibo [Osgood 1912] and the ranch El Porvenir near Bruzual, State of Apure [Mondolfi 1986] and occurs on the cattle ranches Campo Alegre and Las Cruces in the southern part of the State of Barinas. Ocelots have been observed along the shore of the Cano Yureba of the Amazon Federal Territory, near Los Dos Caminos in the State of Guarico, and along the forested shore of the Rio Guasare in the State of Zulia. Other sites where cats have been examined by Mondolfi [1986] include: Galeras de El Pao, State of Cojedes; near San Jose de Tiznados, State of Guarico; on the highway toward Maturin, State of Monagas; Boca de Yaracuy, State of Falcon; Santa Rosa, San Camilo Forest, State of Apure; San Carlos de Rio Negro, Amazon Federal Territory; Hato El Frio, State of Apure; El Rosario, 45 km W of Encontrados, State of Zulia; San Jose de Hato Nuevo, State of Cojedes; and Quebrada El Hierro, SW of Sanare, State of Falcon.

(4) Regulation of harvesting: Commercial hunting is now very rare or been totally eliminated. Traffic in skins is banned in agreement with the Law for the Protection of Wildlife passed in 1970. However, buyers from Columbia and Brazil encourage illegal hunting, primarily by campesinos. The skins are then smuggled into Columbia and Brazil. Traffic is under the control of the Venezuelan National Guard. CITES has reduced traffic greatly although a small number of skins are still on sale in rural towns in the State of Bolivar and other regions. Live cats cannot be traded and any live animal is confiscated [Mondolfi 1986]. Hoogesteijn [1987, cited in Anon. 1987a] reported that there was no real problem with hunting although some small-scale smuggling did still exist. Reported exports of pelts include nine in 1985 [Broad 1987]. The EEC prohibited the import of these cats from this country in October, 1986 [Anon. 1987c].

(5) Research: Mondolfi [1986] carried out a study on the biology and status of this cat based on field observations. Bisbal [1986] analyzed the food habits of ocelots based on road kills and museum specimens. Ludlow and Sunquist [1987] investigated the ecology and behavior of ocelots in Hato Masaguaral and Hato Flores Moradas, Guarico [Ludlow 1986; Ludlow & Sunquist 1987]. Faunal studies have been carried out at Henry Pittier National Park, Canaima National Park, Aquaro-Guariquito National Park, Guatopo National Park, Morrocoy National Park, and Yurubi National Park. Scientific facilities exist at Henry Pittier, Canaima, and Guatopo [IUCN 1982].

6. Captive Propagation and research:

Captive propagation has been successful in many U.S. Zoos, however, only the individuals of unknown subspecies have bred successfully since 1977. Several reports on captive management of ocelots have been published [Da

Silveria 1972; Dunn 1974; Eaton 1977] and Eaton's paper summarized data from the private sector.

7. Studbook and ISIS status:

There is no studbook or Species Survival plan for ocelot. The ocelot will be included in a Leopardus group studbook being prepared by the International Society for Endangered Cats. ISIS (June 1988) lists the following ocelots:

Subspecies	males	females	% Wild-born
F.p. pseudopardalis	1	1	100
F.p. mearnsi	1	0	?
Unknown	28	45	6

In addition to these cats, ISEC owns a female, wild-born F.p. pusaeus and many animals remain in the private sector.

8. Education:

In Bolivia, conservation education and information is almost nonexistant at all levels [Tello 1986]. A natural history museum exists at Itatiaia National Park, Brazil and an Education Center exists at Rio Platano, Honduras. In Panama, an environmental/training/educational program exists at Barro Colorado research station. A museum is present at Macchu Picchu, Peru and study camps for environmental education exist at Brownsberg Nature Park, Surinam [IUCN 1982]. A Wildlife Management Program for Mesoamerica and the Caribbean is now in progress in Costa Rica with participation from Argentina (National Agricultural Technology Institute); Costa Rica (School of Environmental Sciences, Directorate of Wildlife, National Park Service, National Museum, Organization for Tropical Studies); Ecuador (Darwin Biological Research Station); Nicaragua (Department of Fauna); Panama (Department of National Parks and Wildlife, Smithsonian Tropical Research Institute); Paraguay (National Biological Inventory); Venezuela (School of Biology, University Los LLanos Occidentales); USA (World Wildlife Fund, U.S. Fish and Wildlife Service, Conservation International); W. Germany (German Academic Exchange Service); and the Organization of American States. This program will train wildlife managers at the Master's Degree level and develop a regional communication network and documentation center [Vaughan, in litt.].

BIBLIOGRAPHY

Anonymous. 1976. Conservation, Argentina. CAT SPECIALIST GROUP NEWSLETTER 2:4. IUCN/SSC.

Anonymous. 1980. The ocelot. In SELECTED VERTEBRATE ENDANGERED SPECIES OF THE SEACOAST OF THE UNITED STATES. Fish and Wildlife Service. U.S. Dept. of the Interior.

Anonymous. 1982. Endangered classification extended to ocelot in the United States. ENDANGERED SPECIES TECH. BULL. 7(8):1.

Anonymous. 1984. Evaluation and development of wildlife resources, Trinidad and Tobago. Project findings and recommendations. UNDP, FAO.

Anonymous. 1986. CITES and the European Economic Community. CAT NEWS 5:31.

Anonymous. 1987a. The Neotropical cats. CAT NEWS 7:3-9.

nonymous. 1987b. Italian Appendix II imports decline. TRAFFIC (Italy).

Anonymous. 1987c. EEC import restrictions. TRAFFIC BULLETIN 8(4):57-58.

Anonymous. 1988. Siezed skins burnt in Brazil. THE DAILY TELEGRAPH (UK), 20 July 1988.

Arana, M. & March, I. 1987. GUIA DE LOS MAMIFEROS SILVESTRES DE CHIAPAS. Instituto National de Investigaciones Sobre Recursos Bioticos.

Aquilar, W. 1978. El manejo de la Vida Silvestre en Honduras. In MEMORIAS DE LA PRIMERA REUNION REGIONAL CENTROAMERICAN SOBRE VIDA SILVESTRE, R. Morales & C. Macfarland (Eds.), Matagalpa, Nicaragua, 25-29 Julio 1978.

Bacon, P.R. & ffrench, R.P. 1972. THE WILDLIFE SANCTUARIES OF TRINIDAD AND TOBAGO. Wildlife Conservation Committee, Ministry of Agriculture Lands and Fisheries.

Baker, R. 1956. Mammals of Coahuila, Mexico. UNIV. KANSAS PUBL. MUS. NAT. HIST. 9(7):125-335.

Barquero, J.I. 1976. La vida silvestre en Nicaragua. ENCUENTRO. REVISTA DE LA UNIVERSIDAD CENTROAMERICANA. October/December, Managua, Nicaragua: 57-66.

Berger, D. & Portal, C. 1982. Dossier: Especies animales Guyanaises menacees. UNPUB. RPT., 49 pp.

Bisbal, F.J. 1986. Food habits of some Neotropical carnivores in Venezuela. MAMMALIA 50:329-339.

Broad, S. 1987. The harvest of and trade in Latin American spotted cats (Felidae) and otters (Lutrinae). IUCN WILDLIFE TRADE MONITORING UNIT, Cambridge, UK, 139pp.

Broad, S. 1988. Little spotted cat, tiger cat or oncilla. Pages 124-130 in SIGNIFICANT TRADE IN WILDLIFE: A REVIEW OF SELECTED SPECIES IN CITES APPENDIX II, Volume 1: Mammals. Cambridge: IUCN Conservation Monitoring Centre.

Cabrera, A. 1957. Catalogo de los mamiferos de America del sur, vol. I. Metatheria, Unguiculata, Carnivora. REVISTA DEL MUSEO ARGENTINO DE CIENCIAS NATURALES 'BERNARDINO RIVADAVIA', CIENCAS ZOOLOGICAS 4(1):1-307.

CITES. 1982. IDENTIFICATION MANUAL. VOLUME 1: MAMMALIA. Gland: IUCN.

Crawshaw, P.G., Jr. & Quigley, H.B. in prep. Ocelot movement and activity patterns in the Pantanal Region, Brazil.

Cunha Vieira, C. da. 1955. Lista remissiva dos mamiferos do Brazil. ARQUIVOS DE ZOOLOGIA DO ESTADO DE SAO PAULO 8(2):341-474.

DaSilveira, E.K.P. 1972. A case of cannibalism among ocelots at Brasilia Zoo. INTERNATIONAL ZOO YEARBOOK 12:182-183.

Davis, W.B. 1974. The mammals of Texas. TEXAS PARKS WILDL. DEP. BULL. 41:1-294.

Domalain, J-Y. 1977. Confessions of an animal trafficker. NATURAL HISTORY 86(5):54-66.

Dunn, G.L. 1974. Use of a domestic cat as foster mother for an ocelot. INTERNATIONAL ZOO YEARBOOK 14:218-219.

Eaton, R.L. 1977. Breeding biology and propagation of the ocelot. ZOOL. GART. 47(1):9-23.

Eaton, R.L. & van Oosten, J.R. 1974. The status and conservation of North America's cats. In PROC. OF SYMP. ON ENDANGERED AND THREATENED SPECIES OF NORTH AMERICA, Washington, D.C., The Wolf Sanctuary, St. Louis.

Emmons, L.H. 1987. Comparative feeding ecology of felids in a Neotropical rainforest. BEHAV. ECOL. SOCIOBIOL. 20(4):271-283.

Florence, A. 1986. Small emerald, uncut. BBC WILDLIFE 4(4):174-178.

Foote, R.W. & Scheuerman, R.G. 1973. Reptilian and mammalian hides exported from Leticia, Amazonas, Columbia during 1972 and January, February and March of 1973. UNPUB. REPORT.

Fuller, K.S. & Swift, B. 1984. LATIN AMERICAN WILDLIFE TRADE LAWS. World Wildlife Fund-US.

Fuller, K.S.; Swift, B. Jorgensen, A. & Brautigam, A. 1987. LATIN AMERICAN WILDLIFE TRADE LAWS. Second Edition (Revised). World Wildlife Fund-US. 418pp.

Goldman, E.A. 1920. Mammals of Panama. SMITHSONIAN MISC. COLL. 69(5):1-309.

Goldman, E.A. 1943. The races of ocelot and margay in Middle America. J. MAMMAL. 24(3):372-385.

Grimwood, I.R. 1969. Notes of the distribution and status of some Peruvian mammals in 1968. SPECIAL PUBLICATION 21. American Committee for International Wildlife Protection and New York Zoological Society, Bronx, NY, 86 pp.

Guiggsburg, C.A.W. 1975. WILD CATS OF THE WORLD. David and Charles: London, 328pp.

Hall, E.R. 1981. THE MAMMALS OF NORTH AMERICA. New York: Wiley.

Hall, E.R. & Dalquest, W.W. 1963. The mammals of Veracruz. UNIV. KANSAS PUBL. MUS. NAT. HIST. 14:165-362.

Hvidberg-Hansen, H. 1970. Utilization of skins from wild animals, Peru, FAO FORESTRY RESEARCH AND TRAINING PROJECT, La Molina.

IUCN. 1982. IUCN DIRECTORY OF NEOTROPICAL PROTECTED AREAS. Commission on National Parks and Protected Areas, IUCN, Tycooly Int., Dublin, 436pp.

James, C. 1983. Game mammals and hunting. Pages 57-60 in HIGHLIGHTING WILDLIFE. BASIC INFORMATION ON WILDLIFE CONSERVATION IN TRINIDAD AND TOBAGO, C. James (Ed.). Forestry Division, Ministry of Agriculture, Lands and Food Production, Trinidad and Tobago.

Johns, A.D. 1986. Effects of habitat disturbance on the rainforest wildlife in Brazilian Amazonia. FINAL RPT. Washington, D.C.: World Wildlife Fund.

Koford, C.B. 1973a. Spotted cats in Latin America: an interim report. ORYX 12(1):37-39.

Koford, C.B. 1973b. Project 694. Status survey of jaguar and ocelot in tropical America, WORLD WILDLIFE YEARBOOK 1972-73: 215-219.8

Koford, C.B. 1976. Latin American Cats: economic values and future prospects. THE WORLDS CATS 3(1).

Konecny, M.J. (in press). Movement patterns and food habits of four sympatric carnivore species in Belize, Central America. In ADVANCES IN NEOTROPICAL MAMMALOGY, K.H. Redford & J.F. Eisenberg (Eds.), Leiden: E.J. Brill.

Leopold, A.S. 1959. WILDLIFE OF MEXICO: Berkeley: Univ. of Calif. Press.

Lowery, G.H., Jr. 1974. THE MAMMALS OF LOUISIANA AND ITS ADJACENT WATERS. Baton Rouge: Louisiana State Univ. Press.

Ludlow, M.E. 1986. Home range, activity patterns and food habits of the ocelot (Felis pardalis) in Venezuela. M.S. THESIS, Univ. of Florida, Gainsville.

Ludlow, M.E. & Sunquist, M.E. 1987. Ecology and behavior of ocelots in Venezuela. NATIONAL GEOGRAPHIC RESEARCH 3(4):447-461.

Melquist, W.E. 1984. Status survey of otters (Lutrinae) and spotted cats (Felidae) in Latin America. Contract completion report, IUCN, Gland, Switzerland, 269pp.

na Moya, R.A. 1978. FAUNA Y CAZA EN COSTA RICA. R.M. Costa Rica.

Mondolfi, E. 1986. Notes on the biology and status of the small wild cats in Venezuela. Pages 125-146 in CATS OF THE WORLD: BIOLOGY, CONSERVATION, AND MANAGEMENT (S.D. Miller & D.D. Everett, Eds.). Washington, D.C.: National Wildlife Federation.

Navarro, D. 1985. Status and distribution of the ocelot (Felis pardalis) in south Texas. M.S. THESIS, Texas A & I Univ., Kingsville.

Osgood, W.H. 1912. Mammals from western Venezuela and eastern Columbia. FIELD MUS. NAT. HIST., ZOOL. SER. 10:33-66.

Pacheco, T. 1983. Effectos positivos y negativos de la veda de caza de 1973 en la Amazonia Peruana. REPORT FOR THE UNIVERSIDAD NACIONAL AGRARIA LA MOLINA, Lima, Peru.

Paz y Mino, G. 1988. Notas sobre la caceria y la conservacion de los Felidos en la Amazonia Ecuatoriana. BOLETIN CIENTIFICO 2(3), Fundacion Simon Bolivar.

Pizarro, E.L. 1986. Present status of the jaguar in Costa Rica. Pages 24-29 in WILDLIFE MANAGEMENT IN NEOTROPICAL MOIST FOREST. Manaus: International Counsil for Game and Wildlife Conservation & International Foundation for the Conservation of Game.

Preciado, G.L. 1986. Resumen del estado de la conservacion y el manejo de la fauna silvestre en la Amazonia del Peru. Pages 194-211 in WILDLIFE MANAGEMENT IN NEOTROPICAL MOIST FOREST. Manaus: International Counsil for Game and Wildlife Conservation & International Foundation for the Conservation of Game.

Purdy, P.C. 1983. Agricultural, industrial and urban development in relation to the eastern white-winged dove. M.S. THESIS, Colorado State Univ., Fort Collins.

Ramos, M.A. 1986. Mexico: caught in the labyrinth of natural resource problems. TRAFFIC (USA) 6(4):5/9.

Russell, D.N. 1971. History and status of the felids of Texas. Pages 54-58 in PROCEEDINGS OF THE NATIVE CATS OF NORTH AMERICA SYMPOSIUM, S.E. Jorgensen & L.D. Mech (Eds.), Twin Cities: U.S. Dept. Inter. Fish Wildl. Ser.

Salas, J.B. 1978. Informe sobre las actividades que desarrolla el Departamento de Vida silvestre en Nicaragua. Pages 99-110 in MEMORIAS DE LA PRIMERA REUNION REGIONAL CENTROAMERICAN SOBRE VIDA SILVESTRE. (R. Morales et al. Eds.), Matagalpa: Unidad de areas silvestres y cuencas del catie.

Serrano, F. 1978. Informe de las actividades de la Unidad de Parques Nacionales y Vida Silvestre en El Salvador. In MEMORIAS DE LA PRIMERA REUNION REGIONAL CENTROAMERICAN SOBRE VIDA SILVESTRE, R. Morales & C. Macfarland (Eds.), Matagalpa, Nicaragua, 25-29 Julio 1978.

Smith, N.J.H. 1976. Spotted cats and Amazon skin trade. ORYX 13(4):362-371.

Sunquist, M. & Ludlow, M. 1985. Ocelots in Venezuela. CAT NEWS 3:11-12.

Tello, J.L. 1986. The situation of the wild cats (Felidae) in Bolivia. Including notes on other wildlife species and on general aspects of the conservation and utilization of natural resources. CITES SECRETARIAT, 60pp.

Terborgh, J.W.; Fitzpatrick, J.W. & Emmons, L. 1984. Annotated checklist of bird and mammal species of Cocha Cashu biological station, Manu National Park, Peru. FIELDIANA ZOOLOGY New Series, 21:1-29.

Tewes, M.E. 1986. Ecological and behavioral correlates of ocelot spacial patterns. PH.D. DISSERTATION, Univ. Idaho, 143pp.

Tewes, M.E. & Everett, D.D. 1986. Status and distribution of the endangered ocelot and jaguarundi in Texas. Pages 147-158 in CATS OF THE WORLD: BIOLOGY, CONSERVATION, AND MANAGEMENT, S.D. Miller & D.D. Everett (Eds.), Washington, D.C.: National Wildlife Federation.

Tewes, M.E. & Miller, S.D. 1987. Future research for the endangered ocelot population of the United States. Pages 164-166 in PROC. OF THE THIRD SOUTHEASTERN NONGAME AND ENDANGERED WILDLIFE SYMPOSIUM, Athens, GA.

Tewes, M.E. & Schmidly, D.J. 1987. The Neotropical felids: jaguar, ocelot, margay and jaguarundi. Pages 697-711 in WILD FURBEARER MANAGEMENT AND CONSERVATION IN NORTH AMERICA, M. Novak, M.E. Obbard & B. Malloch (Eds.). Ontario: Ministry of Natural Resources.

Thornback, J. & Jenkins, M. (Eds.) 1982. THE IUCN MAMMAL RED DATA BOOK. PART 1. Gland, Switzerland: IUCN.

U.S. Department of the Interior. 1982. Endangered status for U.S. population of the ocelot. FED. REGISTER 47:31670-31671.

Vallester, E. 1978. Informe de Panama sobre la situacion de la Fauna Silvestre. In MEMORIAS DE LA PRIMERA REUNION REGIONAL CENTROAMERICAN SOBRE VIDA SILVESTRE, R. Morales & C. Macfarland (Eds.), Matagalpa, Nicaragua, 25-29 Julio 1978.

Vaughan, C. 1983. A report on dense forest habitat for endangered wildlife species in Costa Rica. US Dept. of the Interior and the National University, Heredia, Costa Rica, 99pp.

Vaughan, C. 1984. Costa Rica's endangered felines. THE NATURE CONSERVANCY NEWS 34(1):18-23.

Wetzel, R.M. & Lovett, J.W. 1974. A collection of mammals from the Chaco of Paraguay. THE UNIVERSITY OF CONNECTICUT OCCASIONAL PAPERS, BIO. SCIENCE SERIES 2(13):203-216.

IN PROGRESS:

M.E. Tewes and associates by Tewes and associates from the Caesar Kleberg Wildlife Research Institute of Texas A & I University are carrying out research on native Texas cats at Laguna Atascosa and nearby counties. Future research will address habitat islands and corridors, ocelot mortality on

highways, translocation, habitat and prey improvements, interspecific competition, specific status and distribution, and genetic variability

C. Vaughan of the National University of Costa Rica, Heredia, Costa Rica. The endangered felines of Costa Rica.