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White-lipped peccaries (*Tayassu pecari*) are important seed predators and dispersers throughout the Neotropics. Because they occur in groups as large as 300 individuals, they need large areas to persist. We investigated home-range size and overlap of 13 groups using radiotelemetry data from 3 years of monitoring in the Emas National Park and surrounding farmland in central Brazil. Average home-range sizes were 1,710.64 ha for 50% of the locations and 8,659.99 ha for 95% based on minimum convex polygons and 790.38 ha for 50% of the locations and 7,986.92 ha for 95% based on the fixed kernel estimator. Home-range size did not correlate with group size, the monitoring period, or the number of locations obtained. Home ranges were larger during the wet season than the dry season. Average home-range overlap among groups was 31%; there were no significant differences in overlap between seasons. Home ranges varied seasonally, most likely in response to the dynamic landscape of crop plantations surrounding the park. Although the peccaries fared well in the heterogeneous agricultural landscape surrounding the park, conflict with farmers due to crop damage and landscape changes due to expansion of sugarcane plantations need to be addressed by conservation strategies.

Key words: Cerrado, crop raiding, Emas National Park, fixed kernel, minimum convex polygon, radiotelemetry, *Tayassu pecari*

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The white-lipped peccary (*Tayassu pecari*) is a social ungulate of Central and South America. They form the largest cohesive groups of any Neotropical terrestrial mammal, generally consisting of 20–300 individuals (Fragoso 1998; Kiltie and Terborgh 1983; Mayer and Brandt 1982; Mayer and Wetzel 1987; Sowls, 1997). The species occurs from Mexico to Argentina (Altrichter et al. 2012) in a variety of habitats, from humid tropical forests to xerophytic areas like the Chaco (Mayer and Wetzel 1987). White-lipped peccaries are important seed predators and dispersers (Beck 2005, 2006; Keuroghlian and Eaton 2008a, 2009; Lazure et al. 2010), and function as ecosystem engineers (Beck et al. 2010). Peccaries also are an important prey species for jaguars (*Panthera onca*; e.g., Cavalcanti and Gese 2010; Emmons 1987; Kiltie and Terborgh 1983; Scognamillo et al. 2003). Because of habitat loss and hunting pressure, the species is declining throughout most of its range (Altrichter et al. 2012) and is currently listed as Near Threatened (IUCN 2010).

White-lipped peccaries travel long distances (Altrichter and Almeida 2002; Kiltie and Terborgh 1983; Sowls 1997) and move across large areas of up to 200 km^2 (Fragoso 1998, 2004). This increases the species' potential to come into contact with people (e.g., Altrichter and Almeida 2002), especially in heavily fragmented areas like the central Brazilian Cerrado grasslands. To obtain information about the species' spatial requirements in a Cerrado landscape, we monitored 13

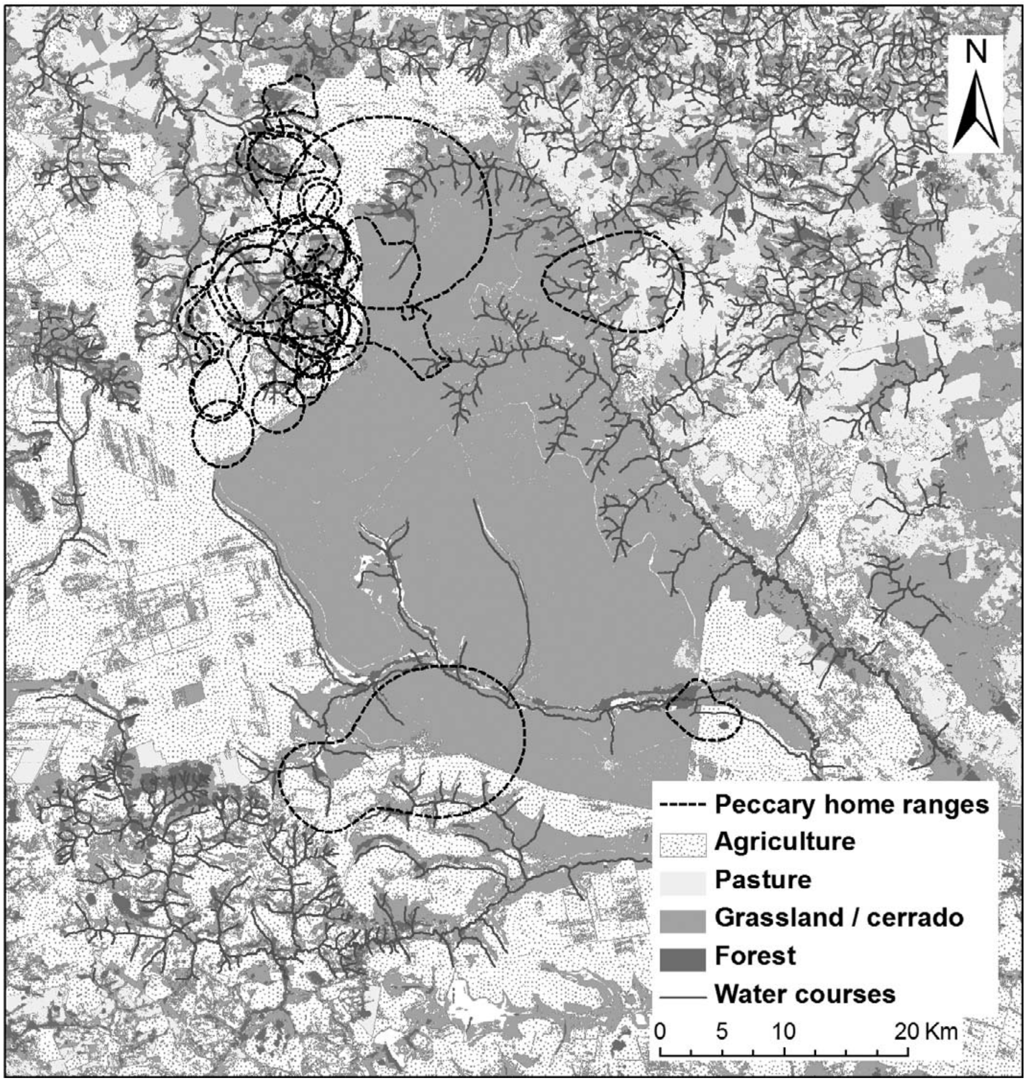

Fig. 1.—Locations of home ranges (95% kernel) of 13 groups of white-lipped peccaries (*Tayassu pecari*) in Emas National Park and its surroundings, central Brazil.

groups of white-lipped peccaries in the region of Emas National Park (ENP) from July 2000 to May 2003. The park represents an important refuge for this and other species of the Cerrado, which is threatened by large-scale habitat loss mainly due to crop plantations (Klink and Machado 2005). In addition, peccaries in the region of ENP are subject to strong hunting pressure as they frequently raid crops and are therefore regarded as a pest animal (Jácomo 2004). To understand how the landscape dynamics of this region influences space use by white-lipped peccaries, we investigated whether group home-range size is influenced by group size and season. In addition, we quantified home-range overlap among groups.

Materials and Methods

Study site—Emas National Park, listed as a Human Heritage Reserve by the United Nations Educational, Scientific, and Cultural Organization, is located in southwestern Goiás State (18°19′S, 52°45′W; Fig. 1) in the Cerrado grasslands of Central Brazil. The park covers 1,320 km^2 of Cerrado habitat and is dominated by large tracts of grassland plains, with small patches of shrub fields, marshes, and riparian forest. During the wet season (October to March), rainfall averages 1,500 mm. There is very little precipitation during the rest of the year, when daytime temperatures can reach 40°C and night temperatures may drop to −1.5°C (IBDF/FBCN 1981). ENP is situated in a highly productive agricultural area. Large-scale soybean, corn, and cotton plantations dominate and fragment the landscape. This situation is typical of the Cerrado: Brazil's second largest biome covers 21% of the country's area but over the last 35 years much of its land cover has been transformed into plantations and pastures. Estimates of original habitat loss range from 35 to 55% (Klink and Machado 2005, Sano et al. 2008) and the Cerrado was listed as one of Earth's 25 ecological hot spots (Myers et al. 2000). Today, only 1.9% is under strict protection, whereas 80% is considered degraded (Cavalcanti and Joly 2002). In spite of the heavy anthropogenic impacts in its surroundings, ENP represents one of the few regions worldwide still retaining its complete large mammal assemblage (Morrison et al. 2007).

Capture and radiocollaring.—All animal handling procedures followed guidelines of the American Society of Mammalogists for research on live mammals (Sikes et al. 2011) and were approved by the Brazilian Government Agency for the Environment (IBAMA, process number: 02001.001735/ 99-15; license number 067/99; 093/2000; 078/2002). White-lipped peccaries were captured using custom-made enclosure traps made of metal fencing, with a fence height of 1.5 m and a diameter of 6 m. Enclosures had 2 doors at opposite sides of the trap that closed simultaneously with a drop-down mechanism. Before constructing the enclosures, we chose trapping sites on the basis of evidence of use of the area by peccaries, and baited these sites with salt and corn to condition the target group to the selected area. Once the trap enclosures were built, they were also baited with salt and corn and were checked daily. Eight enclosures were constructed on private farms in the immediate neighborhood of ENP and 4 inside the park. In addition, capture efforts were made with similarly baited and checked custom-made metal cage traps (0.8 × 0.8 × 2.0 m) set near corn plantations known to be visited by peccaries. We concentrated capture efforts in the south of ENP and farms in the northwest of the park because of difficulty of access and the absence of good places to bait and trap in the core regions of the park. Once captured, animals were physically constrained with a net and anesthetized with 2.8 mg/kg of a combination of tiletamine and zolazepam (Zoletil®) administered intramuscularly with a hand-injected syringe. The immobilized individuals had their head length, ear length, body length, hind foot length, tail length, ear width, and head, neck, and chest circumferences measured, and were weighed and had blood samples collected. One individual per group was fitted with a radiocollar (Advanced Telemetry Systems, Inc., Isanti, Minnesota) within a frequency range of 150,000–151,999 MHz, and 12- to 24-month battery life and mortality signal. Once recovered from anesthesia, individuals were released at their capture site and subsequently monitored using a receiver (ATS R2000) and 3-element yagi antenna.

Radiotracking and group size—We tracked radiocollared peccaries by vehicle, using the road networks within the park and on the neighboring farms. We split effort between day (0600–1800 h) and night (1801–0559 h). We used a minimum of 2 directional bearings from different locations to estimate each location (Millspaugh and Marzluff 2001; White and Garrot 1990) in LOCATE II (Nams 2000). Subsequent bearings were taken within 2 to 10 min of each other; otherwise locations were discarded. When groups were not located from our vehicle, we used a monomotor airplane for aerial locations. Since white-lipped peccaries live in groups, locations of 1 individual effectively can be interpreted as the locations of its respective group (Byers and Bekoff 1981). Especially in ENP, white-lipped peccaries show genetic group differentiation (Lage et al. 2008), indicating that in spite of the potential contact between groups, these remain relatively closed. We therefore assumed that during the course of the study monitored individuals did not change groups. We estimated the sizes of the monitored white-lipped peccary groups visually during capture and upon encounters in the field.

Data analyses.—For the home range and overlap analyses, we only considered locations taken at least 12 h apart to minimize serial spatial autocorrelation (Swihart and Slade 1985). We estimated home-range size using the minimum convex polygon, or MCP (Hayne 1949), so results could be compared with previous studies. We also used the fixed kernel, or KER (Worton 1989), estimator, as KER is the recommended estimator for investigations focusing on home-range outlines (Harris et al. 1990; Milspaugh and Marzluff 2001). For both analyses we considered 50% and 95% of the locations, the former to represent the core area of an animal's home range, the latter to represent its full range, excluding outliers (Harris et al. 1990; Kenward and Hodder, 1996). We processed analyses with the software RANGES VI.211 (Kenward et al. 2003). For each individual, we performed an incremental area analysis using the KER95 estimate, where cumulative areas were plotted against number of locations. An asymptote indicates stability of home-range estimates (Kenward et al. 2003).

We performed these analyses for all locations and separately for dry and wet seasons. We compared median home-range sizes between estimators and seasons using the Wilcoxon paired-sample test. We tested for correlation among 95% home-range size and number of locations, duration of monitoring, and group size using a Spearman correlation coefficient.

Home-range overlap.—We calculated home-range overlap for the years 2002 and 2003, because during this time period 10 of the 13 groups were monitored simultaneously. To avoid underestimating average group overlap, we only considered groups that shared the same region of the study area. We analyzed home-range overlap following Minta (1992, 1993): For 2 home ranges, *A* and *B*, we calculated mean overlap, *O*, as:

$$O = \sqrt{(O_{BA}/A{*}O_{AB}/B)},$$

where O_{BA} and O_{AB} are the area in *A* that is overlapped by *B* and the area in *B* that is overlapped by *A*, respectively. Overlap ranges from 0 to 1, with 1 indicating 100% overlap between ranges of identical size. We compared average overlap between the dry and wet season using a Wilcoxon rank-sum test. We performed all calculations and statistical tests in the program R 2.13.1 (R Development Core Team 2011).

Results

Capture and telemetry—Between July 2000 and May 2003, 13 individuals (7 males and 6 females) from distinct groups were captured, radiocollared, and subsequently monitored. Of the 13 groups, 5 resided predominantly within the park (3 in the northern region, 1 in the southeast, and 1 in the southwest), whereas the other 8 lived mainly in the park's surroundings (Fig. 1). Sizes of these groups ranged from 15 to 135

Table 1.—Summary statistics of white-lipped peccaries (*Tayassu pecari*) and their associated groups monitored with radiotelemetry in the region of Emas National Park, central Brazil, from July 2000 to May 2003.

ID	Sex	Number of radiolocations	Sampling period (months)	Group size
1402	F	103	15	65
260	M	352	33	90
243	M	381	33	130
161	F	273	9	70
683	F	128	23	80
521	M	236	19	45
300	M	161	17	15
281	F	241	17	110
360	M	171	14	30
151	M	58	10	60
111	F	204	17	110
84	M	82	15	35
181	F	140	11	130
Mean (*SD*)	/	194.62 (99.35)	17.92 (7.68)	74.62 (37.88)

individuals, with a mean of 74.6 ($SD = 37.9$). We monitored each group on average for 17.9 months ($SD = 7.7$) and obtained 2,594 temporally independent locations, corresponding to an average of 194.6 locations per group (Table 1). Total number of locations was split approximately evenly between wet and dry season (52% or 1,312 and 48% or 1,218, respectively).

Home-range size—Mean overall group home-range size using the MCP was 1,710.64 ha ($SD = 2,237.60$) for 50% of the locations and 8,659.99 ha ($SD = 6,713.34$) for 95% of the locations. Using the KER estimator, mean home-range size was 790.38 ha ($SD = 557.37$) for 50% and 7,986.92 ha ($SD = 7,217.02$) for 95% of the locations (Table 2). We observed an asymptote in home-range size for 8 of the 13 monitored groups; a steplike pattern where a range stabilized but increased again after a plateau, which indicated a range shift, was observed for 3 groups (Fig. 2).

There was no correlation among number of locations and 95% home-range estimates (MCP: $\rho = 0.165$, $P = 0.590$; KER: $\rho = 0.052$, $P = 0.865$), among months of monitoring and home-range estimates (MCP: $\rho = -0.139$, $P = 0.654$; KER: $\rho = -0.205$, $P = 0.502$), or among group size and home-range size (MCP: $\rho = -0.083$, $P = 0.789$; KER: $\rho = -0.030$, $P = 0.922$).

There were no significant differences in home-range size between the KER and MCP estimators (50%: $V = 40$, $P = 0.735$; 95%: $V = 26$, $P = 0.191$). We therefore proceeded with the analyses of seasonal home ranges as well as overlap using only the KER estimates, since these have proven more reliable than the MCP (Harris et al. 1990; Milspaugh and Marzluff 2001). For both the KER50 and KER95, dry-season home ranges were significantly smaller than wet-season home ranges (KER50: $V = 88$, $P = 0.001$; KER95: $V = 81$, $P = 0.012$; Table 2).

Overlap—Groups 242 and 521 lived in the south of ENP and had no monitored neighboring groups. The remaining 8 groups were considered in the overlap analysis. Depending on the season, and whether we considered the KER95 or KER50, we observed between 7 and 27 group dyads with overlapping home ranges. Overlap ranged from 27% to 53% (Table 3). For both the KER50 and KER95, overlap did not differ significantly between seasons (KER50: $W = 181$, $P = 0.431$; KER95: $W = 26$, $P = 0.607$).

Discussion

Home ranges observed in our study were considerably larger than estimates from most other studies: Fragoso (1998) found mean home range of 2 groups to be 5,741 ha in the Brazilian Amazon using a 100% convex polygon estimator; Keuroghlian et al. (2004) observed a mean of 1,871 ha for 4 groups in the Atlantic Forest of Brazil using a 90% harmonic mean estimator; and Carrillo et al. (2002) reported annual MCP home ranges between 3,200 and 3,800 ha for 1 monitored group in Costa Rica. Only Reyna-Hurtado et al. (2009) observed similar KER95 home range sizes in the dry Calakmul Forest of southern Mexico, ranging from approximately 3,900 to 9,800 ha. In general, dryer areas can be associated with lower primary production (Davidson 1977) and herbivore abundance (Chase et al. 2000). However, white-lipped peccary groups in our study were considerably larger than in the Mexican dry forest (an average of 75 individuals in ENP compared with 20–30 in Mexico). Reyna-Huerta et al. (2010) interpreted the small group sizes in their study as indicative of a population decline in their study area. Alternatively, the crop plantations used by most of the monitored peccary groups in our study could present a superabundant food resource (Jacomo 2004), so that the species can maintain larger groups on similar home ranges.

The spatial and temporal distribution of resources in the region of ENP can explain the larger year-round home ranges observed in our study. Although there have been no published studies on the diets of peccaries in the region of ENP or the Cerrado, the species is known to extensively feed on crops, particularly corn, and to a lesser extent soybeans, sorghum, and millet (Jácomo 2004), grown in the vicinity of the park. Soybeans, corn, and cotton are the predominant crops for the principal agricultural season (corresponding to the wet season), whereas sorghum, corn, millet, wheat, and barley predominate during the off-season (corresponding to the dry season). Thus, the availability and spatial distribution of crops consumed by peccaries vary during the year. The distribution and availability of native food resources such as fruits also varies. Palms (predominantly *Mauritia flexuosa*), considered a key resource for peccaries and other herbivores due to their year-round fruiting patterns (Beck 2006), are concentrated along the park's 2 main watercourses (Fig. 1). Other fruiting plants, occurring mainly in small patches of gallery forest and the shrubby Cerrado vegetation, show a peak of fruit production in the wet season, with a much smaller peak in the early dry season (Ragusa-Netto 2008).

White-lipped peccaries are usually associated with forested areas (e.g., Desbiez et al. 2009; Fragoso 1999; Keuroghlian and

Table 2.—Home-range estimates (ha) for the full data set and for the wet and dry seasons separately, using both minimum convex polygon (MCP) and fixed kernel (KER) with 50% and 95% of the locations of 13 white-lipped peccary (*Tayassu pecari*) groups monitored using radiotelemetry in Emas National Park and surroundings, central Brazil, July 2000–May 2003. Wet season was October–March, dry season was April–September. Group size and sampling data can be obtained by matching the ID number to data in Table 1.

ID	Full MCP 50%	Full MCP 95%	Full KER 50%	Full KER 95%	Wet KER 50%	Wet KER 95%	Dry KER 50%	Dry KER 95%
1402	246.15	18,901.79	591.95	27,686.12	3,349.19	26,617.69	350.87	1,812.44
260	324.04	3,854.67	344.00	2,679.05	315.76	2,125.16	201.34	2,155.78
243	4,100.21	6,104.78	1,097.88	6,578.03	1,057.33	6,068.20	1,052.30	6,538.85
161	6,311.26	19,865.05	1,114.73	14,656.11	1,619.33	13,201.29	742.26	10,406.28
683	356.87	7,943.75	681.42	6,915.50	285.66	8,255.54	342.92	2,372.81
521	3,505.29	17,042.87	1,978.32	11,906.13	1,952.95	9,823.01	1,535.53	6,098.78
300	111.80	1,774.03	118.56	1,648.72	186.59	1,694.13	33.45	380.60
281	5,289.30	12,359.80	1,603.79	9,123.98	1,254.12	8,880.15	1,037.63	6,299.00
360	495.82	11,533.14	630.45	8,807.78	970.97	9,128.94	248.54	4,511.67
151	571.44	7,460.04	1,104.79	7,452.32	613.25	3,199.84	594.68	5,298.43
111	485.27	3,204.99	394.35	2,522.13	359.20	2,603.09	232.64	1,823.11
84	165.44	1,024.32	255.02	1,716.68	200.45	1,457.74	115.65	906.28
181	275.39	1,510.66	359.61	2,137.44	428.11	2,621.16	281.56	1,617.50
Mean (*SD*)	1,710.64 (2,237.60)	8,659.99 (6,713.34)	790.38 (557.37)	7,986.92 (7,217.02)	968.69 (914.38)	7,359.69 (6,926.34)	520.72 (448.37)	3,863.20 (2,926.91)

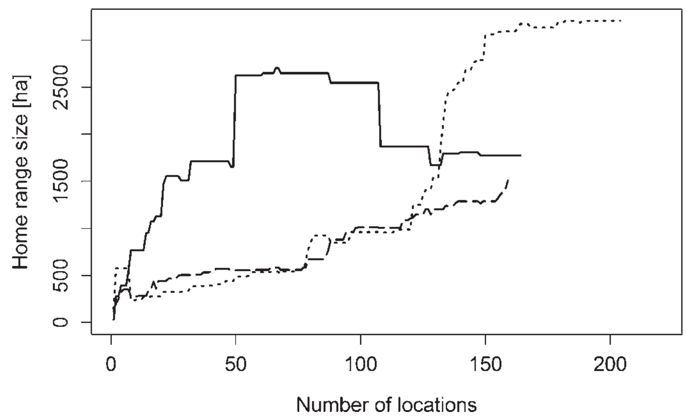

Fig. 2.—Examples of area accumulation curves for white-lipped peccaries (*Tayassu pecari*) monitored using radiotelemetry in Emas National Park, central Brazil: Solid line reaches an asymptote, indicating stability of home range; dashed line does not reach an asymptote, indicating that home-range estimates would increase with additional locations; steplike pattern shown by dotted line indicates a range shift.

Eaton 2009, Reyna-Hurtado and Tanner 2005). Forested areas within ENP and in its surroundings are relatively sparse: Only about 17% of ENP are covered by open woodlands and riparian forests (Vynne et al. 2010), and especially outside ENP these habitat types are restricted to dispersed fragments (Fig. 1). However, almost 50% of all telemetry locations of white-lipped peccaries fell within these 2 habitat types (Jácomo 2004). The sparseness and dispersion of these habitat types likely also contributed to the large overall home ranges.

We did not observe asymptotic area accumulation curves for all monitored groups. As such, the overall home ranges we report may actually be underestimated. Peccaries have frequently been reported to move to different parts of a larger, overall home range either seasonally or irregularly (Altrichter and Almeida 2002, Bodmer 1990; Peres 1996). The lack of asymptote for some groups and the steplike pattern for others may indicate range shifts. Longer-term monitoring might be necessary to quantify the full home range areas of white-lipped peccary groups in the region of ENP.

Seasonality and movements—Peccaries adjust their home ranges to seasonal resource availability (Fragoso 1998). In our study, home-range sizes were larger in the wet than in the dry season. In the Mexican dry forest, Reyna-Hurtado et al. (2009) showed that reduced availability of water restricted peccary movements to the vicinity of remaining water sources in the dry season. The restricted availability of water in large parts of our study area during the dry season could have had a similar effect on white-lipped peccary home ranges. The observed seasonal patterns also could be a response to the seasonal distribution of food resources (e.g., Altrichter et al. 2001; Carrillo et al. 2002; Keuroghlian et al. 2009; Keuroghlian and Eaton 2008a,b). In the wet season, the variety of the predominant crops planted in the region and consumed by peccaries (soybeans and corn) is lower than in the dry season

Table 3.—Overlap in home ranges, estimated using a fixed kernel with 50% and 95% of the locations, between dyads of white-lipped peccary (*Tayassu pecari*) groups in Emas National Park and surroundings, central Brazil, July 2000–May 2003. Wet season was October–March, dry season was April–September.

	50%		95%	
	n dyads	Mean overlap[a]	*n* dyads	Mean overlap[a]
Wet season	7	0.43	25	0.28
Dry season	9	0.53	17	0.36
Overall	10	0.27	27	0.31

[a] Overlap can range from 0 (no overlap) to 1 (full overlap of home ranges of identical size).

(sorghum, corn, and millet). Lower availability of preferred crops may force peccary groups to move over larger areas when foraging during the wet season.

We observed several long-distance group movements that indicated seasonal foraging behavior. Although some authors have considered long-distance movements by white-lipped peccaries in a seasonal context as migrations (Altrichter and Almeida 2002; Bodmer 1990; Mendez 1970), others suggest that movement is irregular and nomadic within a large, well-defined home range (Barreto and Hernándes 1988; Kiltie and Terborgh 1983; Peres 1996). Both kinds of movements, as well as the complete absence of long-distance movements, have been reported from different study sites (Carrillo et al. 2002; Fragoso 1998; Keuroghlian 2003; Sowls 1997). These apparent differences in long-distance movement behavior of peccaries have to be interpreted against the local background of resource availability and seasonality. In our study, peccary movement resembled nomadic movement within a larger home range more than a migration, which is what we would expect given the regional spatiotemporal variation in resource availability.

Home-range overlap—Overlapping home ranges are expected when resources are patchy and seasonal (Carr and Macdonald 1986). In the Mexican dry forest, peccary groups shared most of their home ranges in the dry season, when water availability was low, but overlap dropped to 34% in the wet season (Reyna-Hurtado et al. 2009). Both Fragoso (1998) and Keuroghlian et al. (2004) also found group home ranges to overlap, but in the latter study herds were separated temporally. In the region of ENP, overall overlap among KER95 home ranges was about 30%. Although overlap did not differ significantly between seasons, the number of group pairs showing home-range overlap was greater in the wet season. This can be explained by the larger home ranges in the wet season, which brought more groups into contact with each other. Nevertheless, white-lipped peccaries in ENP show genetic group differentiation (Lage et al. 2008), indicating that in spite of the potential contact between groups, groups remain relatively closed.

Conservation implications.—The sensitivity of white-lipped peccaries to anthropogenic impacts has been reported frequently (Altrichter and Almeida 2002; Altrichter and Boaglio 2004; Reyna-Hurtado et al. 2010; Reyna-Hurtado and Tanner 2005, 2007). White-lipped peccaries are experiencing population declines throughout their range (IUCN 2010; Altrichter et al. 2012) and there are several records of local extinction of the species (Altrichter et al. 2012; Azevedo and Conforti 2008; Cullen et al. 2001; Ditt 2002; Glanz 1990; Leigh and Wright 1990; Peres 1996). Although white-lipped peccaries generally have large spatial requirements, Keuroghlian (2003) reported that the species was able to survive in small forest fragments of 2,000 ha, and attributed this to habitat diversity (Keuroghlian and Eaton 2008b). Indeed, it has repeatedly been stated that heterogeneous landscapes are a prerequisite for the species' persistence (Carrillo et al. 2002; Keuroghlian and Eaton 2008a, Keuroghlian et al. 2009; Tejeda-Cruz et al. 2009). Our results indicate that peccaries can persist in highly altered landscapes. In the region of ENP, patches of native habitat are interspersed in the dynamic agricultural landscape, which offers abundant food resources, and may provide the necessary heterogeneity for the species to persist. Presence of the species in this landscape, in turn, provides an important food resource for jaguars, for which the region of ENP is one of the last refuges in the Cerrado. Since 2006, however, the region has experienced increased conversion to large-scale, uniform sugarcane plantations. Between 2007 and 2009 over 62,420 ha—mainly former crop plantations (63%) and to a lesser extent pastures (33%) and native vegetation (4%)—were converted to sugarcane plantations, with plans to more than double this area by 2011 (Feltran-Barbieri 2009). The effects of this new predominant crop on the local fauna remain largely unknown. White-lipped peccaries have been observed traveling through and feeding on sugarcane plantations (UFG and COSAN 2010), and the species might prove able to adjust to this new landscape if some habitat heterogeneity is preserved. Still, it is likely that the structural changes in the landscape will affect the foraging and movement behavior of white-lipped peccaries. Responses of peccaries to these changes should be monitored. In addition, the use of crop plantations by peccaries results in conflict with rural producers, which often kill peccaries in retaliation for the economic losses caused to plantations (Jácomo 2004). In our study, monitoring of 11 of 13 groups was interrupted because the collared individual of the group was killed. Many noncollared individuals, both of groups from within the park and its surrounding landscape, also were killed in retaliation to crop raiding. Although to our knowledge there is no information on how much damage peccaries cause to sugarcane plantations, the mere fact that these present a food resource to the species indicates that this conflict will likely persist in the region. Considering that most groups of white-lipped peccaries monitored in our study used the park as well as the nonprotected areas surrounding it, these threats directly affect the supposedly protected peccary population of ENP and therefore should be priorities within the park's species management plan. Although ENP and its heterogeneous surroundings seemed to provide white-lipped peccaries with adequate living space, management strategies need to address both the changes in landscape structure and the human–wildlife conflict to guarantee the survival of this species.

Resumo

Queixadas (*Tayassu pecari*) são importantes predadores e dispersores de sementes ao longo da região Neotropical. Como ocorrem em grandes grupos chegando a 300 indivíduos, necessitam de grandes áreas para sobreviver. Nós investigamos o tamanho e a sobreposição da área de vida de 13 grupos usando dados de radio-telemetria de três anos de monitoramento no Parque Nacional das Emas e nas propriedades rurais de seu entorno, no Brasil central. Os tamanhos médios das áreas de vida foram 1,710.64 ha para 50% das localizações e 8,659.99 ha para 95%, utilizando o método do Polígono Mínimo Convexo, e 790.38 ha para 50% das localizações e 7,986.92 ha para 95%, utilizando o método kernel. Não houve correlação entre os tamanhos das áreas de vida, tamanhos dos grupos, período de monitoramento ou número de localizações obtidas. As áreas de vida na estação chuvosa foram significantemente maiores do que as áreas de vida na estação seca. A média de sobreposição das áreas de vida entre os grupos foi de 31%; não ocorreu diferença significativa nas sobreposições de áreas de vida entre estações. As áreas de vida mostraram variação sazonal, provavelmente como uma resposta à dinâmica da paisagem de lavouras no entorno do Parque. Embora a espécie esteja adaptada a esta paisagem antropizada, os problemas relacionados ao conflito com agricultores em decorrência dos prejuízos causados nas lavouras, bem como a substituição de lavouras tradicionais pela de cana-de-açúcar, precisam ser considerados em futuras estratégias de conservação.

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