

Article

Hunting Tourism as a Possible Development Tool in Protected Areas of Extremadura, Spain

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Abstract: The constant declaration of new protected natural spaces that has taken place on a world scale in recent decades has caused changes in rural areas, where these spaces are often host to traditional activities that have acted over time as the area's main sources of wealth. Among these activities, hunting has been one of the most affected. For this reason, the following study analyzes the incidence of one of the economic sectors linked to *venatoria*, hunting tourism, in two protected areas with an established hunting tradition: Sierra de San Pedro and Monfragüe. In order to achieve this objective, a questionnaire was drawn up and subsequently completed by a large proportion of the tourist accommodation establishments located in these areas. The results were obtained by means of statistical techniques and yielded very interesting information. This included information about the strong presence of hunting tourism in both regions, the differences in the presence of hunters according to the type of tourist accommodation, and the interest of hunters in taking part in activities other than hunting.

Keywords: hunting tourism; natural protected area; sustainable development

1. Introduction

The protection of natural areas has a long history and is universal in nature [1], although a distinction should be made between the aims pursued in terms of the protection of territory before and after the declaration of the first national park in the United States in 1872. For example, in the Middle Ages in Europe, the first protected spaces appeared for reasons linked to hunting or timber interests [2], giving rise over time to exclusive hunting reserves where only kings and noblemen could hunt. However, after U.S. President Grant created the first national park in the United States (Yellowstone), a kind of protected space arose that was characterized by a public nature and a recreational purpose: "... a public park or pleasuring ground for the benefit and enjoyment of the people". The declaration stressed that the preservation of Yellowstone's natural state would be a priority: "... such regulations shall provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition."

Therefore, starting with the year 1872, there was constant growth in terms of the number of protected spaces around the world. According to Tolón and Lastra, this increase can be divided into three stages of varying intensity [3].

The first of these stages included the period between 1872 and 1975, which was characterized by incipient development in the regulatory framework of protected areas and the creation of the first national and international bodies specializing in environmental protection. Likewise, the holding in

1962 of the first “World Congress on National Parks” in Seattle considerably encouraged the declaration of new spaces, since it was after that year that 80% of the protected areas of the world were created [4].

The second stage was between the years 1975 and 1992, during which policies on environmental conservation were intensified. At the same time, regulations became more numerous. In this period, the number of protected areas and their surface area increased considerably all over the world, although the differences between countries were significant.

The third stage began after the holding of the “Río de Janeiro Summit” in 1992, since after this date, a new ideological trend emerged regarding conservation, namely, one associating conservation with the principle of sustainability and the three pillars on which sustainability is based: social, ecological, and environmental sustainability.

These stages led us to the current situation: in 2018, protected territory accounted for 14.87% of the surface area of the world [5], with this percentage being much higher in some areas or countries. Examples include the European Union, with 18% [6]; Spain, with 27% [7]; and Extremadura (the territory in which this study was set), where the protected surface area exceeds 30%.

This growth in protected surface areas has had multiple and varied consequences and has given rise to a new context in which very different interests are interrelated, especially in terms of the regulations that affect both public and private land. These regulations have established “rules of the game” that describe the way in which the relationship between man and a protected territory must be sustained. As a consequence of this, on occasion there has been tension related to the restrictions imposed by regulations insofar as the use of certain natural resources is concerned. These restrictions can affect traditional activities such as hunting, which has generated a heated debate as to whether this activity should be allowed or restricted in the aforementioned spaces, given that in many cases the locations of protected areas and traditional hunting areas coincide. Likewise, although no pattern can be valid for all protected areas from a socioeconomic point of view, at least in Extremadura a considerable number of these areas are situated in spaces that currently have deficits in economic development (a lower level of income, higher unemployment, little economic diversification) and lack a suitable sociodemographic balance (the loss of population, regressive population pyramids, and aging). The European Union has implemented many development programs to alleviate this situation in rural areas, with measures such as the LEADER or FEADER programs, which seek to promote economic diversification and encourage the development of certain sectors, such as tourism. Thanks to the implementation of these initiatives, Extremadura currently has a wide infrastructure network linked to this sector, among which the existence of a large offering of accommodations stands out (on 31 December 2019, the number was 1778) [8]. Although all of this has led to an increase in the tourism sector, it is experiencing some problems linked to seasonality and the mismatch between the growth in supply and demand [9]. In this sense, hunting tourism is a possible tool for avoiding the seasonality of other forms of tourism in these territories, as it can be developed during periods of falling demand [10]. However, on many occasions, growth in protected areas has led to limitations on the practice of certain traditional activities, with hunting being one of the most affected due to various factors. All of this has happened despite the fact that it has been acknowledged that in many natural spaces (e.g., in Europe), a high level of conservation has been attained thanks to interests related to hunting [11]. In this sense, Extremadura represents a clear example of a location where protected areas and traditional hunting areas coincide, among which are the two territorial laboratories we studied: Sierra de San Pedro and Monfragüe [12]. In these areas, recreational hunting is practiced: this activity takes many varied forms [13], and hunting tourism is a derivation of it.

As a consequence of this, and given the new circumstances of many of the territories that are now protected, there are different points of view as to the role that hunting should play, taking into account that there are two conflicting approaches due to the fact that hunting is an activity that consumes wild resources [14,15]:

- The first approach affirms that hunting is compatible with nature conservation and can therefore be practiced in protected spaces for three reasons: its traditional character; its contribution to the

conservation of habitats and fauna, provided that it is carried out under suitable management; and the generation of income, which has an effect on the local economy [10,12,16–22]. These arguments make hunting a sustainable activity conceived as the exploitation of hunting species and their habitats in a way and at a pace that does not lead to a long-term decline in biological diversity and satisfies the needs and aspirations of present and future generations [23]. At the same time, this focus is related to the theory that if wild resources are used under conditions of suitable handling this becomes a valid tool for maintaining biological diversity [24]. However, it is as well to specify that it is absolutely necessary to carry out suitable management and planning to avoid possible negative effects [25]. At the same time it is important for there to be regulations adapted to each territory so as not to trigger problems in environmental conservation [22,26], as regarding hunting one should not generalize and there are no formulae which cater to all territories and species. In this sense some authors consider that a surfeit of restrictions may lead to an increase in illegal hunting, the loss of numerous economic opportunities, and may even affect the conservation of spaces [22,26] by endangering habitats and biodiversity itself [27,28].

- The second approach stresses that hunting is not compatible with conservation and should therefore not be practiced in the protected spaces as this puts biodiversity at risk and has other kinds of impacts [29–31]. This approach is based on the negative effects of hunting which are a result not only of the death of animals but also of the consequences associated with its practice, as is maintained by various groups who argue that considerable harm is done to all kinds of species. At the same time, they understand that the income from visitors who are not hunters to natural protected spaces could replace that provided by hunters, which refutes one of the arguments generally put forward by defenders of hunting.

In relation to the above two positions, it must be said that this debate should be enriched with an intermediate position which defends that hunting is compatible with activities such as nature observation tourism, as both activities are not mutually exclusive, which means that the two together may considerably improve the economic benefits [32].

Apart from the aforementioned positions, in the present context there are two currents which oppose hunting owing to ethical and moral considerations. On the one hand we have a current represented by the animalist ideology which is against the death of animals on granting them the same rights as human beings, which implies respecting their lives on an equal footing. On the other hand, there is an opposing current against recreational hunting on the grounds that it is not ethical to kill animals for pleasure. This latter current was given a considerable boost by the death of the lion Cecil as this event triggered a much more profound debate on a world scale and encouraged the setting in motion of more restrictive policies on recreational hunting [26].

In synthesis, Extremadura is a clear example of the juxtaposition of natural protected spaces on hunting grounds—a direct consequence of the fact that the protected area amounts to 30.6% [33] in a territory of which 87% is considered to be hunting areas [34]. Moreover, as has already been mentioned, many protected areas in which hunting is exploited in a secular manner show a lack of social and economic balance as occurs in most rural areas of Extremadura [35]. Given this scenario, and taking into account that hunting and hunting tourism are activities which generate economic benefits to varying degrees (as reflected by various studies carried out at very different scales [17,34,36–41]), this study aimed to empirically corroborate the relationship between hunting and the demand for tourist services—to be precise, for accommodations located in two protected areas of great hunting tradition in Extremadura: Sierra de San Pedro and Monfragüe. In this way we intend to confirm whether companies of this kind in the municipalities located in both spaces benefit from hunting, as is habitually argued.

In order to achieve this objective this research was divided into the following sections:

- First, a closer look is taken at the phenomenon of hunting tourism by means of a revision of the literature.

- Secondly, the study area is described together with the materials and methods used in this research.
- Subsequently the results obtained are analyzed with the help of a survey which allowed the assessment of the presence of hunting tourists in the tourist accommodations located in the study area.
- Fourthly, a discussion is opened on the potential of sustainable hunting as an activity which may contribute to the generation of economic resources in rural areas.
- Finally, a series of conclusions are drawn from the results obtained.

2. Hunting and the Demand for Tourist Services

Tourism is a sector which, after an intense evolutionary process, has attained enormous importance on a global scale in recent decades. In Spain the relevance of this activity can be appreciated in current statistics, in which the number of foreign tourists in 2017 increased by 8.0% compared with the previous year. This trend continued during 2018 albeit with a slight reduction in growth (1.1%); the total figure exceeded 82 million foreigners [42]. These data express a continuous increase in demand from this type of tourist. Moreover, in order to get to know the situation of tourism in Spain it is necessary to take into account the movements of Spanish residents as they account for a large proportion of the travelling carried out within the country. To go deeper into this matter, the figures on the movements of residents within Spanish frontiers exceed 177 million journeys for 2018, which makes clear the considerable economic and social relevance of the tourist sector in Spain [43].

These movements are a response to varied motivations which may fall within types of tourism that can be classed as general (rural tourism, sun and beach, and urban tourism) or specific (sports, nature, cultural, etc.) [44]. Hunting tourism, which has become a strong line of research as can be seen from any repository of scientific studies, is one of the specific types which some authors classify with other more general types such as sports tourism, nature tourism [45], or rural tourism [21]. This is a consequence of hunters' interest in shooting various specimens which are distributed irregularly all over the world, thus giving rise to a considerable number of international and national journeys. As a result of this, the hunters require tourist services of various kinds (accommodation, guides, means of transport, restaurants) during their journeys, owing to which hunting has been considered as a tool which helps to develop or at least maintain the rural world. The demand for tourist services is reflected in all the economic studies that have been carried out on hunting. In the case of Extremadura, we can mention the study carried out by the Hunting Federation of Extremadura (2018) [34], which gives an estimate of the economic importance of hunting as far as accommodations and restaurants are concerned.

In contrast to other specific types of tourism, the history of hunting tourism is one of contrasts which led Rengifo (2008) [46] to distinguish three stages:

He situates the first stage in the 19th century which saw the first international travels with the aim of hunting in Africa and Asia [14]. During this period hunters were attracted by the possibilities of having an adventure and obtaining trophies of exotic species with the support of the progress in transport systems, colonization, and the dissemination of the natural treasures of little-known destinations.

The second stage covers most of the 20th century, during which the recreational nature of hunting became general. Little by little, hunting destinations became consolidated and their range became wider in the context of the growing improvement of means of transport and the increasing number of companies who provided services to meet this demand. Spain was one of the destinations chosen by hunters and is considered by some authors to be the "game preserve of Europe" [47]. This scenario led to the appearance and development of the hunting tourism industry in our country, with the advent of the first hunting tour operators. At the same time, the Spanish Public Administration began to promote this sector by means of campaigns and encouraged the carrying out of some quantitative analyses to measure the impact of the arrival of these tourists [48].

Finally, in the 21st century the sector has become more and more established worldwide, especially in its variant of hunting for trophies. At the same time voices have been heard advocating the restriction

or prohibition of this kind of hunting. Given this situation, various international bodies have stressed the need for trophy hunting to be practiced in a sustainable manner, in which case they consider it to be beneficial to local populations and conservation; a series of documents have been published along these lines [49,50].

3. Materials and Methods

3.1. Case Study

The landscape, climate, and relief characteristics [51,52] which define Extremadura make this territory an ideal place for the practice of hunting. The surface area currently occupied by hunting grounds amounts to 87% of the region, although the abundance of game in them is very irregular. In accordance with current regulations, the number of hunting species comes to 7 in the case of big game and 23 for small game. The hunting types of greatest interest to hunters from outside the region include wild boar and deer hunting and red-legged partridge beating, which are both highly developed in Extremadura [53].

In view of the undoubted advantages of the region for hunting, it is not surprising that Extremadura is chosen by a large number of hunting tourists and is therefore one of the main hunting destinations in Spain [36,47]. Likewise, its advantages for hunting are accompanied by a low level of transformation of the natural environment as a result of its low population density (25 inhabitants/km²), property structure, low level of industrialization, and peripheral nature. These are some of the reasons why about one-third of its surface area is protected by one of the systems included in regional, national, and international regulations.

Two of the protected natural spaces of highest environmental value in Extremadura are Sierra de San Pedro and Monfragüe (Figure 1). These are territories in which on the one hand environmental protection and on the other hunting tradition coincide, as is expounded below:

- Sierra de San Pedro. This is a protected territory under the system of Areas of Regional Interest (*Zonas de Interés Regional*, ZIRs) which covers a surface area of 115,032 ha. It is also part of the Natura 2000 Network by means of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). In accordance with Law 9/2006 on the conservation of nature and natural spaces in Extremadura, the declaration of a ZIR reflects the “presence of natural systems or elements with a representativeness, singularity, rarity, fragility, or interest which suggests they should be declared natural protected spaces”. The surface area of this space is 115,032 ha, distributed in 11 municipalities of little demographic importance with the exception of Cáceres (95,000 inhabitants).
- Monfragüe. Monfragüe is protected by different systems which cover a different surface area: The National Park (18,000 ha in which hunting is forbidden by law), Special Protection Areas (SPAs), Special Areas of Conservation (SACs), and the Biosphere Reserve (116,000 ha). In this study we have taken as a reference the 14 eminently rural municipalities which form part of the area of socioeconomic influence of the natural park of 195,500.73 ha [54] in accordance with that specified by Law 1/2007 on the declaration of the National Park of Monfragüe.

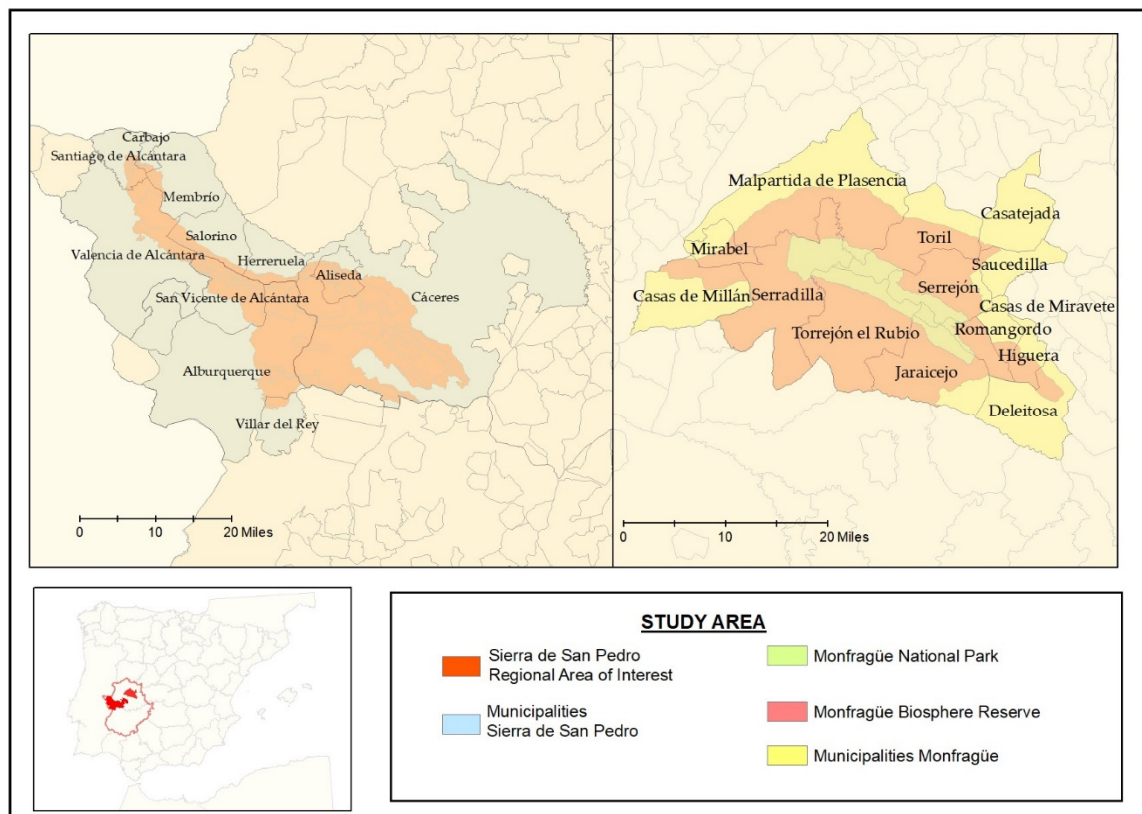


Figure 1. Study area.

Although there are certain territorial disparities between these two protected areas, both constitute a common nexus of great importance for the purposes of this study: their different hunting techniques, their environmental values, and also their demographic and socioeconomic imbalances.

In order to assess the importance of hunting in both spaces we have consulted the information of the General Hunting Plan (2015) [55] for Extremadura which divides the region into 23 districts. The information in this plan has allowed us to carry out an analysis of the hunting districts of Sierra de San Pedro–Tajo Internacional and Monfragüe–Sierras Periféricas, which coincide territorially to a certain extent with the protected spaces proposed in this research (Figure 2). In the latter case it should be pointed out that the municipalities making up the Area of Socioeconomic Influence of Monfragüe are distributed in three different hunting districts according to the system included in the General Hunting Plan, owing to which in this analysis we have taken as a point of reference that best fitting the study area. The choice of these hunting districts is fully justified in Table 1, in which it can be seen that the majority of the municipalities restricted to them are in turn part of the study area. In this sense, the data show the surface area that each municipality contributes to each hunting region such that in the case of the municipalities in the study area of this work they account for just over 85% of the surface area recognized as the region of Sierra de San Pedro; in the area of Monfragüe–Sierras Periféricas this surface area exceeds 94%. Thus, the rest of the municipalities that the General Hunting Plan integrates within both hunting regions and which do not appear in the area of study of this research barely represent 14.5% of the surface area of Sierra de San Pedro area and 5.38% in the case of Monfragüe.

Table 1. Surface area.

District	Municipalities	Surface Area of District (ha)	Surface Area of District (%)	Surface Area Contributed by the Municipalities to the District (%)
Sierra de San Pedro–Tajo Internacional	Aliseda	9611.65	3.58	85.50
	Alburquerque	30,167.08	11.26	
	Cáceres	85,481.37	31.90	
	Carbajo	2799.44	1.04	
	Herreruela	11,394.05	4.25	
	Membrio	20,817.27	7.77	
	Salorino	15,797.87	5.90	
	San Vicente de Alcántara	9218.40	3.44	
	Santiago de Alcántara	9583.69	3.58	
	Valencia de Alcántara	30,294.90	11.31	
	Villar del Rey	3863.49	1.44	
	Remaining municipalities	38,907.23	14.50	14.50
Monfragüe–Dehesas Periféricas	Mirabel	4935.25	4.23	94.62
	Casas de Millán	15,263.75	13.10	
	Deleitosa	52.45	0.04	
	Higuera	24.66	0.02	
	Jaraicejo	15,997.49	13.73	
	Malpartida de Plasencia	25,832.07	22.17	
	Romangordo	804.63	0.69	
	Serradilla	22,290.80	19.13	
	Serrejón	12,422.06	10.66	
	Toril	12,637.21	10.85	
	Remaining municipalities	6252.06	5.38	5.38

Source: General Hunting Plan [55].

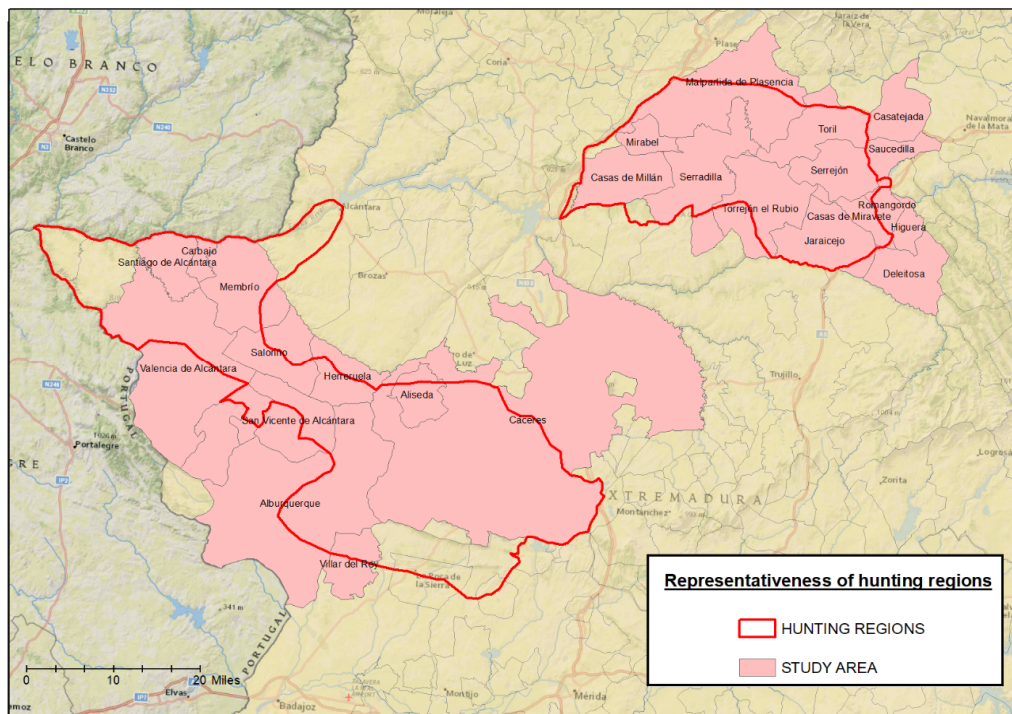


Figure 2. Representativeness of hunting regions.

The data included in Table 2 prove without a doubt the importance of hunting in both areas, despite the fact that certain superficial differences exist. The hunting district of Sierra de San Pedro has a larger surface area devoted to hunting of over 304,000 ha, while in Monfragüe the figure is less than 98,000 ha. This situation is mainly due to two factors which are present in the latter territory:

- This hunting district does not include the totality of the municipalities found in the study area. For this reason it is necessary to add the hunting grounds of the three municipalities which the General Hunting Plan locates in districts other than that taken as a point of reference for this analysis (Casatejada, Saucedilla, and Torrejón el Rubio).
- The presence of Monfragüe National Park, the normative framework which forbids hunting in the 18,396 ha which are restricted to it, except for scientific or environmental reasons [56].

Table 2. Hunting grounds.

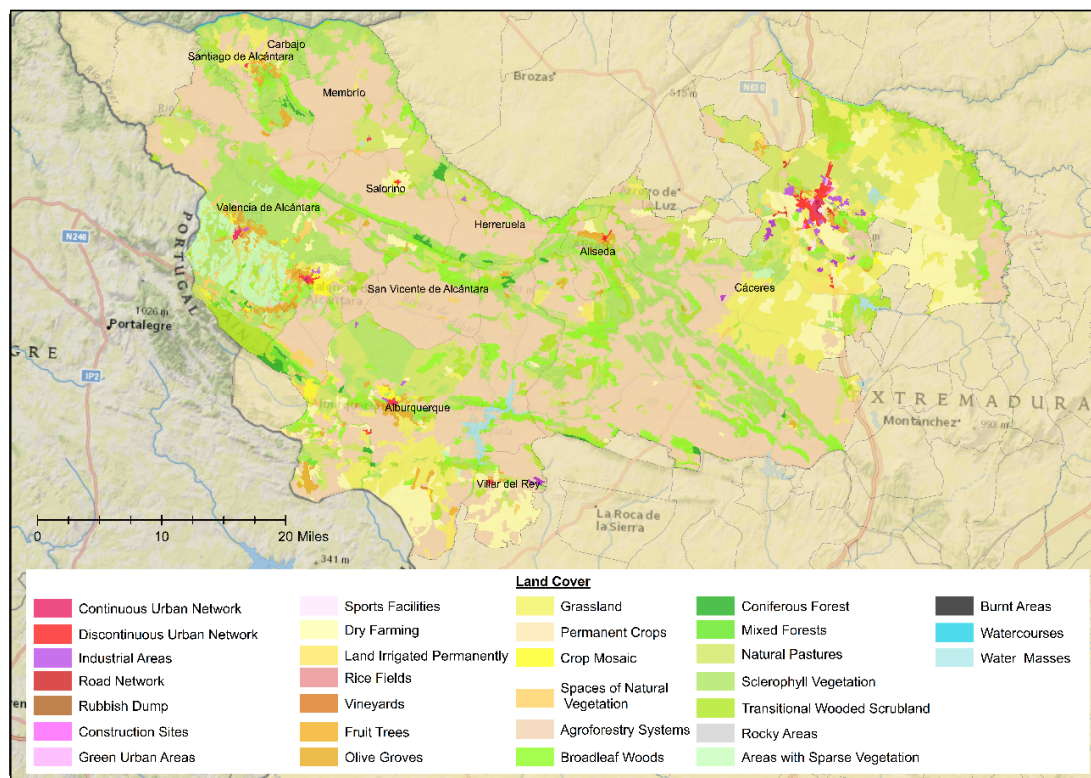
District	Type of Hunting Grounds	Number of Hunting Grounds	Surface Area (ha)	Surface Area (%)
Sierra de San Pedro–Tajo Internacional	Social	35	81,753	26.89
	Small Game	92	52,294	17.20
	Big Game	166	170,026	55.92
Monfragüe–Sierras Periféricas	Social	12	26,978	27.58
	Small Game	14	9837	10.06
	Big Game	68	61,002	62.36

Source: General Hunting Plan [55].

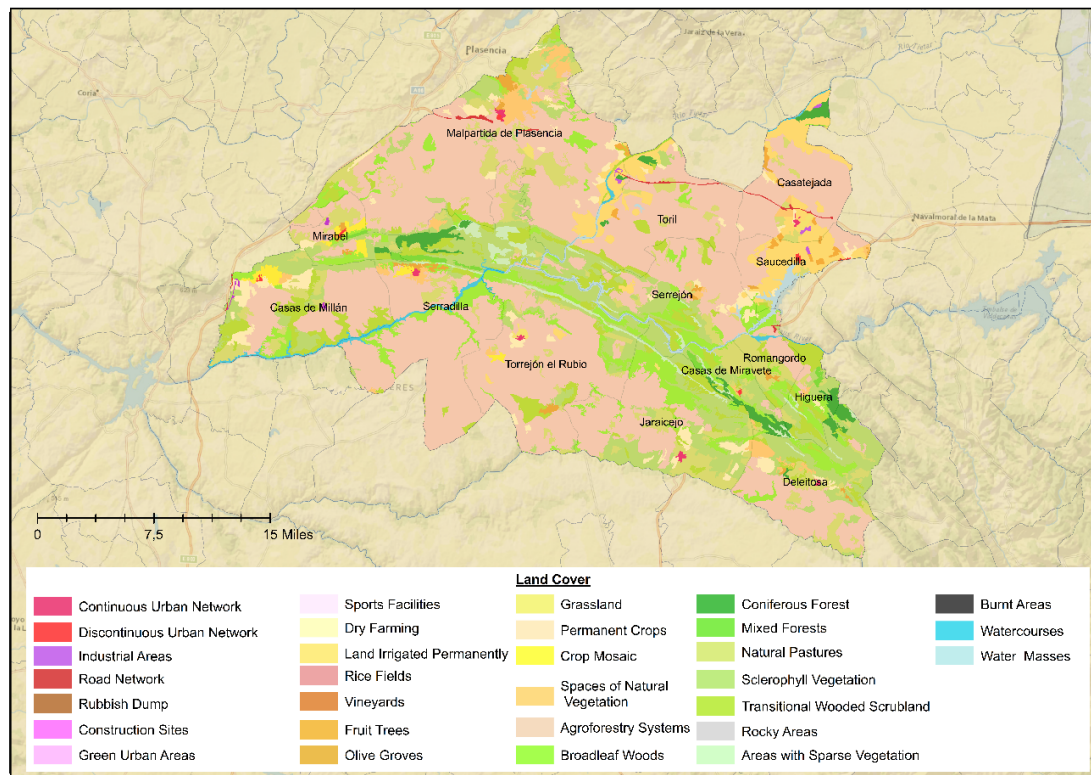
Despite these differences, both districts have a large surface area devoted to hunting and also a considerable number of game preserves which correspond to different categories responding to the existence of two models of hunting exploitation in Extremadura: social and economic hunting. In this sense, big game and small game preserves that are privately enclosed are dedicated to the economic exploitation of the hunting resource, whereas the so-called social preserves try to guarantee access to the hunting activity under conditions of social equality for all hunters in Extremadura. This type of hunting reserve is managed by groups of hunters under the name of Local Hunting Societies, which have managed to play a very important role in hunting in Extremadura [57].

Among these categories, the high figure of preserves devoted to big game hunting stands out, as it exceeds 50% in both territories. These percentages are not directly correlated with the situation in Extremadura, where the surface area devoted to big game hunting falls to 27% [55].

The statistics on the surface area devoted to the exploitation of big game hunting in these territories serve to confirm the potential of the study area as a hunting destination, as it is precisely this type of hunting which is particularly attractive to hunting tourists [46]. The strong presence of this kind of preserve is due largely to the forestry vocation of both areas (Figure 3a,b). This aspect and the occurrence of various crops shape a habitat that is particularly suitable for the development of big game species [58].



(a)



(b)

Figure 3. Land use in (a) Sierra de San Pedro and (b) Monfragüe.

Figure 3 shows a decrease of 570 inhabitants in the period from 2000 to 2018. In spite of this, it should be pointed out that several localities within this area (Malpartida de Plasencia, Mirabel, Romangordo and Saucedilla) showed positive population growth. This situation does not transfer to Sierra de San Pedro, where the rate of growth showed an increase of more than 10,000 inhabitants, although in contrast to what happened in Monfragüe, only the city of Cáceres showed positive growth (Table 3). The lack of employment opportunities is one of the main reasons for this demographic decline, which is the direct reason why young people tend to move to the large urban centers in search of work. This situation is evident in the district of Sierra de San Pedro where it can be observed that the size of the municipality influences the dynamic of population increase or decrease.

Table 3. Population changes.

Areas Name	Municipality	Population in 2000	Population in 2018	Percentage of Population that Contributes to the Area (2018)	Balance of Population Growth (2000–2018)	Population Growth Rates
Sierra de San Pedro	Albuquerque	5645	5340	4.6	−305	−5.4
	Aliseda	2265	1850	1.7	−415	−18.3
	Cáceres	82,235	96,068	82.3	13,833	16.8
	Carbajo	280	208	0.2	−74	−25.7
	Herreruela	470	342	0.3	−128	−27.2
	Membrío	873	634	0.5	−239	−27.3
	Salorino	796	581	0.5	−215	−27.0
	Santiago de Alcántara	751	522	0.4	−231	−30.5
	San Vicente de Alcántara	5908	5475	4.7	−433	−14.9
	Valencia de Alcántara	6240	5439	4.7	−801	−12.8
	Villar del Rey	181	136	0.1	−45	−24.9
	Total	105,644	116,595	100.0	10,951	10.4
Monfragüe	Casas de Millán	809	585	4.8	−224	−27.7
	Casas de Miravete	182	140	1.1	−42	−23.0
	Casatejada	1319	1381	11.0	62	−4.7
	Deleitosa	898	728	5.8	−170	−18.9
	Higuera	111	102	0.8	−9	−8.1
	Jaraicejo	724	489	3.9	−235	−32.4
	Malpartida de Plasencia	4119	4602	36.7	483	11.7
	Mirabel	812	653	5.2	159	19.6
	Romangordo	185	259	2.1	74	40.0
	Saucedilla	614	858	6.8	244	39.7
	Serradilla	1919	1568	12.5	−351	−18.3
	Serrejón	496	420	3.4	−76	−15.3
	Toril	198	164	1.3	−34	−17.2
	Torrejón el Rubio	704	571	4.6	−133	−18.9
	Total	13,090	12,520	100	−570	−4.4

Source: National Institute of Statistics [59].

Unemployment is another of the serious problems affecting the rural world under study. According to the sources consulted, these municipalities are in a worrying situation where their unemployment rates are higher than the national and regional averages (Table 4). These data show that the unemployment registered in Monfragüe affects over 20% of the population in most settlements and even exceeds 30% in the municipalities of Higuera and Saucedilla. However, this scenario is not reproduced in the same way in Sierra de San Pedro, the registered unemployment rate of which is below 20% in 7 of the 11 municipalities of the territory. These figures augur an uncertain future for

both areas; the development of activities to encourage economic diversification may help to mitigate this scenario, and these activities include hunting.

Table 4. Registered unemployed rates by municipality.

District	Municipality	Registered Unemployed (%)
Monfragüe	Malpartida de Plasencia	20.00
	Toril	21.25
	Serradilla	24.45
	Mirabel	22.03
	Casatejada	22.00
	Casas de Miravete	21.74
	Saucedilla	34.15
	Deleitosa	14.67
	Torrejón el Rubio	22.78
	Casas de Millán	22.81
	Jaraicejo	22.24
	Romangordo	14.54
	Higuera	15.08
	Serrejón	30.46
Sierra de San Pedro	Cáceres	19.05
	Aliseda	18.74
	Herreruela	14.67
	Salorino	18.71
	Membrío	18.56
	Carbajo	15.01
	Santiago de Alcántara	14.95
	Valencia de Alcántara	21.23
	San Vicente de Alcántara	21.04
	Alburquerque	22.65
Extremadura	Villar del Rey	22.49
		19.64
España		13.92

Source: datos.macro.com [60].

3.2. Materials and Methods

Taking into account the extensive surface area devoted to hunting, together with the worrying sociodemographic situation of the municipalities of these territories, we aimed to corroborate empirically whether there is a relationship between hunting and the demand for the tourist services of the accommodations located in these territories. If this is the case, hunting would be contributing to the generation of wealth and employment.

In order to attain this objective we used data from primary sources of information (surveys) and also consulted secondary sources. The alphanumeric data come from the results obtained after the distribution of a survey among all tourist accommodation establishments located in the two territories under study, irrespective of their type: hotel, non-hotel, and rural. In order to do so, in the first instance a list of accommodations was drawn up from the official information provided by the competent authority, in this case the Regional Government of Extremadura. It is however necessary to point out that in the case of the city of Cáceres only those tourist accommodation establishments corresponding to the hotel type as described in current legislation [61] were selected after detecting that they were the only ones in which hunters were interested owing to their accessibility and other characteristics. In this sense it must be taken into account that Cáceres is a heritage tourist destination in which there is accommodation designed to work with these market segments owing to their location and other characteristics. The surveys were answered by the managers of the establishments, except in the case of larger hotels when they were answered by reception personnel. In both cases, we consider that the informants are the appropriate ones due to their

responsibility and because they have direct information from the establishments, which are essential requirements to respond with solvency to the survey. In order to complement the data obtained from this survey and obtain further evidence, we resorted whenever possible to a comparison with the data from a survey carried out on the travelers who visited the various tourist offices located in the whole of Extremadura in 2017. Given the slant of this study, however, only the surveys in which hunting was mentioned as a major motivation for visiting Extremadura (82 cases) were studied (82 cases). As far as the use of secondary sources of information is concerned, the following were consulted: data of the municipal census of inhabitants from the National Union of Statistics, registered unemployment figures drawn up by *Expansión* (<https://datosmacro.expansion.com/>), and the National Topographical Database at a scale of 1:100,000 available at the National Geographical Institute (<http://centrodedescargas.cnig.es/CentroDescargas/index.jsp>).

The survey featured in this study consisted of five questions, which are described in the table below (Table 5). The number of questions is reduced in order to stick to our objectives, which were to evaluate in an approximate way the relationship between hunting and the demand for tourist services in the selected territories of Sierra de San Pedro and Monfragüe. These questions allowed us to obtain interesting information on various key aspects: the use of the tourist accommodations in the area by hunters, the existence of any patterns when choosing a specific type of establishment present in the area, the carrying out of activities to complement hunting, and the duration and seasonality of hunters at their destination.

Table 5. Survey questions.

Questions	
1.	Do you receive hunters in your lodging?
2.	What percentage of the demand is made up of hunters?
3.	Does this type of tourist show interest in the development of activities other than hunting?
4.	How many nights do hunters usually stay overnight?
5.	When do these overnight stays occur?

The technical data sheet (Table 6) shows the statistical reliability of the results obtained after the dissemination of the survey included in this research. In this manner, in Sierra de San Pedro 63 completed forms were obtained from the total of 78 tourist lodgings, which means that the sample error in the most unfavorable case is 5.4% and in the most favorable 3.3%. The situation is similar in Monfragüe, where 37 of the 44 tourist lodgings currently operating in that area answered the questionnaire. For this reason, the sample error in the worst-case scenario is 6.5% and at best 3.9%.

Table 6. Technical data sheet.

Variables	Sierra de San Pedro	Monfragüe
Total	78 tourist lodgings	44 tourist lodgings
Sample size	63 completed surveys	37 completed surveys
Sampling	Random sample of the tourist lodgings located in the municipalities that make up the Area of Regional Interest of Sierra de San Pedro	Random sample of the tourist lodgings located in the municipalities that make up the Area of Socioeconomic influence of the Monfragüe National Park
Truthfulness level	95%	95%
Type of survey	Online questionnaire sent via email and filled in via the silver-digital from Google Drive	Online questionnaire sent via email and filled in via the silver-digital from Google Drive
Sampling error ($p = q = 0.50$; $p = q = 0.90$)	5.4%; 3.3%	6.5%; 3.9%
Date of completion	From 29 January to 10 April 2019	From 1 May to 31 July 2019

The data obtained in these questionnaires were processed by means of univariant and bivariate descriptive statistical techniques—to be precise, the distribution of frequencies and crosstabs. This allowed us to determine the presence of hunting tourists in the study area together with a wealth of relevant information (the duration of overnight stays, preference for a type of tourist accommodation, etc.). As a complement, Geographical Information Systems were used for the production of maps, which made it possible to determine the geographical distribution of some of the variables studied.

4. Results

The data given in Table 7 reveal the presence of hunters in the tourist accommodations located in the two protected spaces under study, although it should be pointed out that the incidence in Sierra de San Pedro was higher. In this area 88.9% of the tourist lodgings declared that they received hunting tourists in 2018, while in Monfragüe this figure was 70.3%. This confirms that hunters contribute to the economic sustainability of the accommodation of these territories. The percentage differences between the two areas may be explained by the fact that, in Monfragüe (the emblematic space for the protected species of Extremadura), almost one-third of the accommodation establishments have no interest in receiving hunters.

Table 7. Accommodation establishments that receive hunters.

Accommodation Establishments that Receive Hunters	Sierra de San Pedro (%)	Monfragüe (%)
Receive hunters	88.9	70.3
Do not receive hunters	11.1	21.6
Do not admit hunters	0.0	8.1

Despite the presence of hunters in most of the accommodation establishments surveyed, one cannot speak of a significant dependence of this market segment in either of the two territories. According to the data shown in Table 8, in 62.5% of the establishments located in Sierra de San Pedro the impact of hunting tourists represented less than 5% of the total number of tourists received in 2018, while this percentage was 46.2% in Monfragüe. However, in Sierra de San Pedro rather more than 30% of lodgings considered that the demand from hunters represented over 16% of the total, while in Monfragüe it accounted for 19%. The differences between both areas can be found in the size of the surface area devoted to hunting in Sierra de San Pedro—a territory which exceeds 300,000 ha. Likewise, to interpret the data correctly at least one observation must be made: the impact of the demand for accommodation from hunters is limited to the hunting season, which coincides with the autumn and winter months (essentially from October to February), owing to which the impact of the demand during these months is much higher. In this sense hunting tourism cannot compete with other forms of tourism which may be practiced throughout the year.

Table 8. Incidence of hunting tourists.

Hunting Tourists	Sierra de San Pedro (%)	Monfragüe (%)
Very low (less than 5%)	62.5	46.2
Low (between 6% and 15%)	3.6	34.6
Average (between 16% and 30%)	21.4	11.5
High (between 31% and 40%)	3.6	7.7
Very high (more than 40%)	8.9	0.0

With the aim of determining whether there is a correlation between the type of tourist accommodation and the preferences of hunters, the following crosstab was drawn up in which clear contrasts can be appreciated. In order to do so, the different categories of hotel accommodations (hostels, guest houses, 1 to 3 star hotels, and 4 and 5 star hotels), non-hotel accommodation (tourist apartments

and albergues), and rural accommodation (casas rurales and rural hotels) were distinguished. These contrasts were analyzed independently in the two territories studied:

- **Sierra de San Pedro.** This space is characterized by having a large number of hotels (from 1 to 3 stars and 4 and 5 stars). This is due to the presence in its territory of Cáceres, a city of undeniable tourist attractions that has been declared a World Heritage City by the UNESCO [62]. The results of the survey indicate that 18.2% of the hostels, 7.1% of the hotels from 1 to 3 stars, and 10.5% of the *casas rurales* of Sierra de San Pedro considered that the presence of hunters was very high. Likewise, for 7.1% of the hostels and 5.1% of the *casas rurales* in Sierra de San Pedro it was high. However, the number of lodgings in which the presence of hunters in Sierra de San Pedro (tourist apartments, hostels, 1 to 3 star hotels, 4 to 5 star hotels, and *casas rurales*) was classed as average was much more significant. Finally, there were very high percentages of accommodation establishments in which the presence of hunters was low or very low.
- **Monfragüe.** In the territory of Monfragüe the offer of places in hotels (from 1 to 3 stars and 4 and 5 stars) is considerable, although their percentage is appreciably lower than in Sierra de San Pedro. Likewise the importance in Monfragüe of rural lodgings must be emphasized, especially in the case of *casas rurales*, a type of accommodation which is better suited to the characteristics of small natural spaces and municipalities. As for the preferences of hunters in Monfragüe, they are attracted by hotels with 1 to 3, stars as 100% of those polled declared the presence of hunters to be high (Table 9).

Table 9. Incidence of the hunter by type of accommodation.

Region	Category	Very Low (%)	Low (%)	Average (%)	High (%)	Very High (%)	Total Number of Places	Percentage of Places with Respect to the Total of the Sample (%)
Sierra de San Pedro	Tourist apartment	0.0	0.0	100.0	0.0	0.0	12	0.2
	Albergue	100.0	0.0	0.0	0.0	0.0	28	0.6
	Hostel	45.5	9.1	27.3	0.0	18.2	314	6.4
	Guest house	100.0	0.0	0.0	0.0	0.0	56	1.2
	Hotel between 1 and 3 stars	71.4	0.0	14.3	7.1	7.1	2289	46.9
	Hotel between 4 and 5 stars	57.1	0.0	42.9	0.0	0.0	1910	39.1
	Casa rural	63.2	5.3	15.8	5.3	10.5	255	5.2
	Rural hotel	100.0	0.0	0.0	0.0	0.0	20	0.4
Monfragüe	Tourist apartment	25.0	75.0	0.0	0.0	0.0	37	4.7
	Hostel	0.0	33.4	66.6	0.0	0.0	93	11.9
	Guest house	0.0	100.0	0.0	0.0	0.0	18	2.3
	Hotel between 1 and 3 stars	0.0	0.0	0.0	100.0	0.0	144	18.4
	Hotel between 4 and 5 stars	0.0	100.0	0.0	0.0	0.0	120	15.5
	Casa rural	69.2	15.4	7.7	0.0	0.0	351	44.9
	Rural hotel	100.0	0.0	0.0	0.0	0.0	18	2.3

In view of the data it can therefore be appreciated that hunters tend to choose hotels. This tendency was also observed in the results obtained from the survey carried out by the Extremadura Tourist Observatory in which hunters' preference for hotel-type accommodation can be seen. The explanation for this can be found in the observations of various owners of the accommodation establishments polled, who mentioned that hunting tourists require restaurant services which are only provided by hotel-type accommodation. Likewise it should be said that road accessibility has considerably improved in recent years, which makes it easier for a hunter to travel to a municipality with the desired accommodations within a limited period of time.

To go deeper into this matter, in the survey carried out by the Tourist Offices it was found that hunters are willing to choose the municipality of their overnight stay in accordance with the presence

of this kind of accommodation. As a consequence, the selection of the municipality in which hunters spend the night may depend on this circumstance.

Those in charge of tourist accommodations located in the study area corroborate the interest of the hunting tourist in carrying out activities other than hunting, among which stand out those related to other forms of tourism as diverse as those involving nature, culture, and the rural milieu (Table 10). Nevertheless, the declared interest of this kind of tourist in protected natural spaces is noteworthy, to the extent that in both territories the visits to these spaces represent a preferred practice for hunters. In the answers given in the survey of this study there is once again a certain parallelism with the results deriving from the survey of the Tourist Observatory, in which the strong interest of the hunting tourist in protected natural spaces stands out, particularly in Monfragüe National Park. This is not surprising given hunters' interest in natural spaces and their inclination to contribute to the conservation of ecosystems by means of various initiatives [12,57–63]. Along the same lines, their interest in local gastronomy can also be mentioned; this is of greater importance in the Monfragüe area (31.6%). Practices related to cultural and rural tourism and birdwatching appear less frequently. Note that birdwatching only occurs in the Monfragüe area because of the great richness of the National Park.

Table 10. Hunting tourism activities.

Activity Type	Sierra de San Pedro (%)	Monfragüe (%)
Gastronomy	19.4	31.6
Birdwatching	0.0	15.8
Visits to protected natural areas	36.1	36.8
Cultural tourism	19.4	26.3
Rural tourism	17.7	26.3

The hunting season conditions the travel of hunters, as the most recent closed-season regulations published in Extremadura [64] generally establish hunting periods as weekends and long weekends between the months of October and February, to which Thursday must be added for some specific forms of hunting. This rule has two exceptions, although there is no doubt that they have a much lower impact. This situation therefore conditions the duration of the stays of hunting tourists and the concentration of their travels essentially on weekends (82.5% in Sierra de San Pedro; 92.0% in Monfragüe) (Table 11). The establishments polled ratified the short duration of the stays, declaring that they tend to vary between one and two nights, with few stays lasting longer (1.6%, Sierra de San Pedro; 8.0%, Monfragüe).

Table 11. Hunting tourists' overnight stays.

Overnight Stays	Sierra de San Pedro (%)	Monfragüe (%)
One night	22.2	52.0
Two nights	63.5	40.0
More than two nights	1.6	8.0

5. Discussion and Evaluation of Results

Hunting and by extension hunting tourism is an activity which has been carried out without interruption in numerous protected natural spaces in Spain [65] and in other countries, playing an important role in the economy of the rural milieu and also in the conservation of the environment [22,66–68]. However, for various reasons there is heated debate as to whether it is convenient to allow hunting in spaces which are environmentally representative. The central idea is currently to restrict some traditional forms of exploitation such as hunting, which in certain places such as national parks is forbidden, at least in the case of Spain. Monfragüe National Park is an example of this, owing to which the population of ungulates has grown continuously to exert strong pressure on the ecosystem, contributing to the degradation of the area's vegetation. Given the pressure on the

environment, the Park Management approved certain culls [69]. This confirms the role that hunting may play in the conservation of these spaces in which certain species have no natural predators, which means that an increase in their populations may lead to the deterioration of the landscape.

This situation occurs despite the fact that sustainable hunting can provide social, economic, and environmental benefits, as mentioned in various studies. It is however necessary to be prudent as to the decisions made because no formula can be suitable for all protected spaces or for all species. Owing to this, a planning and management policy appropriate for each case must be drawn up. In this sense it is being insisted upon that, given the lack of alternatives, the prohibition of hunting may have an undesired effect in terms of the loss of biodiversity, especially on private land.

The results of this study prove that hunters make moderate use of the accommodation establishments located in Sierra de San Pedro and also in those in part of the Area of Socioeconomic Influence of the Monfragüe National Park, which contributes to the generation of economic benefits. Both spaces have serious problems of employment, loss of population, and ageing, owing to which the sustainable exploitation of the endogenous resources, which include hunting, may encourage the maintenance of rural life. Nevertheless, it should be stressed that more studies using specific areas as a territorial basis need to be carried out with the objective of assessing the role of hunting as a tool for development and the generation of knowledge which serves as an instrument for management and planning. As was seen in the survey, hunters choose a certain type of accommodation based on the different services it may provide. There is no doubt that this knowledge may provide a competitive advantage with the view to a specific territory capturing a larger number of hunting tourists.

Finally, in view of the lack of data on the characterization of the demand of the hunting sector in Extremadura and its impact on accommodation, it must be pointed out that this work is innovative in that it allows progress to be made in the knowledge of an issue that has a direct impact on hunting territories of great environmental value, where there are serious social and economic problems. Therefore, this knowledge has an undoubted applied character for managers of tourist accommodations located in the study area, as well as for the public administration, with a view to designing strategies to attract hunting tourists in sustainable terms. Nevertheless, and taking into account that we are facing a work that represents a first approximation on this subject, it is necessary to open new lines of research that answer specific questions:

- Is hunting tourism compatible with other forms of nature tourism in protected areas?
- What weight does hunting tourism have in comparison with nature tourism in these areas?
- What is the perception of hunting tourism by the inhabitants of the territories in economic terms?
- How can the expenditure of hunters in hunting areas be increased?

6. Conclusions

The results of this study show that the municipalities within the Area of Regional Interest of Sierra de San Pedro and the area of socioeconomic influence of the Monfragüe National Park are located in territories with a long hunting tradition. As a result, both areas currently have a large number of hunting grounds, to which must be added the presence of a network of accommodation establishments of different types and categories in accordance with the information obtained from the secondary sources consulted. At the same time it was found that both territories are experiencing serious sociodemographic and economic difficulties in common with other rural areas of Extremadura: loss of population, ageing, and high employment rates.

Given these circumstances, the objective of this research was to verify the hypothesis of whether there is a relationship between hunting and the demand for tourist services, to be precise for the accommodation located in the municipalities making up the two territories.

In order to achieve this objective it was necessary to draw up a list of the accommodation establishments located in these municipalities and to request collaboration in the form of answering

a survey. The collaboration obtained was very high, thanks to which it was possible to draw the conclusions given below:

- The presence of hunters was confirmed in most of the accommodation establishments located in the study area, amounting to almost 90% in Sierra de San Pedro and over 70% in Monfragüe.
- Despite the aforementioned percentages which prove the presence of a large number of hunters, it cannot be said that there is a significant dependence on this market segment in either of the two territories, barring exceptions. However, if these data are restricted to the general hunting period, October to February, the results are of greater importance.
- A clear preference can be appreciated on the part of hunters for staying in hotel-type accommodations, which accounted for the highest proportion of the supply and demand. In this sense it should be mentioned that differences exist between the network of accommodation establishments in Sierra de San Pedro and Monfragüe. In Sierra de San Pedro, which is influenced by the city of Cáceres, hotels constitute most of the supply and demand, while in Monfragüe the supply is much more evenly distributed among hotels and rural lodgings, which does not prevent the former from continuing to be preferred by hunters.
- According to the results of the survey, hunting tourists showed interest in carrying out activities other than hunting. The practice most in demand was that of visiting protected natural areas, which is a direct consequence of the magnificent landscape of both territories. Together with this activity, in the Monfragüe area there was a significant interest in local gastronomy, which was not true to the same extent in Sierra de San Pedro. To a lesser extent, the managers and employees of the lodgings indicated in the survey that they had detected a certain interest on the part of hunters in activities of cultural and rural tourism.
- Finally, in both destinations hunters spent short stays varying between one and two nights, in most cases on the weekend.

There is no doubt that as the socioeconomic impact is one of the aspects quoted to defend hunting in the current context, the carrying out of studies of this kind should be encouraged so as to determine whether establishments located in rural areas are the main beneficiaries of the expenses incurred by hunters. This knowledge can become a tool for the management and capture of flows of hunters in the future.

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