HUNTING PLAN FOR TENERIFE

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With 3 tables

The island of Tenerife covers 203,000 hectares and has a resident population of 685,582. Approximately 12,500 hunting licenses are issued each year. There are 158,351 hectares currently available for hunting once security zones and protected areas have been excluded, resulting in a theoretical density of nearly 13 hectares per hunter. This excessive pressure has an impact on the following species: the rabbit (Oryctolagus cuniculus), the barbary partridge (Alectoris barbara), the rock dove (Columba livia), the quail (Coturnix coturnix) and the turtle dove (Streptopelia turtur). The delicate balance in the islands ecosystems calls for prudent Hunting Plan which must be carefully executed to maintain the population of these and other species while minimizing any negative effects. Negotiations with all of the involved parties are required to achieve these objectives that will result in an improved Hunting Plan for Tenerife.

KEY WORDS: hunting, plan, conservation, quotas.

The growth in the island's population during the last century and the increase in hunting popularity have resulted in reduced hunting opportunities. The reduction of hunting fauna has also been influenced by other causes. The abandonment of traditional agriculture, the indiscriminate use of poisons, the existence of a large highway network. and the loss of optimal hunting land due to urban development are, among other things, causes for the reduction in the quality and fragmentation of animal population habitats, which in turn have resulted in both isolated and rarefied hunting areas.

The study and integration of all these issues in an island plan at an island level is a challenge due to the diversity of the situations and instability which are present in the Canary Archipelago population. The island has witnessed an economic expansion in the last few decades with serious impacts on the environment. Also, significant improvements in the

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quality of life have taken place in specific urban populations. At the same time, traditional agriculture maintains its reliance on continuing subsidies for its survival and continue to retain its territory in the face of fierce competition from specialized farming.

In 1992 the Tenerife Island Council (which is the legal authority on hunting matters) discussed the need for a hunting plan according to the current legal frameworkand the new new regulations in conservation policy. It would act as a body for consensus among the different interest groups, providing public information as it develops. It would strive to promote agreement among the most diverse interests including hunters, farmers, livestock breeders, pro-conservation groups, the scientific community and the public at large. Thus the 1994 Hunting Plan for the Island of Tenerife identified a series of special factors for the management of hunting resources with clear implications for the remaining natural resources on the island. Law 4/89, dated March 27th, "The Conservation of Habitats, Flora and Fauna" set into motion an important effort by the administration to manage natural resources in a clear and sustainable manner. Apart from providing for conservation it was determined at the same time that hunting would be only permitted on designated species. However, the implications that this law imposes had been self-executed since 1985 by the Canary Islands Autonomous Government by means of ruling arrangements concerning the prohibition of hunting and respecting designated hunting seasons, quotas, protected areas, and authorized or prohibited hunting techniques which are used in the capture of animals.

The new arrangement consisted in revising these considerations and creating a legal document based on biological, economic and social aspects in accordance with a strategy of integrating environmental decisions with other programs of economic and social development. Developing an effective territorial plan required the use of scientific research that allowed for the rational exploitation of each resource. Qualitative and quantitative sources of information on hunting have hardly been developed or considered in Spain. Therefore, it was necessary to obtain basic data through direct surveying, in order to know aspects such as hunting performance, traditional hunting methods, economy, assistence to hunting grounds, etc... In other countries, organizations such as The Game Conservancy Trust, of Great Britain, and The French Hunting National Office (Office Nacional de la Chasse) have sponsored this type of research that has led to improvements in the preservation of hunting with specific projects that offer practical advice to different groups.

Ensuring a managed and constant exploitation of hunting resources required a detailed analysis of each particular case. Considerations such as the ability to replace a manageable resource, territory rights, people's security, reasonable protection of public and private property, and their relationship to conservation were identified. The complexity of the hunters interrelationship with farming, highly valued ecological areas, nature enthusiasts, and the general public were also considered. The lack of a standard hunter profile was acknowledged, given that basic differences exist among hunter-farmers, urban hunters with rural backgrounds, and the remaining urban residents who hunt.

The interrelationship between hunting and the conservation of the island's resources is extremely important. Hunting is the third most important pasttime which takes place in protected natural habitats, with only picnicing and the country ride being more popular. These habitats cover 44.3% of the total surface area on the island of Tenerife.

Developing trends among the hunting community confirm hunting's future growth potential among the 24 to 34 years old age group, whose income levels can meet the costs associated with hunting (see Table 2) This finding has important repercussions, not only from the biological point of view, but also from the socio-economic one, and has clear consequences with respect to future planning. Tenerife has an average of 1.78 hunters per 100 residents, a figure that is comparatively lower than the national average of 3.26 per 100. The figure for Tenerife should continue to increase and will not stabilize for some time, even though its growth rate has only been at 3% in the last decade.

The island has an absolute hunting density of 5.8 hunters per square kilometer in specified hunting grounds. In Italy a referendum to impose a law has been proposed which would prohibit hunting, where the absolute density exceeds 4.6 hunters per square kilometer. The absolute density statistic is an extremely important index. It indicates a theoretical pressure exerted upon specific hunting territories, and extreme values are reflected in the hunters behavior. There are about 13 hectares of land available per hunter in Tenerife. This is much lower than the options available in Continental Europe, where the range lies between 38 hectares and 124 hectares per hunter. (see Table 1)

70% of all hunters from Tenerife come from principally agricultural areas, and of these 50 % have ties to urban areas. In contrast, 30.28% of the hunters who come from metropolitan areas have hunting territories so limited that they barely make up 9% of the island's area. The lack of available land in these metropolitan areas and developed regions forces hunters from these municipalities to choose locations that are less congested. However this can result in serious consequences for most natural areas. Self-defense techniques against intruders in agricultural regions are various and bloody. One of the most common methods is the use of highly toxic poisons such as Lannate and Furadan, even though this practice is classified as a hunting offense. These socio-biological barriers have an impact on the sport of hunting, and will create damaging consequences due to the arrival of hunters to agricultural areas and other ecologically important regions. A standard hunter profile has not been clearly defined, although 97% of all hunters use firearms for both big game and small game. Small game hunting with the Canary Podenco (Canis familiaris) alone, or the Canary Podenco together with the ferret (*Mustela furo*) are two milder approaches to small game hunting which share a great tradition. These techniques are utilized by 3.5% and 36.38%, respectively, of all hunters and are methods which the Island Plan encourages for further development in highly important conservation areas.

The main objectives of the Hunting Plan for the Island of Tenerife are: establish a

specific system which exploits the benefits of hunting and also affords hunters opportunities in Tenerife; provide a practical Plan which considers the biological needs of all species; develop a specific strategy for the barbary partridge and the quail; eliminate the mouflon because of its incompatibility with the habitat which maintains it; and the establishment of a plan for increasing the Canary Podenco population.

The Hunting Plan will establish a Controlled Hunting Zone whose purpose is the creation of a large hunting area which would provide equal conditions for all hunters and would serve a principally social purpose. (see Table 3) However its importance from a biological point of view is even greater, because it allows hunting to be less privatized and grants the concept of "res nullius", whose implication is of greater importance because it allows the general public to exploit the hunting opportunity. This hunting zone is going to occupy about 76% of available land area, and would allow for a redistribution of dense hunting regions, prevent hunting privatization, and at the same time, provide for greater protection of "common utilization areas" which were defined in the Hunting Law of 1970. These designated areas play an important role in the Canary Islands from both a hunting and biological perspective. Controlled Hunting is also designed as a public service that contributes to a substantial improvement in the hunters possibilities. It is the same hunter who, by respecting the guidelines of the administration, imposes his own role.

Resources will be regulated according to the following parameters: establishing the hunting season taking into account the number of specimens of all the different species; determining hunter participation during various hunting days; calculating the average capture output; and considering the success of killing specified species. Nevertheless, the principal factor in this law is the hunting season adjustment for each species with respect to its biological cycle being the beginning of heat for each species and the completion of the breeding period the main variables considered. However, there are certain other factors that can occur simultaneously and, therefore, alter the hunting period. Some of these factors are of economic nature, such as those related to crop damage; others are biological and referred to the protection and conservation of native species; and others are related to the annual rain. Subsequently these circumstances require an additional dynamic adjustment of the hunting season every year.

The rabbit is the most important hunting piece in the Plan since its represents approximately 90% of all kills. In this case the hunter plays an important ecological role in its control because natural pillagers in the Canary Islands are rare and hardly ever seen. The Plan proposes to establish quotas and thereby permit a steady recovery of rabbits through a plan that would require a reduction in captures. Their population is initially estimated at 200,000 specimens and hunting plans are programmed so that this figure will triple in five years. Studies are currently being undertaken to determine population distributions and the relative density of each biotype on the island with the goal that within three years a tracking service will be established that will eliminate variations in annual quotas.

The protection and recovery of the habitats of the barbary partridge and the Canary quail is another part of the Plan which receives a significant amount of attention. The Plan's proposals are based on increasing the population of each species. The barbary partridge is an example of a species which has been chosen for breeding in captivity. Of particular note is the Plan's goal of not only recovering this species, but specifically to provide for its self perpetuation by the Plan's conclusion. At this time specific partridge population goals will be met by means of the creation of a network of permanent sanctuaries and other temporary shelters. Each year about 1,100 pure breed barbary partridges are released to the natural environment, representing. 007 partridges per hectare. The government has made a concentrated effort in financing the selection and improvement of the barbary partridge. This approach costs twice the amount of commercial breeding but assumes the guarantee of a sure reintroduction of the species, one which provides genetic and health guarantees which would allow these costs to be recovered over the long term. The quail's recovery is highly dependent on the advancement of cereal cultivation or other generic products since the improvement of vegetable cover allows for its defense and development. The Plan hopes to increase the population densities of both species, promoting the hunter's effort to recover other hunting areas through improved opportunities in the agreement. However this effect will not be very useful if profitability doesn't return to farming areas which previously had sustained large populations of these hen families and had permitted improved and more diverse habitats.

The mouflon was introduced to the island of Tenerife in 1972 and continues to cause great damage to the natural vegetation. At present the mouflon inhabits a distribution area of nearly 371 square kilometers (RODRIGUEZ LUENGO, 1993). This ungulate lives in various areas of conservation interest and high ecological sensitivity. Because of this and its classification as an exotic species to the Tenerife ecosystems the proposal of eliminating the mouflon on the island has been promoted. The plan proposal is based on exercising rigid control over the existing population and avoiding the possibility of increasing the species. If the cited Elimination Plan does not become implemented, managed hunting will be applied to control the mouflon population to about 400 individuals. It is assumed that mouflons which move outside of their distribution area must be eliminated at any time during the year by a forest ranger, or using a different method to be determined by the Tenerife Island Council, hunting both males and females.

The Plan emphasizes the recognition of the hunting values most appreciated by the small game hunter and promotes the re-establishment of the hunt with the Canary Podenco, an autochthonous race whose preservation is put into danger by competition with mixed breeding. The main characteristic of this animal is its adaptability to volcanic regions. The dog is an important partner for the hunter on his weekend hunts and above all for rabbit control. The increased population of this breed will result in more favorable hunting formulas in the future which will allow for its use in rabbit control in hunting areas which are considered to be more sensitive from a conservationist perspective. There are

approximately 50,000 hunting dogs on the island. A significant number of the same dogs remain in hunting areas when the hunting season is over. Some of the reasons why this occurs are: the dogs fail to fulfil hunting skills; the owners are unable to control them; or a loss of affection for the animal takes place. The plan insists on correcting this problem, which involves predatory bahaviour on wild fauna and safety for people, through the creation of a dog register which would include their markings and a systematic form of control. This will be done in conformance with current legislation: their capture and control will be conducted by trained personnel. Afterwards they will be lodged in specialized collaborating centers which can provide an adequate infrastructure.

The final Plan objective being considered is mandatory hunter training. This training must reflect continuing capability and responsibility in the laws and use of firearms, in the education of protected species, in the finance of research and study that must be completed, in compliance with the rules of conduct for hunting, and cooperation with appropriate organizations.

The economic revenue generated by hunting activity in Tenerife during the 1993 season is estimated to be one thousand million pesetas. To give an idea of its importance it should also be noted that this figure corresponds exclusively to hunting captures and does not consider the actual hunter's expenses.

TABLE 1 - Absolute densities on available hunting areas.

Location	Hunters per 100 inhabitants	Number of hunters	Area (sq km)	Density (per sq km)	Hectares per hunter
Tenerife	1.78	11,874	2,030	5.8	13*
Canary Is.	1.6	44,263	7,446.6	5.9	13.1*
Spain	3.26	1,306,995	504,800	2.6	38.62
Italy	2.5	1,450,000	301,300	4.8	20.78
Holland	0.2	33	41,200	0.8	124,848

* Corresponds to relative densities, actual absolute values are 17 and 17.1. Source: Tenerife Island Government.

TABLE 2 - Number of hunters by age interval. Source: Tenerife Island Government.

Age intervals	
Number of hunters	

TABLE 3 - Classification of hunting areas on the island of Tenerife. Source: Tenerife Island Government.

Tenerife Hunting Area	**Area in hectares**	**Percentage of usable hunting area**
Teide National Park	13,761	8.69
Common utilization area	2,365	1.50
Controlled hunt areas	121,341	76
Private hunting areas	21,843	13.8
Tenerife Island	158,351	