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Environmental Management

ISSN 0364-152X

Environmental Management
DOI 10.1007/s00267-012-9820-y



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The History of the Establishment and Management Philosophies of the Portuguese Protected Areas: Combining Written Records and Oral History

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Received: 18 February 2011 / Accepted: 9 January 2012
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Abstract The history of the establishment and management philosophies of the mainland Portuguese Protected Areas was reconstructed through the use of written records and oral history interviews. The objectives were to review the main philosophies in the creation and management of these areas, to assess the influence of international PA models, to compare the Portuguese case with other European and international literature concerning PAs and to discuss the value of the oral history in this research. As main results, it was found that the initial management model of “Wilderness (or Yellowstone)” was replaced by the “new paradigm” of PAs when the democracy was re-established. Changes in the management philosophies within this “new paradigm” were also identified, which resulted in the transition of a “Landscape” to a “Nature conservation” model. After the establishment of the Natura 2000 network, the “Biodiversity conservation” model prevailed. It was also found that the initiative for the establishment of most PAs came from the government, although there were few cases of creation due to the action of NGOs and municipalities. Finally, oral history interviews enabled the addition of information to the literature review, but also provided more insight and detail to this history.

Keywords Conservation in situ · History of protected areas · Management models · Natura 2000 network · Oral history

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Introduction

The history of Protected Areas (PAs) is a growing subject of research in environmental sciences. Several studies about this subject revealed that the main objective behind the creation of the Yellowstone National Park in 1872 as the World's first PA was to maintain its “wilderness” free from the human disturbance (Nash 1982; Runte 1979; Shafer 1999). However, this objective ignored the existence of indigenous people in the area prior to the establishment of this National Park. Currently, there is evidence that Native Americans had a long-term influence in Yellowstone, challenging the popular perception of this National Park as an empty and pristine area free from human disturbance (Galvin and Haller 2008; Kalamandeen and Gillson 2007; Sarkar 1999). Nevertheless, in subsequent decades the “Wilderness (or Yellowstone) model” was applied in the establishment of PAs in countries around the World, which occasionally resulted in conflicts with local populations (e.g., West and others 2006; West and Brockington 2006; Durrant and Shumway 2004).

In Europe, this “original paradigm” of PAs was initially applied in the beginning of the twentieth century, in some cases due to the influence of enthusiasts inspired by the U.S. National Parks such as German professor of forestry Hugo Conwentz (Jepson and Whittaker 2002). Conwentz gave a series of lectures in European cities between 1903 and 1908 to promote the establishment of PAs, after which several European National Parks were created in countries such as Sweden and Switzerland (Jepson and Whittaker 2002; Kupper 2009). As another example, the Spanish aristocrat, hunter and politician Pedro Pidal visited Yellowstone and Yosemite and became the main promoter for the creation of Covadonga and Ordesa National Parks in Spain, which happened in 1918 (Mendoza 1998).

Although the concept of National Park became widespread in conservation bodies across Europe, some regions with dense human populations had difficulties in applying this “Wilderness model”. Moreover, growing industrialization and rural abandonment in countries such as England, France and Germany where the natural landscapes had been heavily influenced and shaped by human activities motivated popular initiatives for the conservation of traditional rural landscapes, which were considered cultural landscapes. Therefore, several authors state that a “new paradigm” of PAs that did not follow the American National Parks model emerged in Europe (Mose and Wiexlbaumer 2007; Mulder and Coppolillo 2005). Nevertheless, this is not considered a replacement of one model by another, since in most European countries both PA models continued to be applied. This new paradigm of PAs began as a “Landscape model”, which sought to maintain and protect established farming systems and villages as integral components of the traditional rural landscape, initially through the purchase of lands by environmental NGOs. For example, the Luneburg Heath Nature Reserve is an area of traditional agriculture in north Germany that was bought in the early 1900s by a German NGO with the main purpose of conserving the cultural landscape, and was legally recognized as a PA in 1921 (Mulder and Coppolillo 2005). Although this “Landscape model” was associated with classifications such as Protected Landscape or Natural Park, it was also used in areas with the designation of National Park. For instance, the first National Parks established the United Kingdom during the 1950s adopted a similar management philosophy of preservation of traditional agricultural landscapes (Mose and Wiexlbaumer 2007).

In response to the effects of the implementation of the “Wilderness model” on the traditional and indigenous peoples, the UNESCO launched the “Man and Biosphere Program” (MAB) in the late 1960s, which had the purpose of studying the way in which humanity affects the biosphere. Additionally, the MAB examined how the conservation of environmental resources could be achieved alongside their utilization for human benefit (Galvin and Haller 2008). In the 1980s, the debate about populations in parks was already broad and continued to grow in the subsequent years (Mulder and Coppolillo 2005). This debate still goes on today, and raises issues such as the welfare of local or indigenous populations, their rights to use natural resources or their levels of exclusion or inclusion in the management of PAs (Hulme and Murphree 2001; Galvin and Haller 2008; West and others 2006; West and Brockington 2006).

Other authors also mention a change in the end of the twentieth century within the “new paradigm” from a “Landscape” to a “Nature and Biodiversity conservation” model, which holds in the moral imperative to mitigate the

human-induced “sixth mass extinction” (Kalamandeen and Gillson 2007; Brooks and others 2002). Therefore, there was a change of focus from the conservation of cultural landscapes and associated values to the broader objective of Nature and Biodiversity conservation. In the case of Portugal, it is thought that this actually corresponds to two different models, ie. a Nature conservation model and a Biodiversity conservation model (see the “Results” section for details). Several authors proposed the distinction of the concepts of biodiversity and wilderness, arguing that the latter can benefit from human activities (see Sarkar 1999; Gillson and others 2003, Kalamandeen and Gillson 2007). Nevertheless, the possibilities of coexistence of the objectives of wilderness and biodiversity is a current issue of debate in the literature concerning the management of PAs (e.g., Jones-Walters and Civic 2010; Lupp and others 2011; Barker and Stockdale 2008).

Although previous studies about the history of PAs usually consider only literature reviews (e.g., Rylands and Brandon 2005; Pauchard and Villaroel 2002; Morillo and Gómez-Campo 2000), oral history can be potentially useful in these historical reconstructions, especially in the cases in which written accounts are incomplete. This method is still not widely used in environmental research, but there is a significant and growing number of studies that have applied it. For example, oral history interviews to farmers have enabled discussions about landscape changes and future management options in the United Kingdom (Riley 2004) and Amazonia (Arce-Nazario 2007). This method has also been used in combination with other sources of information. Examples include the integration of aerial photography and satellite image with oral history and socio-economic surveys to assess forest and land cover in Laos (Thongmanivong and others 2005), the use of oral history in combination with historical, linguistic and ecological sources to investigate the history of the relationships of human communities with the landscape in Serengeti (Shelter 2007), the combination of oral history interviews and forest management plans to reconstruct the history of forest use in the Swiss Rhone Valley (Gimmi and Burgi 2007) and the use of oral history and archival sources to investigate the history of the Great Barrier Reef in Australia (Daley and others 2008).

The present study has the main objective of reconstructing the philosophy behind the establishment and management of mainland Portuguese PAs in the wider context of their history, combining written records and oral history interviews (Fig. 1). Other objectives are to assess the influence of international PA models, to compare the Portuguese case with other European and international literature concerning PAs and to discuss the value of the oral history in this research. Considering that this Portuguese case study could be seen as a condensed version

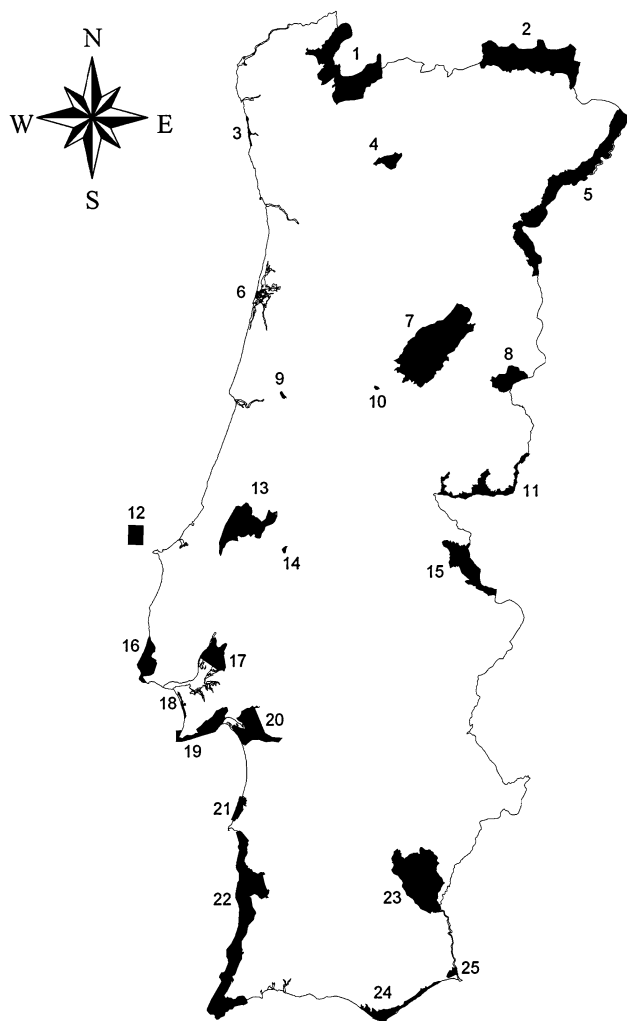


Fig. 1 Protected Areas in mainland Portugal (1 Peneda-Gerês, 2 Montesinho, 3 Litoral Norte, 4 Alvão, 5 Douro Internacional, 6 S. Jacinto, 7 Estrela mountain, 8 Malcata mountain, 9 Arzila marsh, 10 Açor mountain, 11 Tejo Internacional, 12 Berlenga (terrestrial and marine), 13 Aire and Candeeiros mountains, 14 Boquilobo marsh, 15 S. Mamede mountain, 16 Sintra-Cascais, 17 Tejo estuary, 18 Costa da Caparica, 19 Arrábida (terrestrial and marine), 20 Sado estuary, 21 Sto. André lagoon and Sancha, 22 S. Alentejano and C. Vicentina, 23 Guadiana, 24 Ria Formosa, 25 C. Marim marsh and V. R. Sto António)

of the changing goals for the management of PAs that happened at the European level, the importance of the present work is enhanced by its similarities with the history of PAs of other European countries. Therefore, we intended to contribute to a better understanding of the national, European and global environmental conservation history, which will hopefully inform future management decisions of PAs.

Methods

We conducted a review of the legislation, technical reports, books, academic theses, periodic publications, letters,

papers presented to conferences, management plans of Protected Areas and other relevant documents concerning the creation and management of these areas.

To add to this information, we conducted oral history interviews with protagonists of this history. Oral history seeks an in-depth account of personal experience and reflections and offers important understanding of the past through the recording of memories with interviewees that participated in the events they describe (Perks and Thomson 2006; Fogerty 2001). Since the approach of this study was to focus on the establishment and management philosophies of PAs, we selected nine former and current staff of the government environmental agency (“Instituto da Conservação da Natureza e Biodiversidade”) and a former leader of an environmental NGO (“Liga para a Protecção da Natureza”). The choice of the interviewees from the government conservation agency was conditioned by their willingness to share experiences and the need to cover different periods between the late 1960s and the beginning of the 2000s. The former leader of the environmental NGO was chosen as one of the most important actors during the process of establishment of the European Natura 2000 network in Portugal.

The ages of the ten interviewees varied between 48 and 87 years, with an average age of 61.9 years (see Table 1 for details). The method of research was a semi-structured interview, which is a combination of specific questions and an open conversation (Fogerty 2001). The interviews were designed for collecting personal experiences and thoughts that were insufficiently documented in the consulted literature and did not aim at studying the variability of perceptions among interviewees.

After a first contact with the interviewees by phone, email or personally explaining the objectives of the study, interviews were held at either their place of work or their private residences between November 2007 and September 2008. All interviews were held in person, had a duration varying between 60 and 150 min, were audio taped recorded and then transcribed. The results of the oral history interviews were compared with the written records whenever possible (Fogerty 2001; Robertson and McGee 2003).

Protected Areas in Mainland Portugal

Protected Areas have been implemented in Portugal since 1971 and currently represent 7.5% of the mainland area (OECD 2001). They are managed by the “Instituto da Conservação da Natureza e Biodiversidade”, which belongs to the Portuguese Ministry of Environment. The legislation regarding the existing twenty-five national PAs includes five different management categories: National

Table 1 List of interviewees, past duties, profession/current position and age (at the time of the interview)

| Name | Past duties | Profession /current position | Age (years) |
|--------------------------|---|---|-------------|
| Gonalo Ribeiro Telles | Founder of the mainland environmental agency; Former Secretary of State of the Environment (1974–1979) | Landscape Architect University Professor (Retired) | 86 |
| Fernando Pessoa | First President of the mainland environmental agency (1975–1980) | Landscape Architect University Professor | 71 |
| Jos  Almeida Fernandes | Former president of the mainland environmental agency (1983–1987) | Biologist University Professor (Retired) | 77 |
| Mac rio Correia | Former technician, vice-president and president of the mainland environmental agency (1986–1987); Former secretary of State of the Environment (1987–1990) | Landscape Architect President of Municipality | 51 |
| Joaquim Marques Ferreira | Former technician and president of the mainland environmental agency (1987–1996) | Economist Regional Director of the Public Water Company | 54 |
| Lu s Vicente | Former director of PA (Berlengas Nature Reserve; 1987–1996) | Biologist University Professor | 53 |
| Henrique Pereira Santos | Former vice-president (1996–1998) and technician of the mainland environmental agency | Landscape Architect Technician of mainland environmental agency | 48 |
| Nuno Lecoq | Former director of five PAs (1979–1996) (S. Jacinto, Boquilobo, Berlengas, Ria Formosa, Castro Marim and V.R. Sto. Ant nio) | Landscape Architect Regional Director of the Forestry Services | 62 |
| Pedro Castro Henriques | Technician of the mainland environmental agency | Anthropologist Technician of mainland environmental agency | 66 |
| Jorge Palmeirim | Former president (1993–1996) and member of the NGO-LPN | Biologist University Professor | 51 |

Parks, Nature Parks, Nature Reserves, Protected Landscapes and Nature Monuments (see Table 2; Fig. 1 for details). Two of these PAs include adjacent Marine PAs (Berlenga and Arr bida). The most common classification today is the Natural Park, which is similar to the predominance of PAs with human intervention registered in the rest of Europe (IUCN category V; Dudley 2008; OECD 2001). This study focused both terrestrial and marine PAs, and Nature Monuments were excluded from the analysis because they are very small areas classified due to geological interest, without management or technical staff.

Each PA is managed by park staff composed by technicians and rangers, and a central office led by a regional director manages all the PAs of the same geographic area (except in the case of wetlands, which are all managed by one office and director). Human activities of local populations living within or near their limits include agriculture, forestry, cattle-raising, hunting and fishing, tourism, extraction of non-renewable natural resources, etc. Since

the year 2000, all the PAs were integrated in the Portuguese Natura 2000 network, which currently represents approximately 22.25% of the terrestrial mainland area (ICNB 2011).

Results

One of the main results of the present study concerns the identification of the two main philosophies of PAs that were previously described in the literature. During the period of dictatorship, the “original paradigm” of PAs (“Wilderness model”) was adopted through the establishment of a National Park and several Nature Reserves. After this initial model, there was a major change to a “new paradigm” of PAs. Therefore, the “Landscape model” was adopted, with the main goal of conserving traditional agricultural landscapes through the integration of human activities. Later, this “Landscape model” gradually changed to a “Nature conservation model”,

Table 2 Protected Areas of national interest (excluding Natural Monuments) created in mainland Portugal between 1971 and 2000

| Name of the PA | Date of creation | Date of the first management plan | Actors of implementation | IUCN management category |
|--|-----------------------------|-----------------------------------|-----------------------------------|--------------------------|
| Peneda-Gerês NAP | 1971 | 1995 | LPN | II |
| Arrábida NP (terrestrial and marine) | 1971 (reclassified in 1976) | 1980 | LPN | V |
| C. Marim marsh and V.R. Sto António NR | 1975 | 2008 | Government | IV |
| Estrela mountain NP | 1976 | 1990 | Government | V |
| Tejo estuary NR | 1976 | 2008 | Government | IV |
| Ria Formosa NP | 1978 (reclassified in 1987) | 1991 | Government | V |
| Montesinho NP | 1979 (reclassified in 1997) | 2008 | Government | V |
| S. Jacinto dunes NR | 1979 (reclassified in 2004) | 2005 | Government | IV |
| Aire and Candeeiros mountains NP | 1979 | 1988 | Local municipalities | V |
| Boquilobo marsh NR | 1980 (reclassified in 1997) | 2008 | Government | IV |
| Sado estuary NR | 1980 | 2008 | LPN | IV |
| Malcata mountain NR | 1981 (reclassified in 1999) | 2005 | LPN | IV |
| Berlenga NR (terrestrial and marine) | 1981 (reclassified in 1999) | 2008 | Government | IV |
| Sintra-Cascais NP | 1981 (reclassified in 1994) | 1994 | Government | V |
| Açor mountain PL | 1982 | 2008 | Government | V |
| Alvão NP | 1983 | 2008 | Government | V |
| Costa Caparica PL | 1984 | 2008 | Government | V |
| Litoral Norte NP | 1987 (reclassified in 2005) | 2008 | Local municipalities | V |
| Arzila marsh NR | 1988 | 2004 | Government | IV |
| S. Alentejano and C. Vicentina NP | 1988 (reclassified in 1995) | 1995 | LPN and Government | V |
| S. Mamede mountain NP | 1989 (reclassified in 2004) | 2005 | Local municipalities | V |
| Guadiana NP | 1995 | 2004 | LPN and other NGOs and Government | V |
| Douro Internacional NP | 1998 | 2005 | Government | V |
| Tejo Internacional NP | 2000 | 2008 | Quercus | V |
| Sto. André lagoon and Sancha NR | 2000 | 2007 | Government | IV |

NAP National Park, NP Natural Park, NR Nature Reserve, PL Protected Landscape; IUCN Management Category: *Ia* Strict Nature Reserve, *Ib* Wilderness Area, *II* National Park, *III* Natural Monument or Feature, *IV* Habitat/ Species Management Area, *VI* Protected Landscape/Seascape, *VI* Protected Area with sustainable use of natural resources

which was replaced by the “Biodiversity conservation model” with the establishment of the Natura 2000 network (See Table 3). Below, these changes are described in detail and within the wider context of the history of the Portuguese PAs.

From the “Original Paradigm” to the “New Paradigm” of PAs (Early 1970s–Early 1980s)

According to the literature concerning the Portuguese conservation history, the forest engineers were the main actors in the creation of the nature protectionist movement in Portugal during the first half of the 1900s. Among the initiatives of this group was the first proposal for the establishment of PAs in the country in 1937 (Flores 1937; Soromenho-Marques 1998, 2005) and the leadership in the creation of the first Portuguese environmental NGO called “Liga para a Protecção da Natureza” (hereafter LPN) in 1948 (Fernandes 1998; Neves 1971a; Bugalho 1998).

In the following two decades, this NGO was not successful in its objective of implementing PAs in Portugal, which can be explained by the high rate of illiteracy in the country, general lack of environmental awareness and political repression of the dictatorial regime (Soromenho-Marques 1998, 2005; Vaz 2000). However, in the late 1960s, this dictatorial government decided to participate in the celebration of the European Year of Nature Conservation in 1970 and in the U.N. Conference of the Environment held in Stockholm in 1972 as a way of approaching international organizations (Schmidt 1999a; Soromenho-Marques 1998, 2005). The national and international pressure during this participation resulted in the enactment of the first national legislation for nature protection, which enabled the establishment of PAs in the early 1970s (Law-Decree 9/70, 19/06/70; Neves 1970a, b).

At this time, there were two different views about what these first PAs should be. Forest engineers wanted to create

Table 3 Characterization of four models for the Portuguese PAs applied between 1971 and 2010

| | “Original Paradigm” PAs | | “New Paradigm” PAs | |
|----------------------------------|--|---|---|--|
| | Wilderness model | Landscape model | Nature conservation model | Biodiversity conservation model |
| Period | 1971–1974 | 1975–Early 1980s (in some PAs, late 1990s) | Mid 1980s–Late 1990s | Early 2000s–present |
| Description of PA model | Wilderness areas where human activities are reduced | Traditional rural landscapes, in which landscape and other cultural values are preserved | Areas with natural value, with compatible human activities | Areas with value for biodiversity at European level, with compatible human activities |
| Preferred Human Activities | Forestry, tourism, education, scientific studies | Traditional agro-pastoral activities, tourism and education | Human activities compatible with conservation, tourism and education | Human activities compatible with conservation, tourism and education |
| Main events in management of PAs | 1971: Establishment of first PAs 1971: Management of PAs by Forestry Services | 1975: Creation of governmental agency for conservation 1976: Introduction of first natural parks and protected landscapes 1986: Forestry Services ceases functions in management of PAs | 1993: Establishment of national Network of PAs 1993: Creation of first private PAs 1998: Creation of first Marine PAs | 2000: PAs integrated in Portuguese Natura 2000 network 2007: New management scheme, in which all PAs of region are supervised by same office and director (except wetlands) |

National Parks and Nature Reserves where traditional human activities were reduced and wilderness was valued (i.e., to apply the “Wilderness model”). On the other hand, landscape architects argued that this was inadequate in most of the Portuguese territory and proposed the establishment a “new paradigm” of PAs. In their view, PAs had the main purpose of conserving the landscapes resultant from traditional agro-pastoral activities and other associated cultural values (i.e., to apply the “Landscape model”). Initially, the idea of the forest engineers prevailed and the Peneda-Gerês National Park was created in 1971 to be managed by the Forestry Services as a national symbol for nature protection (Anonymous 1970; Neves 1971b; Law-Decree 187/71, 8/05/1971). Five Nature Reserves were also established between 1971 and 1972 (Fernandes 1998; Rego 2001).

This conflict between proponents of the two approaches of PAs is visible in written records such as official publications of the government environmental agency (Pessoa 1978), internal publications of NGOs (Telles 1992; Fernandes 1998), local media (Neves 1970a), papers presented to conferences (Pessoa 1989a, b; Macedo 1989), book chapters (Pessoa 1996) and academic theses (Schmidt 1999a; Vaz 2000). It was also confirmed in the oral history interviews, which clarified that the model for the Peneda-Gerês National Park was the American National Parks and that landscape architects had as initial model the German Natural Parks, which was later replaced by the French Regional Natural Parks.

After the change of the political regime from dictatorship to democracy in 1974, the new government created the sub-secretariat of State of the Environment. In what concerns the policy for the PAs, the new “National Service of Parks, Reserves and Landscape Patrimony” was created in 1975 (hereafter National Service; Law-Decree 550/75, 30/09/1975). Nevertheless, the Forestry Services continued to manage most of the PAs that were established before the Revolution of 1974. Since two government agencies shared functions related to the management of PAs, some institutional conflicts emerged (e.g., Pessoa 1978, 1996).

The multidisciplinary team of this new agency was led by landscape architects and had the main aim of implementing the “Landscape model”, despite its little resources (see Table 3) (Gonçalves 1998; Moreira 2004; Pessoa 1978, 1985). Hence, new legislation created the classifications of Natural Park and Protected Landscape, which were inspired in the German Natural Parks and Protected Landscapes, and became the preferred classifications for the new PAs (Law-Decree 613/76, 27/07/1976; Pessoa 1978, 1989a, b). Several written accounts such as official publications of the government environmental agency (Pessoa 1978) and even the new legislation mention the purpose of abandoning the previous policy of creating National Parks and adopting these alternative types of PAs. Historical accounts reported that the first years of this agency were characterized by the constant meetings with local municipalities and populations in the areas that were being considered for implementation of PAs (Pessoa 1990,

1996). Moreover, these accounts also showed that the institutional conflicts mentioned above were evident when Arrábida Nature Reserve was reclassified in 1976 as a Natural Park and its management was transferred from the Forestry Services to the National Service (Pessoa 1996; David 1996; Law-Decree 622/76, 28/07/1976).

According to an academic thesis about the history of the LPN (Vaz 2000) and an oral history interview, one of the most important instruments of decision about where to establish these areas was a study published by the LPN in 1973 entitled “First inventory of the areas to protect in mainland Portugal”. This study was based on extensive fieldwork and used criteria of geology, fauna, flora and landscape to choose potential areas for conservation (Vaz 2000).

After the establishment of several new PAs, there was an effort to improve the living conditions of the local populations (e.g., promotion of traditional products such as cheeses and sausages, opening of new roads, etc.) (Pessoa 1990). There were also initiatives to establish eco-museums in several PAs, which aimed to conserve the cultural patrimony associated with traditional agro-pastoral activities (Nabais 1985; Gonçalves 1998; Pessoa 2001; Riviere 2001).

In the oral history interviews, the method of choice of the new PAs to be established revealed a historical context that was absent from the literature. As one of the informants mentioned:

We should have done an extensive study of the natural values in all the country, in order to choose appropriate areas for conservation. However, this was a huge task that would have delayed the process and there were areas in real danger of losing their natural patrimony. (...) it was decided to classify areas where it was necessary to intervene rapidly. There was also an urgency to create as many PAs as possible, since this would make the political attempts to end with the SNPRPP [National Service] more difficult.

(Fernando Pessoa, first President of the mainland environmental agency 1975–1980)

Therefore, the establishment of PAs in this particular period was motivated by the need to save threatened areas and also to create a significant number of PAs managed by the National Service, so that this agency could be maintained despite the strong political opposition to conservation.

An internal publication of the LPN (Palmeirim and others 1980) and a book chapter (Palma 2008) reported that the late 1970s was marked by the only national case of broad public support to the creation of a PA. After a study about the threatened Iberian lynx (*Lynx pardinus*) in the Malcata

Mountain and the habitat destruction in this area, the LPN sent a report to the Portuguese Secretariat of the Environment and the World Conservation Union (IUCN). Following this, the IUCN wrote to the Portuguese government and President, and the actions of habitat destruction were suspended. A national campaign entitled “Save the lynx and the Malcata mountain” organized by the LPN was targeted at schools and resulted in several debates covered by the media, the collection of more than 46,000 supporting signatures and the subsequent creation of the Malcata Nature Reserve in 1981 (Law-Decree 294/81, 16/10/1981).

The oral history interviews also added information about several individual histories of creation of PAs that complemented the written sources. Typically, the initiative of implementation came from the government agency, but there were several exceptions in which NGOs or local municipalities were the most important actors in the creation of these areas (see Table 2).

The Transition from the “Landscape” to the “Nature Conservation” Model (Mid 1980s–Late 1990s)

In the early 1980s, the National Service continued to have financial and logistic difficulties due to lack of resources and increased responsibilities in a scenario of reduced political support (Pessoa 1985; Gonçalves 1998). Since the number of PAs was beyond its management capabilities, implementation on the ground was weak.

In 1983, the National Service was replaced by the “National Service of Parks, Reserves and Nature Conservation” (hereafter New Service) (Law-Decree 49/83, 31/01/83). This change of name in which the words “Landscape Patrimony” were replaced by “Nature Conservation”, the consulted legislation and several oral history interviews indicated a change in the policy of the agency and, more importantly, in the philosophy for the management of the PAs (i.e., the transition to the “Nature conservation model”; see Table 3) (Law-Decree 49/83, 31/01/1983; SNPRCN 1989; Henriques and others 1990). Hence, the main priority for the establishment and management of PAs gradually moved from the conservation of traditional agricultural landscapes and associated cultural patrimony to the broader objective of nature conservation.

As direct consequences of this change, the ambitious goal of creating eco-museums in several Natural Parks did not move forward at that time (Gonçalves 1998; Pessoa 2001). Nevertheless, some eco-museums such as Barroso and Aveiro were installed later within or near PAs (Teixeira 2005). This option of abandoning these plans was criticized in books and academic theses by the proponents and supporters of the project (Pessoa 1989a, 2001; Gonçalves 1998; Moreira 2004).

In spite of this transition of models, a study about financial investments in Montesinho Natural Park suggests that, in terms of the practical management of some PAs, there was little difference between the “Landscape” and the “Nature conservation” models (Rodrigues 2008). Since conservation actions for the preservation of traditional agricultural landscapes generally also benefits nature conservation, what probably happened in some of the PAs was a combination and coexistence of these two management goals, at least, until the establishment of the Natura 2000 network.

Written sources about the history of PAs in Portugal mention that, in the second half of the 1980s, the New Service benefited from the growth of the national political support for environmental policies and the integration of Portugal in the European Union in 1986 (Soromenho-Marques 1994, 1998; Moura 1996). As result of this growth of political support, the responsibility for the management of the Peneda-Gerês National Park passed from the Forestry Services to the New Service (SNPRCN 1989; Carvalho 1991; Law-Decree 403/85, 14/10/1985; Law-Decree 126/86, 2/06/1986). Therefore, the Forestry Services left permanently all the functions related to the management of PAs. Moreover, oral history interviews and abstracts of a congress both mention that additional resources were made available to the New Service through the increase of its annual budget and the approval of conservation and local development projects co-funded by the European Economic Commission (SNPRCN 1989).

The growth of the number of staff in the New Service from 118 employees in 1985 to 373 in 1986 can be explained by this increase of resources (Fig. 2). The publication of the Environmental Policy Act in 1987 (Law-Decree 11/87, 7/04/1987) provided legal support to the New Service to extend its competencies to domains such as

forestry, agriculture and hunting and for the creation of a National Network of PAs (Moreira 2004; Gonçalves 1998).

The results of the oral history interviews increased the information about management options for the PAs. As one informant pointed out:

When I assumed the presidency of the [New] Service, most of the PAs were paper parks, with almost no physical presence in the territory. The priorities (...) were to create local headquarters in each PA, to enable an effective presence, technical staff managing the territory.

(José Marques Ferreira, Former president of the mainland environmental agency 1987–1996)

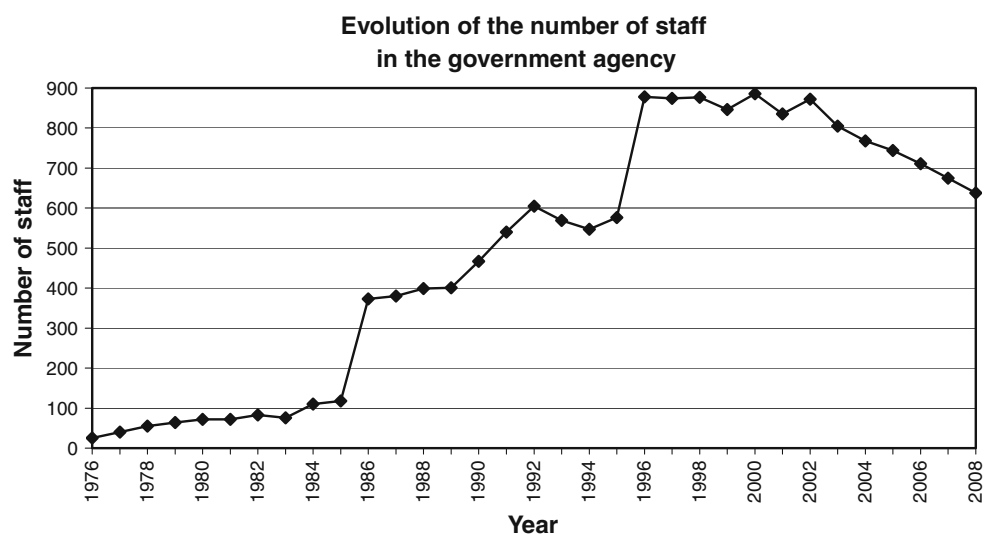
This statement reinforces the practical difficulties in establishing PAs in the terrain after they were legally created. It was only when the political and financial support grew that it was possible to hire more staff and create appropriate conditions for the PAs management.

The same informant also said:

Since both nature conservation and the cultural patrimony are a result of the human activity, it is important that the populations are happy and to compensate the restrictions imposed by the PA to their activities. Hence, there was a major concern for the welfare of the populations in order to create support from the bottom to the top.

Therefore, the main reason for the investment in local development during this period was because it was generally beneficial for nature conservation, but also to increase local support to the PAs. Moreover, several oral history interviews revealed that many PAs were initially well accepted by local populations and municipalities

Fig. 2 Evolution of the number of staff in the environmental agency from 1976 to 2008



because of the expected benefits they would bring to the region (e.g., local investments, tourism). However, these interviewees also stated that there was some opposition to this management option within the New Service, since this was considered to be beyond the functions of nature conservation of the agency.

According to oral history interviews, this support to local development also had as consequence a growth for the request of classification of areas, some of which did not fit the existing legal framework. Hence, the new legislation enacted in 1993 introduced a National Network System of PAs, with a mechanism for the creation of these areas at national, regional, local and private levels (Law-Decree 19/93, 23/01/1993; ICN 1994). It should be noted that this legislation brought for the first time the need to create management plans, which was not a priority until then (e.g., SNPRCN 1989). This delay partially explains that the average time between the creation of these areas and the approval of their first management plan was approximately 20 years (see Table 2). Therefore, most of the PAs were managed during long periods with only a general list of regulations that were published in the Law-Decree of their creation.

After the enactment of this new legislation for the PAs, the Service was replaced by the “Institute of Nature Conservation” (hereafter Institute) (Law-Decree 193/93, 24/05/1993). Although Portugal ratified the Convention of Biological Diversity in the same year, the new term “biodiversity” was not used in the new designation or legislation of the agency.

Several internal publications of NGOs also showed that the early 1990s was characterized by the beginning of a strategy of land acquisition for conservation purposes. For example, the Portuguese NGO Quercus and the Spanish association Adenex developed a conservation project in the border area in the northeast of Portugal (Tejo Internacional), which was co-financed by the European Commission and included the purchase of lands totalling 600 ha (Quercus 2005). The LPN also had a project co-funded by the European Commission, in which 1700 ha of land were bought for the conservation of birds in the south of the country (Castro Verde) (Rocha 2005; Sequeira 2008; Moreira 1999).

Finally, it was at the end of the 1990s that legal support for the establishment of Marine Protected Areas was created. According to the oral history interviews, consultation with marine experts was done between 1996 and 1997, after which new legislation for the creation of Marine Reserves and Parks was enacted (Law-Decree 227/98, 17/07/98). In the same year, this Law-Decree was applied in the establishment of the only two Marine Protected Areas which exist today in mainland Portugal: a Marine Reserve in the Berlenga Nature Reserve and a Marine Park

adjacent to the Arrábida Natural Park (Law-Decree 30/98, 23/12/98; Law-Decree 23/98, 14/10/98).

The Recent Change to the “Biodiversity Conservation Model” (Early 2000s)

The implementation of the Natura 2000 network in Portugal, which integrated all the PAs, marks the transition to the “Biodiversity conservation” model. Although previous authors did not distinguish between Nature and Biodiversity conservation (Kalamandeen and Gillson 2007; Mulder and Coppolillo 2005), it is argued in this study that the establishment of this network represented a change in Portugal from a national to an European perspective, as well as from an opportunistic to a more systematic approach of establishing areas for conservation (Pressey and others 1993; Margules and Pressey 2000; Araújo 1999; Araújo and others 2007). Such change is obviously related to the application of the concept of biodiversity and the notion of representativeness which was not present in the previous Nature conservation model. Associated with this transition was a drastic growth from 7.5 to 21.4% of terrestrial area covered by conservation areas (OECD 2001).

This new model was also mentioned in the oral history interviews, adding information to the way in which this transition occurred. For example, one of the interviewees said:

The idea of PA holds on the singular and exceptional characteristics of certain areas such as Yellowstone. The concept of biodiversity has been developed in parallel to this idea, and is related to the notion of representativeness. In the ICN [Institute], there was an internal division between the logic of the PAs and the logic of biodiversity conservation, in which the latter became gradually stronger.

(Henrique Pereira Santos, Former vice-president of the mainland environmental agency 1996–1998)

Looking at the consulted national literature, the term “Biological diversity” or “Biodiversity” was officially adopted for the first time in a national PAs congress of the environmental agency in 1994 (ICN 1994). Therefore, the transition to the “Biodiversity conservation” philosophy seemed to have happened gradually in the second half of the 1990s. This period is coincident with the process of definition and nomination of the new classified Natura 2000 sites and the beginning of their management in the year 2000. It was also during this period that the Institute worked in partnership with several universities in projects co-funded by the EU, which aimed to increase the knowledge about biodiversity in Portugal (e.g., Alves and others 1998; Brito and others 1998).

In relation to the process of establishment, written sources such as legislation, internal documents and letters from the LPN and a letter from an academic investigator state that the first phase of classification of Natura 2000 sites were legally approved in 1997, but the coverage of 12.3% of the mainland territory was considered insufficient by the NGOs and members of academia (Resolutions of Ministers 142/1997, 28/08/1997; LPN 1998, 2000; Araújo 2000). Additionally, the construction of the bridge Vasco da Gama (Lisbon) and its effects in the Tejo estuary Nature Reserve was used by the Portuguese NGOs to pressure the government with complaints to the European Commission, in order to increase the size of this Natura 2000 network (Palmeirim 2008). As result of the pressure of NGOs and the academia, the total area of this network at the end of the second stage in the year 2000 represented approximately 21.4% of the territory (Resolution of Ministers 76/2000, 5/07/2000; OECD 2001).

Although the main events in the definition and establishment of the Natura 2000 network were collected in written accounts, one of the oral history interviews enabled an overview of this process. For example, this informant said:

The area initially designated [as Natura 2000 by the government] was insufficient. There were promises for further designation, but they only materialized after complaints submitted by the LPN, and shadow lists that it prepared, that led the European Commission to open infringement procedures against Portugal.

(Jorge Palmeirim, Former president of the NGO LPN 1993–1996)

Historical accounts and newspaper news mention financial difficulties in the Institute in the beginning of the new millennium, which partially explains the progressive loss of status of the agency and the decrease of the number of staff between 2002 and 2008 (Fig. 2) (Freitas 2008; Ferreira 2008; Fernandes 2003, 2004). According to the consulted legislation, there was a major reorganization of the environmental agency in 2007, which changed its name to “Institute of Nature Conservation and Biodiversity” (Law-Decree 136/2007, 27/04/2007). One of the main purposes of this reorganization was to adapt to the new management objective of biodiversity conservation and a new scheme of PAs management, in which all the PAs of a region are supervised by the same office and director (except in the case of wetlands, which are all managed by one office and director) (Law-Decree 530/2007, 30/04/2007). As mentioned above, the Institute also began to manage the Natura 2000 network in the year 2000. Other important initiatives of the Institute during the last decade were the approval of the management plan for the Natura 2000 network and the

conclusion of all the management plans for the PAs (Resolution of Ministers 115-A, 21/07/2008; see Table 2).

Finally, it is important to mention that the Peneda-Gerês National Park was classified in 2008 as a Pan Park, which seems to be an approach to its original “Wilderness model” (Pan Parks 2011). This change in the management philosophy was also reflected in the new version of the management plan of this PA which was recently approved (Resolution of Ministers 11-A/2011, 4/02/2011).

Discussion

This study showed that the different PAs categories which exist today in Portugal are not only consequence of the characteristics of the areas in which they were established, but also of the historical influence of management philosophies and concepts imported from other countries. Examples of such influences were the U.S. National Parks, the German Natural Parks and Protected Landscapes and the French Regional Natural Parks. In some cases, the transition of management models had as consequence the reclassification of PAs, but others maintained their categories and simply altered their management ideology. For example, the main objective in the legislation of the creation of the Peneda-Gerês National Park was to promote its wilderness (Law-Decree 187/71, 8/05/1971), but its first management plan that was approved twenty four years later states as main objectives both nature conservation and the welfare of local populations (ICN 1995). These changes of management philosophies were also reflected in the transition of the jurisdiction of PAs management from the Forestry Services to the environmental agency, and also in the changing of names and functions of the latter agency. Moreover, this study confirmed the ideas of previous authors that the national conservation policy was influenced by different professional groups (Vasconcelos 2009; Schmidt 1999a, b). More specifically, it was found that this corresponded to the dominance of three professional groups and/or their ideologies in the management of PAs: in chronological order, the forest engineers, followed by the landscape architects and finally the biologists.

The Portuguese case study seems to reflect some of the past and current trends of the European history of PAs. First, there was an initial impulse to emulate the American National Parks, just as it happened in the majority of the European countries. Among the exceptions are Germany, which began with private PAs created by NGOs to protect traditional landscapes, and the United Kingdom, which established National Parks that integrated traditional human activities (i.e., these are equivalent to the categories of Natural Parks or IUCN's Category V; Mose and Wiexlbaumer 2007). Second, there was a general trend to establish

different types of PAs enhancing other values (Natural Parks and Protected Landscapes), which also integrated the objective of local development of populations. This was the case of countries such as France, Switzerland, Spain and Italy (Mose and Wiexlbaumer 2007; Stoll-Kleemann 2010; Morillo and Gómez-Campo 2000). Third, the certification of Peneda-Gerês National Park as a Pan Park can be interpreted as an approach to its original “Wilderness (or Yellowstone) model”. This trend is also seen in other European countries, in which the goal of “Wilderness” is gaining momentum both in national and international policies (Martin and others 2008; Jones-Walters and Civic 2010; Lupp and others 2011). For example, the European Parliament recently passed a resolution calling for increased protection of wilderness areas within the context of the European biodiversity policy agenda (Jones-Walters and Civic 2010). On the other hand, there are advocates that the “new paradigm” of PAs could be used as a regional development tool (Hammer and others 2007). This is the case in the Scottish National Parks, in which the assumed main management goal is sustainable development (Barker and Stockdale 2008; MacLellan 2007). Although both the “original paradigm” and the “new paradigm” models can coexist and assume biodiversity conservation as one of their main objectives, there are cases in which they do compete (Mose and Wiexlbaumer 2007). For example, recent research about management options for the Swedish National Parks revealed a conflict between land protection and promotion of tourism *versus* the exploitation of natural resources through forestry (Lundmark and others 2010).

However, the history of the Portuguese PAs differs from other European cases in two important aspects. First, the policy of classifying areas as National Parks was permanently interrupted after the Revolution of 1974, whereas the majority of European countries that adopted other types of PAs continued nevertheless to establish National Parks (Mose and Wiexlbaumer 2007; Stoll-Kleemann 2010; Morillo and Gómez-Campo 2000). The second difference is that the succession of PA models happened much faster in Portugal than in other countries. Therefore, this case study can be seen as a condensed version of the changing goals for the management philosophies in European PAs. Such rapid change can be partly explained by the fact that the history of PAs began much later in Portugal, at a time when alternative models already coexisted in other regions and were ready to be adopted to the Portuguese reality.

In relation to the process of establishment, it is interesting to notice that the birth of the Portuguese PAs happened during the opening of the dictatorship and the re-establishment of the democracy. Therefore, this period of political change represented a “window of opportunity” for the establishment of these areas (Brandon and others 1998; Rylands and Brandon 2005). The chosen PAs were rarely “the lands nobody wanted”, as previous authors mentioned

it happened in other countries (e.g., Pressey 1994; Noss and Coperrider 1994; Meyers and others 2000). Indeed, it should be noted that the establishment of some PAs such as Malcata were a reaction to immediate threats to their conservation. Although the PA system was established in a rather opportunistic basis lacking a profound knowledge about natural values such as described in other case studies, the integration of these areas in the Natura 2000 network brought a more systematic approach in which the main aim was the conservation of the European biodiversity (Pressey and others 1993; Margules and Pressey 2000; Papageorgiou and Vogiatzakis 2006).

It is also important to acknowledge that the majority of the areas were created due to the initiative of the government environmental agency, in which local authorities and populations often accepted the implementation of these areas under the premise that this would bring benefits to the region (Table 2). Therefore, in similarity to what happened in other regions of the World, one of the main motivations of local municipalities and populations for the creation of PAs was the improvement of their living conditions (Muller and others 2008). Nevertheless, there were also areas established due to actions of NGOs and, to a lesser extent, local municipalities and one case of strong national support for the creation of a PA. These NGOs were also important in the birth of the strategy of land purchase as an alternative for securing conservation that fell outside the national PA system, despite the fact that they are still of very limited size. Although these areas were later classified as Natura 2000 sites, they continue to be managed by the NGOs. Finally, academia also played an important role in the creation of areas for conservation, not only through their usual participation in the actions of NGOs, but also in specific initiatives such as the political pressing for the increase of the Portuguese Natura 2000 network.

In what concerns the value of the oral history for this study, this was an effective way to complement the information of the written records (Robertson and McGee 2003; Fogerty 2001). Although some of the collected information was repeated with the written accounts, there were several instances in which the oral history interviews were more detailed and meaningful, since they provided a direct access to the experiences and thoughts of the main protagonists of this history. This was particularly important in parts of history which were not documented in the written accounts, but could be created from the oral history interviews (Fogerty 2001). Unlike other authors, the present study did not find significant contradictions between written records and oral history interviews. This can be explained by the fact that these interviews were mainly directed at collecting personal experiences and reflections that were poorly documented. For example, the changes in the PAs management philosophies were usually visible in

the legislation, but the interviews helped understand the full extent and implications of these management options, as well as the historical context surrounding them. These interviews also had the unexpected effect of revealing written documents that the authors did not know and/or that were less accessible to them.

Nevertheless, both sources of information had specific limitations. As mentioned by other authors, the oral history interviews were restricted to the informant's ability to remember (Gimmi and Burgi 2007; Riley and Harvey 2007). For example, in some cases, the exact details and dating of historical events were difficult for the informants to recall and had to be checked in the written accounts. Also, details concerning historical events such as why and how they happened were occasionally absent from the literature, but could be created through the interviews (Fogerty 2001). In spite of these limitations, this study reinforces the views of previous authors that the written records and oral history interviews were both useful sources of information (Gimmi and Burgi 2007; Daley and others 2008), and its simultaneous use enabled greater insight into the establishment and management philosophies that guided the history of the Portuguese PAs.

Conclusion

In this study, we have shown that the international models of PAs had a direct influence in the establishment and management of the Portuguese PAs. The most important transition between the “original paradigm” and “new paradigm” of PAs happened with the fall of the dictatorship and re-establishment of the democracy, but other changes of PA models within this “new paradigm” also occurred due to international influence. A similar historical pattern was observed in other European countries, and a conflict between these two paradigms still persists today.

In relation to the methods used, the written records presented the main historical events and policy changes concerning PAs, whereas the oral history interviews usually provided more information and greater insight about these events. Finally, since this conjunction of these methods added meaningful details to the Portuguese PAs management history, these two information sources were considered valuable for this reconstitution.

Acknowledgments We are grateful to G. R. Telles, F. Pessoa, J.A. Fernandes, M. Correia, J. M. Ferreira, H. P. Santos, L. Carvalho, N. Lecoq, P. C. Henriques, L. Vicente, and J. Palmeirim for their contributions. We also thank M. J. Santos, M. Lecoq, M. Fernandes, Henrique M Pereira and the ICNB for helping in several stages of collection of information and discussion of ideas, and to B. Seeley and S. Lambert for reviewing an earlier version of this manuscript. The Portuguese Foundation for Science and Technology (FCT) funded this study.

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