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Nature protection in Greece: an appraisal of the factors shaping integrative conservation and policy effectiveness

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ABSTRACT

The proliferation of designated areas following the implementation of Natura 2000 in Greece has initiated changes in the protected area design and conservation policy making aiming at delivering action for biodiversity and integrative planning on a wider landscape. Following the sustainability concept, an integrative approach cannot realistically take place simply by extending the protected area and designations. The paper addresses public involvement and inter-sectoral coordination as major procedural elements of integrative management and evaluates the nature and strength of their negative or positive influences on the fulfillment of an integrative vision of nature conservation. A review of the history of protected areas and administration developments in Greece provide useful input in the research. The analysis has shown that the selected network of Natura 2000 sites has been superimposed upon the existing system and resulted in duplication of administrative effort and related legislation. As a result the overall picture of protected areas in the country appears complex, confusing and fragmented. Major failures to integrated conservation perspective can be traced to structural causes rooted in politico-economic power structures of mainstream policy and in a rather limited political commitment to conservation. It is concluded that greater realisation of integrated conservation in Greece necessitates policy reforms related mainly to sectoral legal frameworks to promote environmentalism as well as an increased effort by the managing authorities to facilitate a broader framework of public dialogue and give local communities incentives to sustainably benefit from protected areas.

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1. Introduction

Greece globally is considered an ecological hot spot (HZS, 1992; Troumbis, 1995; Phitos et al., 1995) and is placed at the forefront of European conservation efforts (Davis et al., 1994). The idea of setting aside certain areas to safeguard the biological values was initiated in Greece in 1937, by designating the first two national parks. In the ensuing years, five statutory designated categories (National Park, Marine Park,

Aesthetic Forest, Protected Natural Monument and Ramsar sites) have been established, accounting for a total of 93 areas covering 1.83% of the land mass (Papageorgiou, 1996); the protected area system was established in a rather opportunistic and ad hoc basis (Cassios, 1980). In 1992, the shift towards a more integrative approach in the EU initiated the Natura 2000 network of protected areas (Habitat Directive 92/43) that includes representative examples of natural ecosystems. The operationalization of this network in Greece was

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facilitated in the form of new laws and an increasing declaration policy. Today, the network accounts for 359 areas extending to 18% of the total landmass (MEPPW, 2005). One consequence of the proliferation of designated sites is the considerable overlap of protected areas and objectives. Moreover, the Natura 2000 designations puts current management practices at stake since the enlargement of the protected area network increases friction and land-use conflicts.

Policy analysis is a critical element of appraising the effectiveness of any public policy including nature conservation policy. While the literature abounds with approaches to evaluate conservation efficiency at the ecosystem level (Ramirez-Sanz et al., 2000; Roe and Van Eeten, 2001; Brody et al., 2003), it is also useful to carry out a critical analysis of conservation policy at the individual country level/scale.

The recent revision of environmental legislation, induced by the EU framework, led to the reorientation of Greece's existing conservation policy introducing a call for broader public involvement and a framework for increased coordination capacities granted to the conservation authorities. In the light of the above, the paper represents an appraisal of the progress of integrated nature conservation policy in Greece. First, the article addresses the procedural elements of public participation and inter-sectoral coordination as well as the institutionalized role of political culture as major constituents of an integrative nature conservation approach. The examination of these aspects provides an insight on the way that power is distributed and on how particular circumstances yield particular policy outputs. Second, the article reviews the legislation relevant to, and the history of the evolution and working of protected area administration in Greece, before and after the implementation of the Natura 2000 network, in order to raise and discuss past failures of the system and enlighten critical aspects of the nature conservation planning. Finally, it draws on some conclusions that are emerging as important in the nature conservation agenda.

This analysis was carried out by reviewing relevant documents and legal texts relating to the development and implementation of nature conservation policy in Greece, and by conducting in-depth semi-structured interviews. The interviews were designed to gather qualitative rather than quantitative information from professional bodies in the field of protected area administration and management. A set of eight interviews with senior members of the conservation authorities, administrators, park managers, NGOs representatives and leading scientists were carried out in the period between February and April 2004. A content analysis was used to organize information and evaluate the research findings. The terms protected area and nature reserve are used interchangeably in the text.

2. Towards integrative conservation

In most western European countries, nature conservation reached a phase of stable institutionalization during the 20th century when governmental conservation organizations were established together with legislation on designated protected areas (Dominick, 1992; Evans, 1992). Until the 1960s, conservation was strongly defensive and regulatory. Nature had

been pushed back to the very margins of society in areas of undisputed ecological value, managed by selected groups of forest administrators and politicians (MacNaghten and Urry, 1998). This reflected to a great extent the ecological thought at the time. In the last decade or so, the sustainability of the defensive model has been questioned and concerns have been expressed over the future not only of designated areas, but also, over the continuing loss of biodiversity in the unprotected wider landscape (Tilzey, 2000). Moreover, a further concern is how to relate nature resource management and social sustainability.

Following the 1992 Rio Conference (see, for example, article 4 of the Rio Declaration) a general shift towards sustainable development in environmental policy has gained importance worldwide (Robinson et al., 1992). The most visible expression of the sustainability mandate is the adoption of integrated environmental management which provides a holistic framework that has the potential to incorporate natural resource management and socioeconomic and cultural concerns and aspirations (Holdgate, 1992; Bishop et al., 1997). The significance of this fits well with the changing perceptions of conservation over recent years. For example, the practice of nature conservation has evolved from the protection of single species and habitats often in an adverse local community environment, towards the placing of conservation into the planning and management of wider landscapes, following procedures of increasing community participation (Venter and Breen, 1998; Beltran, 2000) and economic viability (Bishop et al., 1997). The policy innovation resulting from the above lies in the emphasis placed on the integration of conservation policy objectives into other policy areas and the mobilization of additional decentralized societal capacities (Jänicke and Jörgens, 1999) in a new governance pattern beyond the traditional direct management by a forest agency.

2.1. The requirements for integrated nature conservation

Public policy is, at its most simple, a choice made by government to undertake some course of action (Howlett and Ramesh, 1995). For the encompassing analysis of nature conservation policy, it may be crucial to know the choices that the government has made regarding the building of a protected area network, how it is implemented and administered, and what effect it produces. Successful conservation of biodiversity is not only a function of how much nature and what kind of nature is being protected or the various types of designations, but most importantly, the rigor with which conservation policy is pursued in practice by the competent agencies. Foremost, the operationalization of integrative nature conservation planning is intrinsically linked to a number of institutional and procedural elements. The former are very much dependent upon the politico-economic context and are country specific. An example of institutional aspects is political culture, briefly defined as the national style of shaping policy and affecting the outcomes (Vogel, 1986). Getting to understand how political culture influence policy output, one should examine its dynamic in the national context. For instance, if the policy style of a country is anticipatory and open for achieving consensus for protected areas management schemes, the chance of successful implementation is

much greater than that in a country whose government is reactive to societal objectives and tends to impose decisions on society. Other examples of institutional aspect besides political culture include the issuing of legal frameworks or regulations and land ownership.

Procedural aspects, on the other hand, refer to characteristics of a policy process focusing mainly on the involvement of interest groups in decision-making, the coordination of relevant sectors and the increased collaboration between governmental and non-governmental conservation organizations. It is widely recognized today that in nature conservation policy, issues that have most commonly been the domain of professional state bureaucracies at national levels are increasingly subjected to involvement from institutions at sub-national level following patterns of negotiations between state and non-state actors (McNeely, 1995; Reitan, 2004). Involving stakeholders with many interests in decision-making is considered to be a critical issue for assessing protected area management effectiveness (Heywood and Watson, 1995) and can contribute to integrative or holistic approaches to policy making that can help promote sustainability (Bramwell and Lane, 2000).

Hence, successful integrative conservation is a mode of planning that strives to make conservation policy more rational, democratic, better coordinated and oriented towards the future and the wider landscape. In this new approach, the rationality of nature conservation policy will be ensured by involving all relevant actors and interconnecting policy networks, instead of the traditional technocratic policy planning which is usually dominated by hierarchical (top-down) governance by the state (Buttoud and Yunusova, 2002). The evaluation of participatory and interconnecting conservation policy in a country has to take into consideration country specificities such as ownership or certain policy constraints such as lack of planning capacity and uncontrollable factors such as political culture.

3. The history of nature reserves in Greece

3.1. The national park approach: 1938–1966

Nature conservation was first initiated in Greece in 1937 in the form of national parks. The term national park has a legislative definition that was born in the Law 856/37 in 1937, which specified parks as “mainly forested areas of special conservation interest on account of flora and fauna, geomorphology, subsoil, atmosphere, waters and generally their natural environment for aesthetic, psychological and healthy recreation and for carrying out all kinds of scientific research” (OGG, 1971). This legislation proposed the designation of extensive mountainous forested areas as national parks, each not less than 3.000 ha. The organization of national parks’ objectives is achieved through the realisation of a two-zoning protection system, the core receiving strict protection and the periphery with moderate level of protection acting mainly as buffer zone. The law also introduced careful management, including the notion that core areas were to be protected in a natural state. Thus, the predominant characteristic of national parks in Greece has been mainly the interplay of purely natural processes. Seven parks were created between 1937 and 1966, covering a total of 18.600 ha of public land.

3.2. The broadening of the protected area system: 1966–1992

The next significant proliferation of the protected areas system came in 1971 (Law 996/1971), which complement Law 856/37 and led to the statutory designation of five more national parks between 1962 and 1974. The principles governing the creation of parks and their basic philosophy have enshrined in the provisions of the new law; conservation

Table 1 – Summary of Greek national statutory designations and Natura sites according to region

Region	National parks		Aesthetic forests		Protected natural monuments		Ramsar sites		Natura 2000	
	No	Size (ha)	No	Size (ha)	No	Size (ha)	No	Size (ha)	No	Size (ha)
Eastern Macedonia-Thrace	0	0	2	4596	2	568	4	34400	28	374336
Western-central Macedonia	2	32777	0	0	10	82.4	4	22400	67	841756
Thessaly	1	3998	6	19076	1	0			22	680036
Epirus	1	12225	2	152	3	130	1	25000	28	347883
Ionian Islands	1	2240	0	0	0	0	0	0	22	185797
Western Greece	0	0	0	0	1	45.3	1	13900	35	287347
Stereia Hellas	2	10723	2	874	6	1	0	0	22	208759
Peloponnese	0	0	4	4147	19	98	1	3700	26	332114
Attica	2	7340	1	640	0	0	0	0	12	65970
N. Aegean	0	0	1	3000	2	15438	0	0	19	161300
S. Aegean	0	0	0	0	2	135	0	0	54	269838
Crete	1	5100	1	20	5	1	0	0	55	377946
Total	10	74403	19	32505	51	16499	11	99400	390	4133082
Mean area (ha)		7440		1710		1178 ^a		9036		10598
Min–max (ha)		2240–25850		20–16900		0–15000		2400–25000		5–249145
Agency		MoA		MoA		MoA		MEPPW		MA

^a Mean area of only 14 sites occupying surface area.

was the primary purpose of the parks with recreation only allowed where conservation values are not compromised (OGG, 1971). By 1974 there had been 10 national parks listed, covering a total land area of 74,403 ha but only 0.56% of the total land area or an equivalent of 7.4 ha per 1000 people (Table 1). The distribution of parks is limited to mountainous areas in the existence of truly wild, unspoiled and pristine places containing some of the most valuable habitats for conservation in the country. This has led to a rather aggregated spatial distribution leaving outside large geographical areas such as Eastern Macedonia, Western Greece, Peloponnese and the Aegean Sea (Fig. 1). Designation procedures did not consider any issues relating to social and economic welfare of local residents, but only to protected area itself.

The Law 996/71 has also added substantial protection for two more protected categories: aesthetic forests (AFs) and protected natural monuments (PNMs). Nineteen aesthetic forests have been established between 1973 and 1980 with the primary aim to provide recreation and aesthetic enjoyment to the public. They cover 32,505 ha or 0.24% of the landmass (Table 1). In keeping with their purposes, most aesthetic forests are close to inhabited areas or in much-frequented

places and receive a great deal of visitors per annum. Their protection level is less restrictive, similar to the buffer zones of national parks. Protected natural monuments include areas with special nature conservation features. There are 51 protected sites designated between 1975 and 1985, 14 of which comprise a surface area amounting to a total of 16,499 ha or 0.12% of the national landmass, while the remaining 36 sites contain single trees or clumps of trees (Table 1). The restrictions imposed by law to protected natural monuments are those applied to the core of the national park category, thus denoting a rather strict protection status.

A pioneer element of the law was the institutionalization of protected area designation process; each new protected area is declared by a presidential decree, after having been proposed by the Council of Ministers on the advice of the Technical Council of Forests (Lazaretou, 1995). All the above categories of protected areas in Greece are located on state land. This is not surprising since the state is the largest landowner in Greece (65%). International conventions such as the Ramsar Convention provided significant protection on wetland ecosystems which were previously not included in the protected area system. Eleven sites were designated on ratification of the Ramsar convention with the majority located in northern

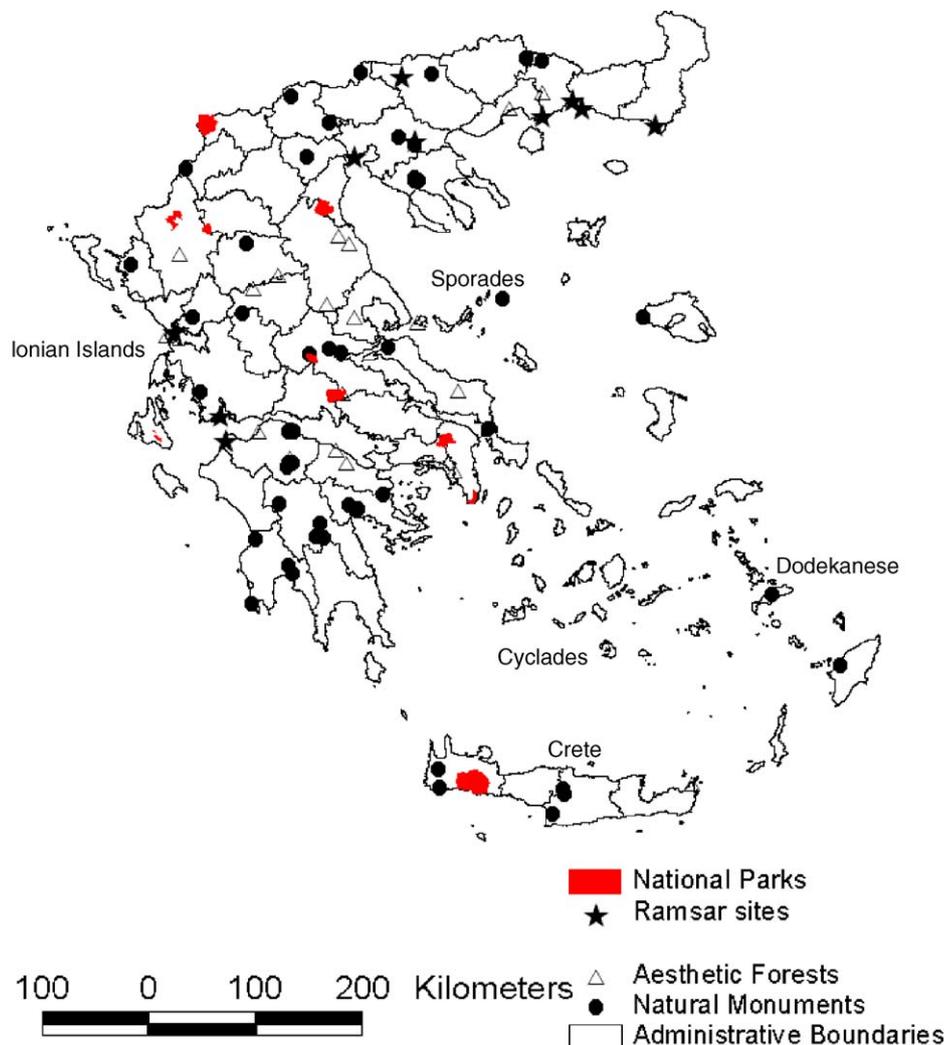


Fig. 1 – Distribution of Greek national parks, aesthetic forests, protected natural monuments and Ramsar sites.

Greece (Table 1, Fig. 1). Finally, there are 500 areas declared as game refuge under hunting law but only a few of them are important to nature conservation; those are included on the lists of other types of protected areas and receive their primary protection from those designations (Kassioumis, 1994).

The next significant change to the operation of the protected area system came with an institutional law on the environment in 1986 (Law 1650/1986). The law replaced all previous legislation and its rationale was to eliminate deficiencies in previous laws (EER, 1986); it introduced certain changes in site designation procedure and five new categories of protected areas including marine parks. However, its implementation has been limited. With the exception of two marine parks founded in 1986, no other areas have been given special protection under this new law until 1992.

3.3. The network approach: the period 1992 onwards

In recent years, the emphasis in nature conservation in Europe has been placed more on retaining what natural areas still exist, connecting and protecting them with surrounding buffer zones, and restoring damaged areas where applicable. One of the expressions of this shift is the establishment of Natura 2000 network of designated sites. Combining special

protection areas (SPAs) designated under the Birds Directive and Special Areas of Conservation (SACs) under the Habitat Directive, Natura 2000 is intended to be a Union-wide ecological network of sites representative of Europe's diversity of habitats and species. In partial fulfilment of EC law, an initial set of 296 sites was identified in Greece for which biodiversity and other relevant information was collected during 1994–1996 (Dafis et al., 1997). The final site selection was carried out by the Ministries of Environment and Agriculture following the advice of a group of national experts. Currently, there are 359 sites (151 SPAs and 239 SCIs with 31 sites having been proposed as both SPAs and SCIs) occupying a total of 4,133,082 ha (MEPPW, 2005).

The Natura 2000 network is more representative of the country's biodiversity and is much better distributed over the countries' regions (Table 1, Fig. 2) if compared to the system of all other previous national designations.

The lowest number of designated areas is found in the region of Attica which is no surprise since this is the largest built-up area and the area where development pressures are higher than possibly any other region in Greece. The high number of protected sites in South Aegean and Crete reflects the biogeographical importance and the presence of unspoiled natural and semi-natural areas. Currently, the highest number

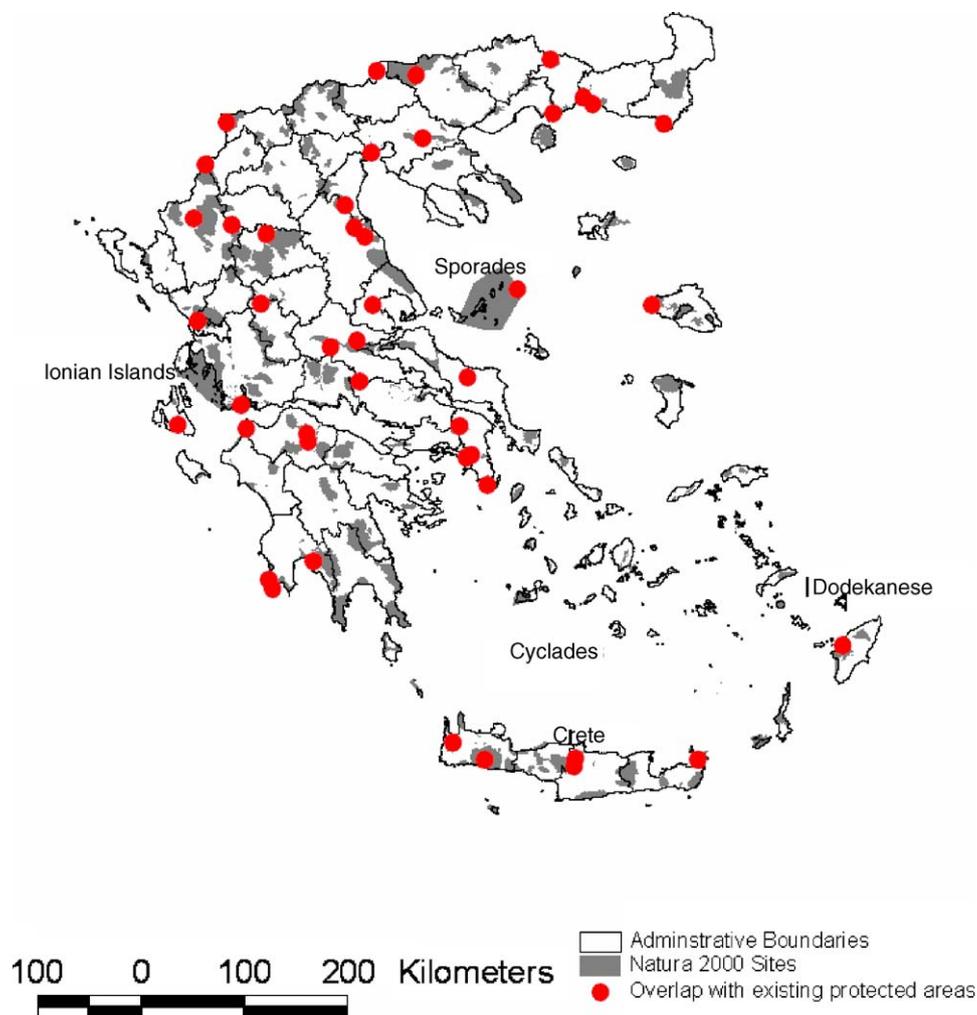


Fig. 2 – Distribution of Natura 2000 sites and overlapping with all previous national statutory designations.

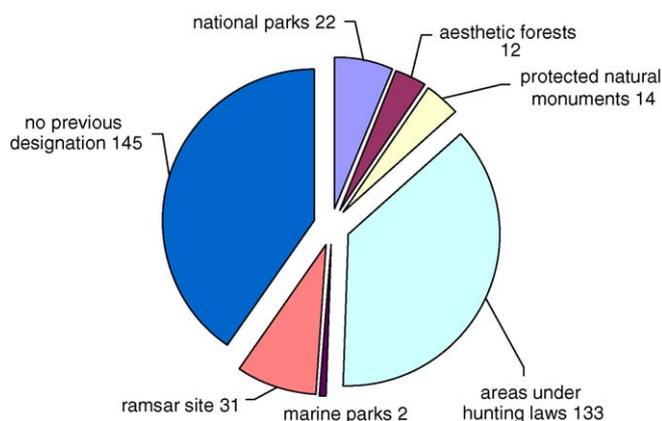


Fig. 3 – Distribution of Natura 2000 sites by previous national statutory designations.

of SPAs is located in those two regions. Overall both the number of sites established in each region and mean area has increased. This would help the rationalization of the system with an increasing recognition of the need to harmonize legislation and change the administration capacities in order to increase the networking possibilities and enhance overall conservation efficiency.

Of the 359 Natura sites 214 are based on previous designations. Specifically 22 sites are based on national parks, 12 on aesthetic forests and 14 on protected natural monuments, 31 on Ramsar sites and 2 are marine parks. In 133 sites part of the land is game refuge while only 145 sites are newly designated areas receiving protection under the habitat directive (Fig. 3).

3.4. Administration and management

Ever since the creation of the first national parks in 1938, protected area administration has been carried out by the Forest Service through its Forest District Offices (FDOs). FDOs have been a government body funded by the Ministry of Agriculture (MoA), having the form of a statutory nature conservation authority, responsible for the development and implementation of conservation policy in all protected areas. This state-based schema has been served by full-time forest staff and received all funding from central government. Hence, planning for national parks and other protected areas has been traditionally based on a deductive chain of decisions taken centrally by a close circle of foresters within the Greek Forest Service. Management practices in particular, were confined to enforcing strict protection and regulate land use with the aid of tailored management responses. The issuing of special operating regulations setting rules and land-use restrictions have led to a restrictive management regime, which in certain cases such as the Samaria Gorge National Park, took an extreme form with the relocation of an entire settlement outside the park boundaries. In other cases such as Prespa park, farming restrictions have raised fear and mistrust to the park authority (FDO) (Pyrovetsi and Daoutopoulos, 1999). This has built-up pressures in the protected-rural area system but in most cases, local opposition has been weak. This was a result of the parks location, usually founded in remote,

mountainous and less densely populated areas of the country rather than of an effective conflict-resolve mechanism. Arguably, the pursuit of objectives, especially on the biodiversity front in national parks, has remained largely rhetorical rather than the product of park authorities' determination and commitment. In a similar manner, additional goals such as informing visitors and raising public awareness have been poorly fulfilled (Papageorgiou, 2001). Several scholars have highlighted organizational and institutional weaknesses, ineffective policy coordination and a rather limited political commitment to conservation as major causes of the poor performance (Kassioumis, 1990; Troumbis, 1995).

During the 1980s, the policy of nature conservation was given higher priority most notably after the Law 1650/1986. The law granted more powers to a new state conservation actor, the Ministry of Environment, Planning and Public Works (MEPPW), to deal with policy development and planning for the protected areas. Although, the MEPPW has been the main operator in policy development and planning in the protected areas created after 1986, executive powers and the actual management of all kinds of protected areas founded before 1986, still remain within FDOs at the local level. This law has been criticised for lack of public involvement, insufficient sanctions and administrative difficulties (IUCN, 1991; Tahos, 1992).

The implementation of the habitat directive in 1992, signified a turning point in national nature conservation policy followed by a number of changes in park administration, the statutory role of conservation authorities and new funding possibilities instituted by Law 2742/1999. Specifically, the new legislation provided *inter alia* for the establishment of managing authorities (MAs) as conservation bodies, legally entitled to take over the administration and management of the Natura sites' from the formal coercive powers and direct state control of forest service (FDOs) and the ministry of EPPW (OGG, 1999). Unlike FDOs and the MEPPW, MAs are autonomous and non-departmental boards that were granted the status of an independent agency accountable to the minister of EPPW. The striving towards broader involvement in decision-making was a breakthrough in the new administration schema and is reflected in the board's composition. Boards comprise, according to law, 7–11 members representing a variety of sectoral organizations (Forest Directorates, local government), local environmental organizations (NGOs) and private interest groups (forest cooperatives, hunting groups and timber industry). The minister of EPPW has an influential role on the selection process; he decides on the participant organizations, appoints the board chairman and nominates all other members after proposals made by each participant organization. Unlike past administration, current decision-making practices appear to be more participatory, more integrative and more efficient. Research experience from Zakynthos marine park has shown genuine consensus building efforts to decision-making; decisions are only taken after complete consensus is achieved and not on majority voting which was detrimental for creating a climate of trust among the board members (Pantis, personal communication). On the other hand, the extent to which consensus was achieved, has often been a reflection of the willingness of the participants or the power of the groups behind them.

Table 2 – Objectives of protected areas designated between 1937 and 1992

	Biodiversity preservation	Scientific research	Protection of special features	Tourism/recreation	Education	Heritage protection
National parks	v	v		v	v	
Aesthetic forest				v		
Protected natural monument			v			v
Ramsar site	v					
Marine parks	v					

MAs are empowered to exert all functions of plan making, management, research and administration except executive control. The lack of executive powers is impinged upon article 24 of the Greek Constitution, which declares that “the protection of nature is the responsibility of the State”. As a consequence, the law enforcement arm remained largely linked to the FDOs, especially for land areas, and its wardening system which can now be supported by MAs’ personnel. At present, 26 managing authorities have been established in charge of 27 Natura sites which contain some of the most valuable parts of the land for biodiversity conservation. These include nine national parks, two marine parks, two protected natural monuments and eight Ramsar sites (as described in the pre-1992 protected area system). Although few in number, the above MAs are considered key actors for evaluating the administrative and managerial efficiency of the new conservation policy since they contain the most biologically diverse and threatened designated areas. It could also put in test the government’s declaration policy on sustainable nature conservation.

4. The nature conservation policy analyzed

4.1. At the system level

The primary purpose when selecting a network of protected areas is to encompass the biodiversity of a region by sustaining its ecological processes. The extent to which a network of protected sites fulfils this role, according to Margules and Pressey (2000) depends on whether the objectives of representativeness and persistence have been met. Nature conservation planning effort expressed in the period 1938–1992, was characterized by an attraction to pristine nature and a lack of scientific planning. At the most fundamental level, protected sites in Greece were established in the absence of any systematic ecological evaluation and rather the idea was to merge scenic beauty with historical values (Cassios, 1980). Certain managerial practices such as zone demarcation in national parks, were based largely on legislative requirements to facilitate coherent management rather than on the biogeography of key species for conservation (Papageorgiou, 1996). Hence, the lack of communication between scientists and managers and especially the lack of information on species and ecosystem distributions and thorough reserve design studies have characterized past planning (Kassioumis, 1994). This is considered an obstacle to long-term conservation efficiency with repercussions on biodiversity (Katsoulis and Tsangaris, 1994; Trakolis et al., 2000).

At the same time there has been a growing awareness of the drawbacks of different types of protected areas founded between 1938 and 1992, that are too narrowly defined in terms of the objectives, powers and duties associated with them. The aims of the designations of the protected area system have been developed to serve multiple objectives; according to the founding laws, some types are designed to provide protection for conservation purposes but, for others, conservation is only of secondary or incidental importance offering primarily opportunities for leisure or education and raising public awareness. Of the protected areas shown in Table 2, only national parks adopt a broader multi-purpose approach while all of the remaining areas serve a single purpose according to the legislation.

Protected areas were also devised to provide protection on different spatial levels as exemplified by the variability of mean size found between the protected area categories (Table 1). With the exception of national parks, which extent to larger areas (mean size 7440 ha), the rest of statutory areas cover a significantly smaller surface and exhibit an increased variability in size which may lead to enhanced fragmentation and reduced consistency of management practices. For example, 12 aesthetic forests have a surface area below 700 ha and only 7 extend to larger geographical areas. Of the protected natural monuments 14 comprise a surface area that range between 0.8 and 15,000 ha, while the remaining 37 designations contain single trees or clumps of trees.

The realisation of the Natura 2000 network has changed the protected area design and the way conservation is perceived and implemented in Greece, making efficient management a more demanding and challenging task. First, the creation of Natura sites by definition, serves multi-purpose objectives in each designated site. This is possible through the delineation of a zonation system aiming at serving a multiplicity of objectives ranging from biodiversity conservation to recreation and development zone for attracting tourist activities. Second, it was the first time in the history of conservation in Greece that scientific criteria, although quite diverse (e.g. endemism, key species, etc.), have been applied for site designation. The whole process required the combined effort of the ministry of EEPW and external scientific committee, thus opening up the way towards greater cooperation between state and non-state bodies. Another important aspect is the location of the sites. So far, the protected area system in Greece has been a typical example of designation in remote areas and areas unsuitable for commercial activities and has resulted in minimum conflicts. However, Natura 2000 designations will put current practices to test since sites are located more than ever before close to, or on areas where urban and commercial development competes with conservation.

Finally, following the shift in ecological thought towards integrative planning, the policy related to Natura 2000 implementation recognizes that protected areas cannot retain their interest independently of the changes that take place in the surrounding countryside. Most notably, this requires action at the landscape, rather than site, level which in return puts the administrative capacity for building cooperation to test. This is again something new for conservation approaches in the country which so far, neglected processes operating at scales other than those operating within parks' boundaries.

4.2. At the policy level

The overview of protected area network history and administration has revealed the dynamics that underlie the implementation of conservation policy in Greece. Regardless of the total size of land protected, the number of areas designated and the new conservation agency, there is a series of elements whose effects need to be evaluated in the way they impede or enhance the efficiency of integrative conservation policy in Greece.

4.2.1. The role of political culture

The term political culture refers to the way that national styles of making politics shape public policy and affect the outcomes (Berge, 2004). Political culture is a shaping force of the dynamics of government bureaucracies and it can be invoked as an explanation for the performance of conservation bureaucracies in particular. It affects the quest for integrative environmental protection in two ways. The first is the general political requirement that the policy should be publicly defensible as well as reasonable and just in order to achieve the goal of sustainability. All concerned bureaucrats and politicians keep this requirement in mind. The second is the professional (sub)cultures of the bureaucrats of the involved ministries.

Greece's political culture dynamic had not institutionalized power and influence on policy making to broader interest groups. It is characterized by an instrumental, rationalist decision-making process where the public authority is the sole body in charge of making choices in the interest of the "common good". From the beginning of the nature conservation movement in Greece conservation policy was clearly within the mandate of the Ministry of Agriculture; nature conservation has been perceived as a policy field dominated by professional expertise recruited from the forest science, characterized by a technical involvement of local Forest District Offices following a strict professional bureaucracy. This has led to a protection approach that has not been different from that of the forests. For example, the role of the conservation authorities has been to circumscribe the impacts of humans to the resource, but have taken little account on the relations found in the protected-rural area system. Practice has shown that this forestry-based approach has restricted the ability of conservation policy to be open and democratic and therefore hardly corresponds with the Rio Declaration for environmental protection to be part of a development process which is as integrative as possible.

The creation of MAs as non-departmental agencies certainly signifies an important shift from the forest-oriented

approach towards a more holistic and multi-disciplinary vision of conservation. Moreover, it challenges the political culture from the inside, it becomes open and dynamic in terms of being able to adapt to new changing national and international conditions. Undoubtedly, it constitutes a supporting factor to integrative nature conservation in the years to come.

4.2.2. Broad public participation

Today it is commonplace in environmental policy for a participatory approach to be a central and essential element in policy formation. Thoughtful policies and actions at the local level can often protect critical habitats of regional significance more effectively and less expensively than the best intentioned state protection schemes (Duerksen et al., 1997). Past research noted that the achievements of park authorities in Greece have been negligible and particularly disappointing when viewed against the involvement of various types of interested groups (Trakolis, 1999). Despite the multitude of actors interested in nature conservation, in Greece there was no legal basis for public participation in the stages of planning and implementation during the first period of protected area movement. The lack of relevant participation of various interested parties in decision-making in Greece has led to fear and mistrust from the indigenous population (e.g. in Prespa park) and often generated conflicts between recreationists, local groups and managing authorities (e.g. in Vikos-Aoos park) (Papageorgiou, 1996).

In response to the above weaknesses, the establishment of MAs, laid the ground for more actors involved in decision-making. However, no sooner was the law enacted and implemented that a problem arose. This concerned the composition of management boards. Board members represent a variety of local and national interests. Both local and national interests are strong; and this duality appeared to reinforce the reality of national-local dichotomy and determined the form and board composition that would administer them. The case of Vikos-Aoos park has been typical of this power relations controversy. Certain local authorities have resented the managing authority since it meant handing over some of their powers to a body on which they had little or no representation. Other local interest groups expounded views that were objectionable for crucial issues such as the planning in state-owned sites to be entrusted to non-state conservation agencies such as the MAs, while traditional nationwide NGOs are clearly supportive to changes in the administration in the pursue for increased sustainability in protected areas. At the root of the national-local/regional dichotomy is the premise that the national interest in protected areas is essentially environmental whereas the local interest is essentially socioeconomic and connected to the distribution of powers. Thus, the issue of the board's composition is a critical one and it affects the representation of various voices in the management of each protected site. Moreover, it may entail problems of social inequality as decision-making remains largely a compromise only among those participant interests included in the board. This may promote elitism and lead to exclusion of other stakeholders – serving only the interests represented in the board and not those outside – who may find themselves reduced to spectators of a negotiation process upon which

have no actual power or influence. This development does not facilitate the integration of the protected areas into their social environment. A procedural solution could be to establish deliberative forums where decisions are discussed with broader representation of interests. However, a clear formalised procedure for deliberate dialogue between different interests outside the board members has not been the case in the new administrative pattern. This could be an additional problem, since it may produce low levels of trust among the excluded actors, especially after they realise that their expectations about their capacity to influence decisions are not matched by political or institutional realities. Hence, the key question for the future may well centre on whether the managing authorities that were designed to give rein to a variety of voices can respond to the increasing pressures for appropriate representation of a matrix of different interests between national–local level as well as between socio-economic–environmental dilemmas.

4.2.3. Coordination capacities

The institutionalization of nature conservation in two separate ministries and two conservation agencies during 1938–1999, has frequently led to limited problem resolution. Experience has shown that overlapping competencies cannot sustain the development of a substantive conservation policy. For example, the dual administration and overlapping jurisdictions correspond in an inter-ministerial problem solving system that, it was criticised for creating more confusion and further difficulties (Kassioumis, 1994) and for being highly bureaucratic and inefficient. Similar lack of coordination is observed between various departments within the same ministry. From a broad perspective, the reasons for contradictory policies at the ministerial level and the absence of cooperation between sectors at local level are associated partly with sectoral claims for the distribution of funds and financial incentives and partly with competing corporate interests (various ministries and sectors favour and support their own interests and clients and fear the erosion of competitive advantages by joint decisions), thought an inherent resistance to coordination is apparent simply because significant problems are anticipated. Moreover, the conflicts on the competencies of the various ministries and institutions more or less reflect the historically developed dominant political culture of public authorities that favour sectoral isolationism.

After the creation of managing authorities as a formal conservation body in 1999, effective coordination between MAs and the competent ministerial Directorates has been a more demanding claim than ever before. The aforementioned unresolved conflicts and overlapping competencies cannot sustain the development of integrative protected area management. The greater part of Natura sites is forestland or farmland over which the MAs have minimal jurisdiction and lack executive powers. In certain cases designated sites include coastal areas of high value for tourism, making policy implementation a harder task to accomplish. As a consequence, increasing effort is needed to enhance the possibilities for coordination with forest, agricultural and tourism sectors in order to ensure the operation and protection of the natural values in a given protected site. Experience so far in the Zakynthos marine park, the first park that obtained a MA, has

highlighted the above concerns but also has proved to be a leading and powerful actor that has shown great potential for making the system work once mutual trust is restored.

5. Conclusions

The rich biodiversity, the complex biogeography and political culture are common issues all over the Mediterranean Basin that render nature conservation a difficult task (Vogiatzakis et al., 2006). As analyzed herein, integrative conservation management is shaped through the interaction of creating an efficient protected area network of natural areas of high biological value with processes and institutions that relate to resolving problems related to power distribution and increased participation and collaboration among state and non-state actors at a broader spatial level. Evaluating the nature conservation policy is of particular relevance to improving its management and overall effectiveness and could set the foundations for applying appropriate rehabilitation measures. An appraisal of the conservation policy in Greece focuses both at the policy and the reserve design level. Regarding the latter some problems arise from the inception of the Network at the European level. There are many unresolved issues related to the designation and future management that are related to the effectiveness of the selection as this is defined by Margules and Pressey (2000) and the functionality of the network at the landscape scale as underpinned by the principles of Landscape Ecology (e.g. connectivity, fragmentation, etc.) (Forman and Godron, 1986). All these factors in combination with the possible effects of climate change on species distribution and the structure and function of ecosystems have already stirred up discussions all over Europe (IPCC, 2001; Harrison et al., 2001).

At the policy level, it is increasingly obvious that biodiversity conservation cannot be sustainable simply by extending the protected area and designations alone. The present analysis has shown that major failures of conservation policy can be traced to structural causes rooted in politico-economic power structures of mainstream policy. These structural causes generate three constraints, in addressing an integrative approach in nature conservation and in designing appropriate policy instruments. The first refers to the need of changing the political culture within the administration agencies. Having little history of working together with the local communities or developing and planning park strategies as integral component to regional development, greater realisation of integrated conservation in Greece necessitates reforms in the political culture in terms of being more open and cooperative and the setting up of a process to facilitate public dialogue. The change in political culture could be enhanced following policy reforms related mainly to sectoral legal frameworks and administrative structures. The shift towards a more integrated conservation policy in Greece requires also a stronger overall political commitment. Some steps ahead are apparent, especially after the institutionalization of managing authorities and especially the participatory approaches introduced, which have challenged the role of the traditional forest bureaucracy but still a clear integrative vision is missing or wherever it is applied its implementation is problematic.

The second issue provides the means to assess the social intervention in the conservation of protected areas. Building an effective Natura 2000 network will undoubtedly cause frictions between local communities and park planners. The “worthless land hypothesis” proposed by Runte (1979) has subsequently been replaced by a theory whereby countries with higher urban population are likely to have higher total area protected (Brotherton, 1996). Natura 2000 critics argue that the current network of protected areas, which is solely based on scientific criteria, will inevitably influence land-use and will result in conflicts once the management/monitoring of the areas begins (Alphandery and Fortier, 2001) or more likely will be a starting point for negotiations with stakeholders through scheduling work (Dimitrakopoulos et al., 2004). With the implementation of Natura 2000 in Greece it is more likely that these conflicts will intensify since many of the designated sites include or are located close or next to intensively farmed land (e.g. Prespa park) and/or places for tourist development (e.g. Elaphonisi in Crete, Zakynthos park). The socioeconomic-environmental dilemma in this case will be a hard task to manage. Therefore, MAs are important for developing a framework of action that gives broader stakeholder groups and local communities’ incentives to sustainably benefit economically from protected areas and use resources in surrounding areas. A formalised iterative procedure encouraging broader public participation and consultation is perceived to be of great benefit in building local support to protected area decision-making.

The third relates to greater inter-sectoral coordination and collaboration. Conservation policy in Greece has yet to achieve an inter-sectoral and holistic approach in order to pursue the targets of sustainability and be more integrative on a broader geographical base. What this means in policy terms, is the development of sectoral policies such as agriculture and forestry, offering a more biodiversity sensitive planning. Especially national forest legislation can have a significant input into this. Given the high percentage of forest land (43.6%) and dominant state forest ownership (65.5%) (Stamou et al., 1998), forest policy alone could improve protection outside the designated areas and increase dramatically the potential of conserving natural values. Thus, public forests surrounding protected sites could serve as buffer zones or corridors to enhance connectivity. This is concurrent to the Natura network philosophy for reversing the fragmentation of habitats and increasing the conservation potential of protected areas. Such an approach requires rationalization and greater biodiversity sensitivity to be infused to both the forest legislation and forest management planning.

Given the above, it is within the powers of the new conservation agencies and administrators to respond to this challenge, move rigorously forward, raise political commitment, but above all assure in practice that the new administrative framework will not be another example of lost opportunities.

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REFERENCES

- Alphandery, P., Fortier, A., 2001. Can a territorial policy be based on science alone? The system for creating the Natura 2000 network in France. *Socio. Rural.* 41, 311–328.
- Beltran, J., 2000. Indigenous and Traditional Peoples and Protected Areas: Principles, Guidelines and Case Studies. IUCN and WWF, Gland and Cambridge.
- Berge, E., 2004. Political culture and the implementation of National Forest Programmes. In: Glück, P., Voitleithner, J. (Eds.), *NFP Research: Its Retrospect and Outlook*, vol. 52. Proceedings of the Seminar of COST Action E19 “National forest programmes in a European context”, September 2003. Publication series of the Institute of Forest Sector Policy and Economics, Vienna, pp. 97–115.
- Bishop, K., Phillips, A., Warren, L.M., 1997. Protected areas for the future: models from the past. *J. Environ. Plan. Manag.* 40 (1), 81–110.
- Bramwell, B., Lane, B., 2000. *Tourism Collaboration and Partnership: Politics, Practice and Sustainability*. Channel View, Clevedon.
- Brody, S., Carrasco, V., Highfield, W., 2003. Evaluating ecosystem management capabilities at the local level in Florida: identifying policy gaps using geographical information systems. *Environ. Manag.* 32 (6), 661–681.
- Brotherton, I., 1996. Protected area theory at the system level. *J. Environ. Manag.* 47, 369–379.
- Buttoud, G., Yunusova, I., 2002. A mixed model for the formulation of a multipurpose mountain forest policy. Theory vs. practice on the example of Kyrgyzstan. *Forest Policy Econ.* 4, 149–160.
- Cassios, K.A., 1980. National parks and nature reserves in Greece. *Nat. Natl. Parks* 18, 9–10.
- Dafis, S., Papastergiadou, E., Georgiou, K., Babalonas, D., Georgiadis, Th., Papageorgiou, M., Lazaridou, Th., Tsiaousi, M., 1997. Directive 92/43/EEC, The Greek Habitat Project Natura 2000: An Overview. The Goulandris Natural History Museum- Hellenic Biotope/Wetland Centre, Thessaloniki, Greece (in Greek).
- Davis, S.D., Heywood, V.H., Hamilton, A.C., 1994. *Centres of Plant Diversity*. WWF/IUCN, Cambridge.
- Dimitrakopoulos, P., Memtsas, D., Troumbis, A., 2004. Questioning the effectiveness of the Natura 2000 special areas of conservation strategy: the case of Crete. *Global Ecol. Biogeogr.* 13, 199–207.
- Dominick, R.H., 1992. *The Environmental Movement in Germany, Prophets and Pioneers, 1871–1971*. Indiana University Press, Bloomington, IN.
- Duerksen, C.D., Elliot, N., Thompson, E., Miller, J., 1997. *Habitat Protection Planning: Where the Wild Things Are*. American Planning Association, Planning Advisory Report No. 470/471.
- European Environment Review, 1986. Greece: Draft Environment Law, vol. 1, p. 28.
- Evans, D., 1992. *A History of Nature Conservation in Britain*. Routledge, London.
- Forman, R.T., Godron, M., 1986. *Landscape Ecology*. John Wiley, New York.
- Harrison, P.A., Berry, P.M., Dawson, T.E. (Eds.), 2001. *Climate Change and Nature Conservation in Britain and Ireland: Modelling Natural Resource Responses to Climate Change (the MONARCH project)*. UKCIP Technical Report, Oxford.
- Hellenic Zoological Society, 1992. *The Red Book of Threatened Vertebrates of Greece*. Hellenic Zoological Society (HZS), Athens.
- Heywood, V.H., Watson, R.T. (Eds.), 1995. *Global Biodiversity Assessment*. Cambridge University Press, Cambridge.

- Holdgate, M., 1992. Protected Landscapes - Where Next? Countryside Commission and Countryside Council for Wales, Cheltenham, UK.
- Howlett, M., Ramesh, M., 1995. *Studying Public Policy. Policy Cycles and Policy Subsystems*. Oxford University Press, New York/Oxford.
- International Panel on Climatic Change, 2001. *Climate Change 2001: Impacts Adaptation and Vulnerability*. CUP.
- IUCN, 1991. Greece. In: *Protected Areas of the World: A Review of National Systems*, vol. 2. IUCN, Gland, Switzerland and Cambridge, pp. 184–192.
- Jänicke, M., Jörgens, H., 1999. Green planning in OECD countries: a cross-national comparison of environmental policy plans. In: Glück, P., Oesten, G., Schanz, H., Volz, K.R. (Eds.), *Formulation and Implementation of National Forest Programmes*, vol. 1. EFI Proceedings No. 30, pp. 99–119.
- Kassioumis, K., 1990. Greece. In: Allin, C.W. (Ed.), *International Handbook of National Parks and Nature Reserves*. Greenwood Press, New York, pp. 157–174.
- Kassioumis, K., 1994. Nature protection in Greece, legislation, protected areas and administration. *Geotech. Sci.* (5), 58–74 (in Greek).
- Katsoulis, B.D., Tsangaris, J.M., 1994. The state of the Greek environment in recent years. *Ambio* 23 (4–5), 274–279.
- Lazaretou, Th., 1995. *Legal Protection of Greek Wetlands*. Sakkoula, Athens (in Greek).
- MacNaghten, P., Urry, J., 1998. *Contested Natures*. Sage, London.
- Margules, C.R., Pressey, R.L., 2000. Systematic conservation planning. *Nature* 405, 243–253.
- McNeely, J.A., 1995. Protected areas for the 21st century: working to provide benefits to society. *Biodivers. Conserv.* 3, 390–405.
- Ministry of Environment, Planning and Public Works, 2005. Proposed SPAs and SCIs sites to form Natura 2000 in Greece. www.minenv.gr.
- Official Gazette of Greece, 1971. Law Decree 996/1971 (in Greek).
- Official Gazette of Greece, 1999. Law Decree 2742/1999 (in Greek).
- Papageorgiou, K., 1996. An evaluation of the national park system of Greece with particular reference to recreational management in the Vikos-Aoos national park. Ph.D. thesis. Sheffield University, Sheffield.
- Papageorgiou, K., 2001. A combined park management framework based on regulatory and behavioural strategies: use of visitors' knowledge to assess effectiveness. *Environ. Manag.* 28, 61–73.
- Phitos, D., Strid, A., Snogerup, S., Greuter, W., 1995. *The Red Data Book of Rare and Threatened Plants of Greece*. WWF Hellas, Athens.
- Pyrovetsi, M., Daoutopoulos, G., 1999. Farmers' needs for nature conservation education in Greece. *J. Environ. Manag.* 56, 147–157.
- Ramirez-Sanz, L., Alcaide, T., Cuevas, D., Guillen, D.F., Sastre, P., 2000. A methodology for environmental planning in protected natural areas. *J. Environ. Plan. Manag.* 43 (6), 785–798.
- Robinson, N., Hassan, R., Burhenne-Guilmin, F. (Eds.), 1992. *Agenda 21 and the UNCED Proceedings*, IUCN, New York.
- Reitan, M., 2004. Politicisation and professional expertise in the policy of nature conservation. *Local Environ.* 9 (5), 437–450.
- Roe, E., Van Eeten, M., 2001. Threshold-based resource management: a framework for comprehensive ecosystem management. *Environ. Manag.* 27 (2), 195–214.
- Runte, A., 1979. *National Parks: The American Experience*. University of Nebraska Press, Lincoln, Nebraska.
- Stamou, N., Gatzogiannis, St., Efstathiadis, N., Papadopoulos, St., 1998. *Forest Policy: Existing Situation, Problems, Alternatives, Conclusions, Recommendations*. Report to the Minister for Agriculture. Thessaloniki (in Greek).
- Tahos, A.I., 1992. *Environmental Protection Law*. Sakkoulas, Thessaloniki (in Greek).
- Tilzey, M., 2000. Natural areas, the whole countryside approach and sustainable agriculture. *Land Use Policy* 17, 279–294.
- Trakolis, D., 1999. Protected natural areas, proposals for administration and management. In: Zagas, Th. (Ed.), *Proceedings of the 8th Congress of the Greek Forestry Society*, Thessaloniki, pp. 544–551.
- Trakolis, D., Platis, M., Meliadis, I., 2000. Biodiversity and conservation actions on Mount Voras, Greece. *Environ. Manag.* 26 (2), 145–151.
- Troumbis, A., 1995. Ecological networks in Greece. *Landscape* 95, 51–62.
- Venter, A.K., Breen, C.M., 1998. Partnership forum framework: participative framework for protected area outreach. *Environ. Manag.* 22, 803–815.
- Vogel, D., 1986. *National Styles of Regulation: Environmental Policy in Great Britain and the United States*. Cornell Studies in Political Economy, Political Science/Economics. Cornell University Press, Ithaca.
- Vogiatzakis, I.N., Mannion, A.M., Griffiths, G.H., 2006. Mediterranean ecosystems problems and tools for conservation. *Prog. Phys. Geogr.* 30 (2), 175–200.

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