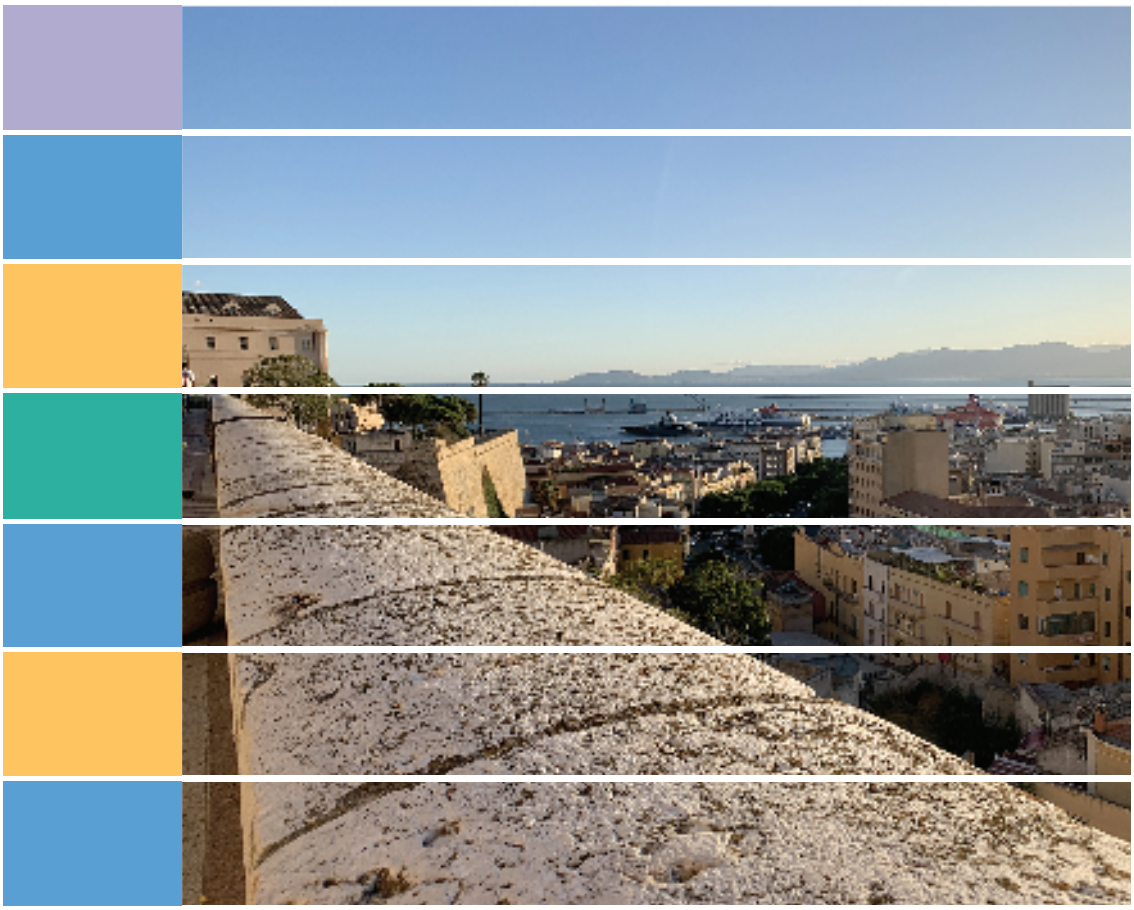
Carmela Gargiulo Corrado Zoppi
Editors

Planning, Nature and Ecosystem Services



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Federico II Open Access University Press

Università degli Studi di Napoli Federico II
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Smart City, Urban Planning for a Sustainable Future

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Carmela Gargiulo Corrado Zoppi

Editors

Planning, Nature and Ecosystem Services

INPUT aCAdemy 2019

Conference proceedings

Federico II Open Access University Press

Planning, nature and ecosystem services / editors Carmela Gargiulo, Corrado Zoppi - Napoli: FedOAPress. 2019 - (Smart City, Urban Planning for a Sustainable Future. 5).

Web link:
http://www.tema.unina.it/index.php/tema/Monographs

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

Università degli Studi di Napoli Federico II
Centro di Ateneo per le Biblioteche "Roberto Pettorino"
Piazza Bellini 59-60 - 80138 Napoli, Italy
http://www.fedoapress.unina.it

Published in Italy

Cover and graphic project: TeMA*Lab*

This book collects the papers presented at INPUT aCAdemy 2019, a special edition of the INPUT Conference hosted by the Department of Civil and Environmental Engineering, and Architecture (DICAAR) of the University of Cagliari.

INPUT aCAdemy Conference will focus on contemporary planning issues with particular attention to ecosystem services, green and blue infrastructure and governance and management of Natura 2000 sites and coastal marine areas.

INPUT aCAdemy 2019 is organized within the GIREPAM Project (Integrated Management of Ecological Networks through Parks and Marine Areas), co-funded by the European Regional Development Fund (ERDF) in relation to the 2014-2020 Interreg Italy – France (Maritime) Programme.

INPUT aCAdemy 2019 is supported by Società Italiana degli Urbanisti (SIU, the Italian Society of Spatial Planners), Istituto Nazionale di Urbanistica (INU, the Italian National Institute of Urban Planning), UrbIng Ricerca Scientifica (the Association of Spatial Planning Scholars of the Italian Schools of Engineering) and Ordine degli Ingegneri di Cagliari (OIC, Professional Association of Engineers of Cagliari).

This book is the most recent scientific contribution of the "Smart City, Urban Planning for a Sustainable Future" Book Series, dedicated to the collection of research e-books, published by FedOAPress - Federico II Open Access University Press. The volume contains the scientific contributions presented at the INPUT aCAdemy 2019 Conference. In detail, this publication, including 92 papers grouped in 11 sessions, for a total of 1056 pages, has been edited by some members of the Editorial Staff of "TeMA Journal", here listed in alphabetical order:

- Rosaria Battarra;
- Gerardo Carpentieri;
- Federica Gaglione;
- Carmen Guida;
- Rosa Morosini;
- Floriana Zucaro.

The most heartfelt thanks go to these young and more experienced colleagues for the hard work done in these months. A final word of thanks goes to Professor Roberto Delle Donne, Director of the CAB - Center for Libraries "Roberto Pettorino" of the University of Naples Federico II, for his active availability and the constant support also shown in this last publication.

Rocco Papa
Editor of the Smart City, Urban Planning for a Sustainable Future" Book Series
Published by FedOAPress - Federico II Open Access University Press

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DOI: 10.6093/978-88-6887-054-6

BOTTLENECKS IN FULLY IMPLEMENTING THE NATURA 2000 NETWORK IN ITALY

AN ANALYSIS OF PROCESSES LEADING TO THE DESIGNATION OF SPECIAL AREAS OF CONSERVATION

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How to cite item in APA format:
Lai, S. (2019). Bottlenecks in fully implementing the Natura 2000 network. An analysis of processes leading to the designation of Special Areas of Conservation in Italy. In C. Gargiulo & C. Zoppi (Eds.), *Planning, nature and ecosystem services* (pp. 201-211). Naples: FedOAPress. ISBN: 978-88-6887-054-6, doi: 10.6093/978-88-6887-054.6

ABSTRACT

Biodiversity protection in the European Union has its legal foundations in two directives (Directive 92/43/EEC of 21 May 1992, the so-called "Habitats Directive", and Directive 2009/147/EC, the so-called "Birds Directive"), which establish an international, coordinated network of protected areas known as "Natura 2000". In this article, the implementation of the network is qualitatively analyzed by looking at the processes whereby Special Areas of Conservation are currently being designated in Italy, following a preliminary and required establishment of site-specific conservation measures which can optionally be included within appropriate management plans. Through a thorough documental analysis, four topics were examined as follows: integration of conservation measures in ordinary spatial plans; institutions and tiers of government involved in the management and planning of Natura 2000 sites; stakeholders' inclusion in the identification of conservation measures; nature and role of conservation measures in the Italian planning framework. The key outcome of the analysis is that processes greatly differ among regions, and a variety of approaches, more or less scientific and technocratic, more or less democratic and inclusive, emerge.

KEYWORDS
Natura 2000 Network; Natural Protected Areas; Environmental Planning

1 INTRODUCTION

Within the European Union (EU), two main pillars underpin policies aiming at preserving biodiversity and halting biodiversity loss. First, the EU Biodiversity Strategy, which envisions biodiversity and ecosystem services "protected, valued and appropriately restored" by 2050 in the EU and aims at halting biodiversity loss and the degradation of ecosystems by 2020 (European Commission, 2011). Second, a legal framework whose main pillars are Directive 92/43/EEC ("Habitats Directive") and Directive 2009/147/EC ("Birds Directive", codified version of Directive 79/409/EEC). The two directives establish a strict protection regime for wildlife and natural and seminatural habitats, and a coordinated network of terrestrial and marine protected areas that should ensure biodiversity maintenance or restoration at a favorable conservation status.

This network, which stretches over an impressive 800,000 km^2 inland (i.e., more than 18.2% of the European Union in size) and over 530,000 km^2 of sea waters (European Environmental Agency, 2018), is termed "Natura 2000 network" and comprises Sites of Community Importance (SCIs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). It is regarded as one of the most prominent international networks of protected areas (Lockwood, 2006; Kukkala, 2016) and as a successful example of spatial policies aiming at preserving biodiversity (Popescu et al., 2014). As argued by Rauschmayer et al. (2009), the effectiveness of biodiversity conservation policies can be assessed either by evaluating their outcomes or by analyzing their definition or implementation processes. As for the first type of assessment methods, numerous studies assess Natura 2000 performances by looking at species' and habitats' conservation status improvements since the establishment of the network with reference to specific areas, species, or *taxa*.

As for the second type, because of the environmental and social consequences of the establishment of such a widespread network, the implementation of the Habitats Directive has been the subject of a number of interdisciplinary studies, focusing on site designations and the establishment of the network (Alphandéry & Fortier, 2001; Haumont, 2003), management (Enengel et al., 2014), conflicts (Bryan, 2012; Gallo et al., 2018) concerning the definition and implementation of conservation measures required by the Directive, and participation processes (Beunen et al., 2013; Cent et al., 2014). Several studies, among the latter group, regard plan-making processes as the way forward to mitigate conflicts (Kamphorst at al., 2017; Krott et al., 2000) and the optimal tool to include stakeholders' participation in setting conservation goals and defining conservation measures at the site level (Alphandéry & Fortier, 2001; Paavola, 2004; Rauschmayer et al., 2009; Young et al., 2013); inclusive planning processes are thus regarded as a proper counterbalance to the purely

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

technical process that led to selection and designation of Natura 2000 sites. In fact, the Habitats Directive requires that SCIs (which must be identified by member states on scientific grounds only) must be designated as SACs within six years from their establishment. A SAC designation process must be preceded with the establishment of site-specific conservation measures, which may involve appropriate site-specific management plans while also taking account of socio-cultural-economic requirements. So far, a very limited number of studies have analyzed institutional processes leading to the establishment of conservation measures (optionally including plan-making processes); among these, Gil et al.'s (2011), Kovacs et al.'s (2017), Cortina and Boggia's (2014). Building upon the above literature, this study aims at identifying governance and inclusion processes in the management of the Italian Natura 2000 network, by scrutinizing the ongoing process whereby SACs are being designated through an analysis of official documents that establish Natura 2000 conservation measures (hereinafter, CMs) or approve management plans (hereinafter, MPs).

The following section introduces the case study and provides the reader with some information on Natura 2000 in Italy and a brief presentation of the roles played by the various tiers of government involved in the designation process. In the third section, the results of the analysis are summarized, while in the fourth section the results are discussed and perspectives for future research are presented.

2 MATERIALS AND METHODS

2.1. CASE STUDY: THE NATURA 2000 NETWORK IN ITALY

Natura 2000 network in Italy stretches over approximately 19% of the national territory, while its marine area amounts to nearly 7,000 km^2 (European Environmental Agency, 2018). The national network is currently comprised of 2,613 sites, of which 2,335 are SCIs designated under the Habitats Directive; as of September 2018, only 82% SCIs for which the six-year deadline for their designation as SACs has expired had been established as SACs. The preliminary selection of Natura 2000 sites in Italy was carried out between 1994 and 1998 by the Ministry for the Environment, supported by scientific societies (Postiglione, 2006); Regions and the Autonomous Provinces of Trento and Bolzano were involved, as well (Amirante, 2003). On purely scientific bases, around 2,800 sites (Blasi, 1998) were identified, which led to conflicts and oppositions, both from stakeholders and local authorities (Neven et al., 2005) which felt excluded from the process. In April 2000, the Minister for the Environment issued a decree that approved two lists:

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

- the first list of SPAs, for which the State identification is sufficient to formally designate the sites;
- the preliminary list of proposed SCIs to be forwarded to the European Commission for the next designation steps.

The lists of SCIs for the Alpine and Continental biogeographic regions were adopted by the European Commission in 2004, whereas the list for the Mediterranean region was adopted in 2006. Starting from these dates, each Member state had to define the necessary CMs so as to designate the SCIs as SACs within six years from the lists being adopted. In Italy, the State (with which the responsibility for implementing the Habitats Directive lies) delegated the definition and approval of both CMs and MPs to its 19 regions and 2 autonomous provinces, while retaining control over SAC designation. Roles and responsibilities concerning the implementation of the Habitats Directive in Italy are therefore structured into three levels: first, the European Commission, which adopts the lists of SCIs; second, the State, which proposes the lists of SCIs to the European Commission and designates the SACs; third, the regions and autonomous provinces, which must define and approve CMs and MPs as a prerequisite to the SACs designation, and are responsible for the management of the sites.

2.2 METHODOLOGY

Official documents on the ongoing SACs designation process were retrieved from the website of the Italian Ministry for the Environment and Land and Sea Protection in June 2018. Many of the official acts were only available as scanned documents, hence text mining techniques could not be applied. Therefore, each single official act (i.e., at the state level: ministerial decrees concerning SAC's designations; at the regional/provincial level: regional deliberations or decrees approving site-specific CMs or MPs) was examined in order to retrieve information on the following items:

- institution in charge of defining CMs and MPs;
- stakeholders' involvement (if any) in the definition of CMs and MPs;
- implications on spatial planning (at the urban or regional level) entailed by CMs and MPs.

3 RESULTS

The SAC designation process, still ongoing in Italy, started in 2013 for sites belonging to the Aosta Valley region, and, as of today, has not started yet in Campania. Moreover, SACs in Abruzzo, Veneto and Emilia Romagna were designated after June 2018 (respectively, July 2018, December 2018, March 2019), when the document analysis was performed, hence the results here presented concern the remaining 15 regions and two autonomous provinces

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

(Trento and Bolzano) in Trentino-South Tirol. Because of space constraints, quantitative and qualitative results are not extensively presented in this article, but only summarized in Fig. 1, which provides, for each region: total number of SACs designated as of June 2018; progress towards designation completion; whether MPs or CMs (or both) were approved; type of institution responsible for MP or CM preparation (their approval always lies with the region, or with the autonomous province in case of Trentino South Tirol); type of participation processes implemented, if any; whether any planning implication is entailed by MPs or CMs.

REGIONS	no. SACs	% SACs	MPs	CMs	ORGANIZATION IN CHARGE OF CM IDENTIFICATION / MP PREPARATION	PARTICI-PATION*	PLANNING CONTENT
Aosta Valley	27	96.4		X	Region	1	
Apulia	56	70	X		Provinces, Municipalities, Mountain districts	2, 4	
Basilicata	54	96.4	X	X	Region	3	No
Calabria	178	100		X	Protected areas, Provinces	---	
Friuli V.G.	56	100	X	X	Region	2, 4	X
Lazio	180	99.5	X	X	Region	2, 4	
Liguria	126	100		X	Region, Regional environmental agency	2	
Lombardy	193	100	X	X	Region, SCIs management bodies	2	
Marche	76	100	X	X	Region, Provinces, Protected areas	2, 4	
Molise	60	70.6	X		Region, Mountain districts	2, 4	X
Piedmont	122	100	X	X	Region	2, 4	
Sardinia	56	62.9	X		Protected areas, Provinces, Municipalities	2, 4	X
Sicily	203	92.7	X		Protected areas, Provinces, Forestry agency	---	
Trentino S.T.	175	97.2		X	Province, Protected areas, Municipalities	2, 4	
Tuscany	134	100		X	Region	1	
Umbria	97	100		X	Districts, Protected areas, Municipalities	2, 3	

Key: 4. Meetings during the CM/MP drafting (both informative and participative meetings, either open to the public or involving only selected stakeholder groups); 3. Informative public meetings after the CM/MP elaboration or adoption; 2. Possibility to present written comments on CM/MP after its adoption and publication; 1. Limited consultation (institutions only).

Fig. 1 SAC designation process in Italy. (Author's elaboration on data retrieved from ftp://ftp.minambiente.it/PNM/Natura2000/Materiale%20Designazione%20ZSC in June 2018)

4 DISCUSSION AND CONCLUSIONS

A first outcome of the analysis is that striking differences exist among Italian regions as to the role they play in the SAC designation process, the consideration of socio-cultural-economic requirements invoked by the Habitats Directive, the very same nature and function of CMs and MPs. First, as for the type of tool, six regions have made use of both CMs and MPs; seven have approved only CMs and four only MPs.

This is consistent with the Habitats Directive: while site-specific CMs are mandatory, they can optionally be integrated within MPs. Contrary to what happens in other EU member states, where MPs are compulsory (Beunen & Van Asche, 2013; Bouwma et al., 2008; Evans, 2012; Ferranti et al., 2010; Neven et al., 2005), Italy has retained the optional character envisioned in the directive. Moreover, the analysis of official documents suggests an interpretation quite different to that offered by Ferranti et al. (2010), who argue that most Italian regions chose to integrate Natura 2000 measures within other development plans, rather than preparing ad

ISBN: 978-88-6887-054-6
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hoc, site-specific MPs. Indeed, official acts record only a very few instances in which CMs were integrated in sectoral or territorial plans other than MPs; when such integration occurs, it is restricted to plans for natural protected areas (national parks or nature reserves) or to marine protected areas' regulations only.

This extremely low level of integration is most likely due to the limited consideration of nature and biodiversity within territorial plans, which in turns is linked to low awareness of the role played by biodiversity to sustain natural processes required for human life and development, and to widespread perception of conflicts between biodiversity preservation and socio-economic growth.

In this regards, current debates on ecosystem services provided by protected areas (Castro et al., 2014; Bastian et al., 2013), on their inclusion within planning processes (de Groot et al., 2010; Geneletti, 2013; Gómez-Baggethun & Barton, 2013), on the ecosystem approach to spatial planning (Vasishth, 2008; Yigitcanlar & Teriman, 2014) are promising research fields. Second, as for institutional tiers of government involved in managing and planning Natura 2000 sites, both the European Commission's and member states' competences are clearly defined in the Habitats Directive with reference to site identification and SAC designation. However, in Italy the state has devolved a number of competences (e.g., site management, surveillance, monitoring) to regions and autonomous provinces, leaving room for interpretations that differ across regions. For instance, while some regions have retained their planning and decisional role granted by the state (in that they have not only approved, but also defined CMs and prepared MPs), others have delegated this task to lower tiers of government; closer to local communities, the latter are probably considered as the most appropriate level to take account of social and economic needs and expectations. Further research is therefore needed so as to investigate whether the (higher or lower) level of government makes any difference in regard to CM and MP effectiveness, by looking at whether the choice of institutional level impacts on habitats' and species' conservation status, and, ultimately, on the integrity of the Natura 2000 network.

Third, participation in the establishment of CMs and MPs greatly varies among regions, both for categories of institutional actors and stakeholders involved, and for types of processes carried out and their timing.

For two regions (Calabria and Sicily) official acts do not mention any participatory or consultative process; for two further regions (Tuscany and Aosta Valley) official acts suggest that consultation was restricted to institutions only. For the remaining regions, documented participatory processes were indeed carried out and took different forms, among which consultation after adoption is the most common, while truly participative processes (for instance including the forestry or farming sector, or environmental associations, or hunting

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

associations), which can in principle result in agreed-upon conservation measures, are rarer. In this article, only the documented development of participatory processes was analyzed, without further investigating their effectiveness in shaping CMs and MPs.

Two recent works (De Meo et al., 2016; Paletto et al., 2017) attempt to assess participatory processes Natura 2000 planning and management in some Italian regions by looking at inclusiveness, democracy, and conflicts on the basis of surveys of a small group of stakeholders; the authors conclude that participation often took the form of mere information, that only in a few regions did participation allow planners to integrate local knowledge within MPs, and, finally, that only selected stakeholder categories were involved. Further research could therefore complement the documental analysis here carried out with a territorially systematic survey of stakeholders involved in participatory processes concerning CMs and MPs, so as to assess the effectiveness of such processes by comparing stakeholders' perceptions with the outcomes of the official, documental, narrative. Finally, implications on spatial and territorial planning only emerge in a limited number of regions.

In the Autonomous Province of Bolzano CMs are subject to the local planning law, similarly to what happens in Friuli Venezia Giulia, where, in addition, the official acts approving CMs state that, in case of differences or contradictions, CMs prevail over land use plans and regulations. In such cases, CMs (and MPs as well) are regarded as territorial planning tools. Conversely, Basilicata Region's official acts explicitly state that MPs are not subject to either the Strategic Environmental Assessment under Directive 2001/42/EC, because they are not regarded by the regional administration as territorial plans, or the Appropriate Assessment under the Habitats Directive, because only aimed at preserving habitats and species.

To the contrary, an Appropriate Assessment and a Strategic Environmental Assessment (which also provides a framework for structured stakeholders' participation) must be carried out, in Sardinia, for each MP because MPs comprise not only conservation measures, but also material and non-material interventions aiming, for instance, at enhancing local assets and resources, or at supporting local sustainable economies. Such differences concerning the very essence of CMs and MPs (as well as their binding or non-binding character) signal that an in-depth analysis of administrative and urban planning laws is required, possibly leading to a unified (national) legal framework across the regions. Ferranti et al. (2014) argue that nature conservation in the EU has historically evolved following a cycle: from initial technocracy (concerning, for instance, site designations only on scientific ground) to limited inclusiveness (e.g., farmers or hunters) in the management of the sites, to wider inclusiveness (e.g. tourism businesses), back to technocracy in the current phase (e.g., environmental economists, due to emphasis on natural capital, ecosystem services, and economic value of biodiversity), hence again marginalizing local communities.

ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

The fragmented and varied Italian experience concerning SAC designation suggests that, rather than a sequence of historical phases, the coexistence of various approaches, some more technocratic and some more democratic and inclusive, can be observed depending on the region.

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ISBN: 978-88-6887-054-6
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ISBN: 978-88-6887-054-6
DOI: 10.6093/978-88-6887-054-6

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ISBN:978-88-6887-054-6
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