

Lai, Sabrina

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Management Plans for Natura 2000 Sites and the Wider Planning System: Imperfect Advancements from Sardinia (Italy)

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MANAGEMENT PLANS FOR NATURA 2000 SITES AND THE WIDER PLANNING SYSTEM: IMPERFECT ADVANCEMENTS FROM SARDINIA (ITALY).

Sabrina LAI

Dipartimento di Ingegneria del Territorio, Sezione di Urbanistica, University of Cagliari, Via Marengo 2, 09123 Cagliari; tel.: +39 (0)70 6755206, telefax: +39 (0)70 6755215; e-mail: sabrinalai@unica.it

ABSTRACT

Natura 2000 is a European coherent network of areas to be protected for their ecological importance, established under the *Habitats Directive* (HD) and under the *Birds Directive* (BD); it is aimed at protecting biodiversity and especially habitats and species rare, valuable or threatened.

With reference to the management of sites composing the network, article 6 of the HD requires that Member States ‘establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans.’ While conservation measures are compulsory, it is therefore up to each Member State to establish whether management plans are necessary and what form they will take.

This paper analyzes the implementation of Natura 2000 in Sardinia (Italy), whose ecological network consists of 92 Sites of Community Importance (SCIs) and 37 Special Protection Areas (SPAs), accounting for nearly a 19% of the total land area of the island. In Italy management plans for Natura 2000 sites are not compulsory; however, following a call for proposals, in Sardinia 76 management plans concerning 87 SCIs were prepared by local administrations in compliance with both the 2002 national guidelines and the 2005 regional guidelines. As a result of the recent approval of 72 (as of February 2011) of these plans by the regional executive, approximately a 57% of the Sardinian ecological network is planned by means of management plans aimed at maintaining natural habitats or restoring them at a favourable conservation status. This raises a series of questions, two of which will be addressed in this paper by looking at specific case-studies. First, it is still unknown what role

these plans will play in the Sardinian multi-level planning system; in fact, although municipalities have agreed to make their land-use plans compliant with management plans, this is a voluntary agreement and not a statutory requirement. Second, it is not yet clear how management plans will fit into the appropriate assessment of the implications of projects and plans (including land-use plans) for the site in question required by the HD.

Keywords: management plan, environmental regulation, biodiversity governance, natural resources.

1. INTRODUCTION: MANAGING NATURA 2000 SITES

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, commonly known as '*Habitats Directive*' (HD), together with Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version of Directive 79/409/EEC), commonly referred to as '*Birds Directive*' (BD), defines EU biodiversity policy and establishes '*Natura 2000*,' a coherent network of areas to be protected on the ground of their ecological importance, because they host habitats and species (both animal and vegetal) of community interest.

Following article 4 of the HD, the selection of sites to be included in the network was a science-driven and top-down process (Alphandéry and Fortier, 2001; Rauschmayer *et al.*, 2009) based on a set of ecological criteria listed in Annex III of the directive. Although the subsequent designation process allowed some room for discussion between the European Commission and Member States, in which local authorities were entitled to participate (Amirante, 2003), the making of Natura 2000 did not include socio-economic actors and stakeholders. Some scholars (Gibbs *et al.*, 2007; Paavola, 2004) argue that this low level of inclusion accounts for hostility to the designation of Natura 2000 sites and call for greater involvement of local communities in the current phase of the implementation of the directives, *i.e.* in the management of the network. This would be necessary not only to inform stakeholders and help them reach consensus when multiple objectives conflict (Ledoux *et al.*, 2000), but also to contrast widespread low acceptance to designation of Natura 2000 sites, usually stemming from fear of restrictions on property rights and land use (Weber and Christophersen, 2002).

With reference to the management of Special Areas of Conservation (SACs), article 6 of the HD requires that Member States 'establish the necessary conservation measures involving, if need be, appropriate management plans (MPs) specifically designed for the sites or integrated

into other development plans' that should address all foreseen activities. While conservation measures are compulsory, it is therefore up to the states to decide whether MPs are necessary and what form they will take. The official document released by the European Commission and meant to help Member States interpret article 6, in fact, clearly states that 'no indication of the specific contents of management plans can be given' (European Commission, 2000:21), although it does provide experts and decision makers with check-lists and suggestions aimed at easing the plan preparation. Annex II of this document deals with four aspects as follows:

- *Methodology*: the check-list here provided focuses on making sure that an MP is really needed, on identifying aims and expected results of the plan, and on foreseeing factors that might hinder or threaten the implementation of the plan;
- *Objectives*: this section emphasizes that habitats and species are central to the plan, so the objectives of the plan must be clearly connected with ecological requirements; moreover, objectives have to be 'as clear as possible, realistic, quantified and manageable' and must be written in a clear, non-technical language;
- *Consultation and implementation*: this part consists of a brief check-list focusing on participation of local actors and stakeholders to be involved in the planning process;
- *Monitoring*: this section does not comprise any check-lists or recommendations; it reminds planners of the need to define a monitoring system in order to evaluate the implementation of the plan.

In Italy, the HD was transposed into national legislation by Decree of the President of the Republic (DPR) no. 357 of 1997, amended by DPR no. 120 of 2003; according to article 4 of this decree, regions and autonomous provinces are responsible for the management of Natura 2000 sites and for the establishment of conservation measures and appropriate statutory, administrative or contractual measures. Such measures must be compliant with the national guidelines issued in 2002 by a ministerial decree (Italian Ministry of the Environment, 2002) concerning the management of Natura 2000 sites, and especially dealing with the selection process of the most appropriate form of MP, as well as with its contents. This decree devolved the approval of MPs for Natura 2000 sites to regions and autonomous provinces, but did not make MPs compulsory in Italy.

As a result, and contrary to what happens in other Member States like Denmark, Estonia, France, the Slovak Republic, Sweden and the Netherlands (European Commission, 2005; Neven *et al.*, 2005; Bouwma *et al.*, 2008) where MPs are mandatory, in Italy the decision on whether a plan for a certain site is required lies with regions and autonomous provinces. As

for the contents, plans must comply with a handbook (Italian Ministry of the Environment – DNC, 2005) produced by the Ministry of the Environment that draws upon the results of some pilot projects funded through LIFE, the European financial instrument aimed at supporting nature conservation projects. The handbook expands on the provisions of the ministerial decree and provides detailed indications on the contents of an MP, whose structure is shown in Figure 1.

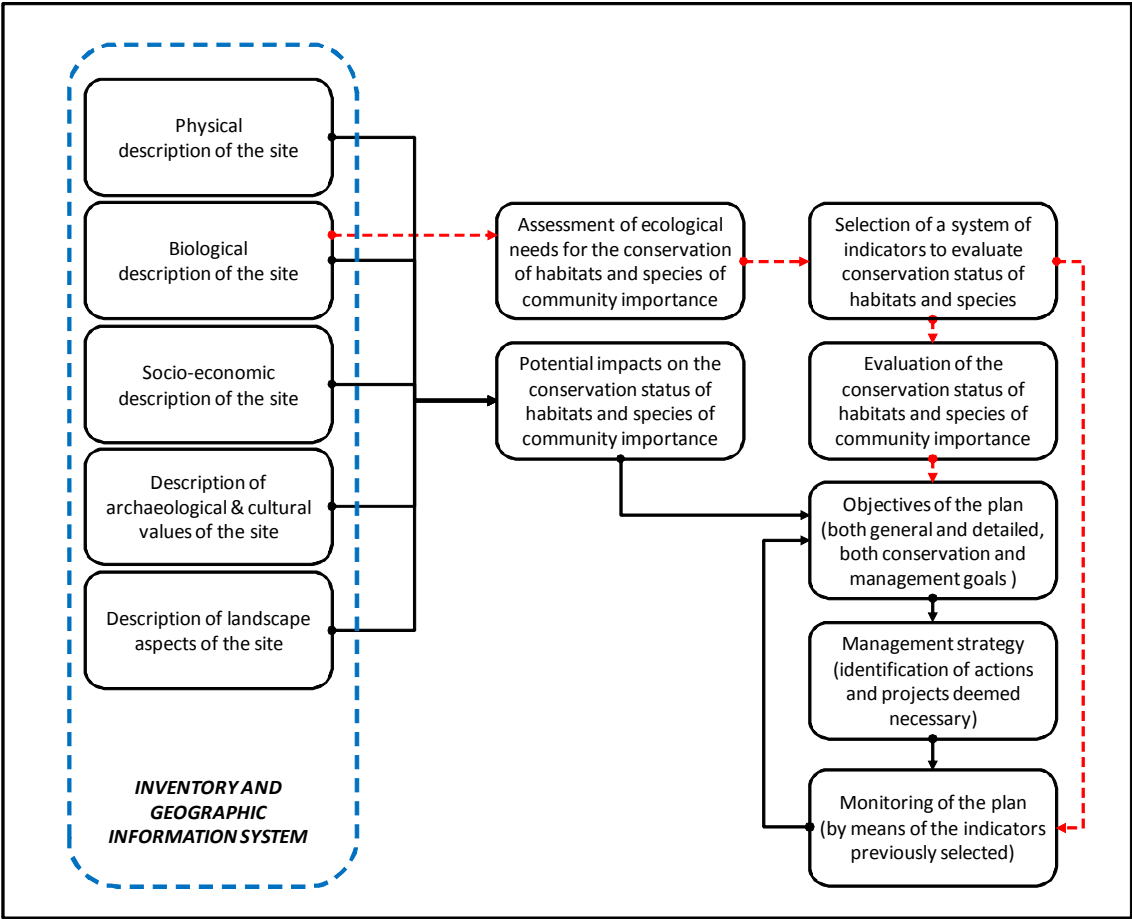


Figure 1. Structure of a management plan according to the ministerial decree and the handbook.

On the basis of the aforementioned national decrees, Sardinian Regional Government bears responsibility for the management of its Natura 2000 network, including the establishment of conservation measures and the approval of MPs for Natura 2000 sites. Sardinia’s Natura 2000 network (Figure 2) consists of 92 SCIs (to be designated as SACs by 2012) and 37 SPAs, and its terrestrial area accounts for approximately a 18.7 percent of the total land area of the island.

In 2005 the Sardinian Regional Department for Nature Conservation decided to devolve further the preparation of MPs to lower tiers of government, launching a call for proposal

whereby local authorities (provinces and municipalities) and public bodies responsible for the management of Regional Parks and Marine Protected Areas were asked to draw up and submit MPs for SCIs overlapping their territories. These plans were co-funded by the European Regional Development Fund, as a specific measure (1.5, 'Regional Ecological Network') had been included in the Sardinian Regional Operational Program for the programming period 2000-2006. However, and in compliance with the national legislation, the Autonomous Region of Sardinia retained its ultimate responsibility for approving the plans, and laid down the procedure for their approval in Deliberation of the Regional Government (DRG) no. 30/41 of August 2nd, 2007.

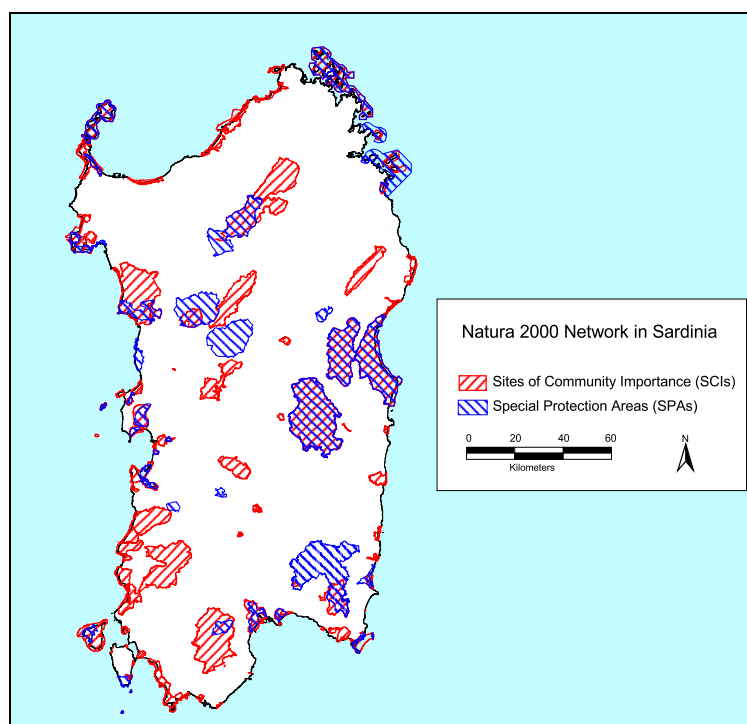


Figure 2. Natura 2000 Network in Sardinia (map by the author).

Necessary prerequisites for the approval of a certain plan were:

- compliance of the plan with the BD and the HD and with the national and regional guidelines (the latter were included in the application pack of the call), as assessed by a technical commission set up by the regional Department for Nature Conservation;
- involvement in the plan preparation of all the municipalities whose territory overlapped the SCIs, evidence of participation of local communities and stakeholders in the process, and presence of a formal act of adoption of the plan by all of the local authorities involved.

Following the call for proposals, 76 MPs concerning 87 SCIs were prepared by local authorities (whose councils had to commit to the plan before submitting it to the regional administration). As a result of the recent approval of 72 plans by the regional executive, approximately a 57 percent of the total land area of Sardinian Natura 2000 network is now being planned by means of MPs aimed at maintaining natural habitats or restoring them at a favourable conservation status.

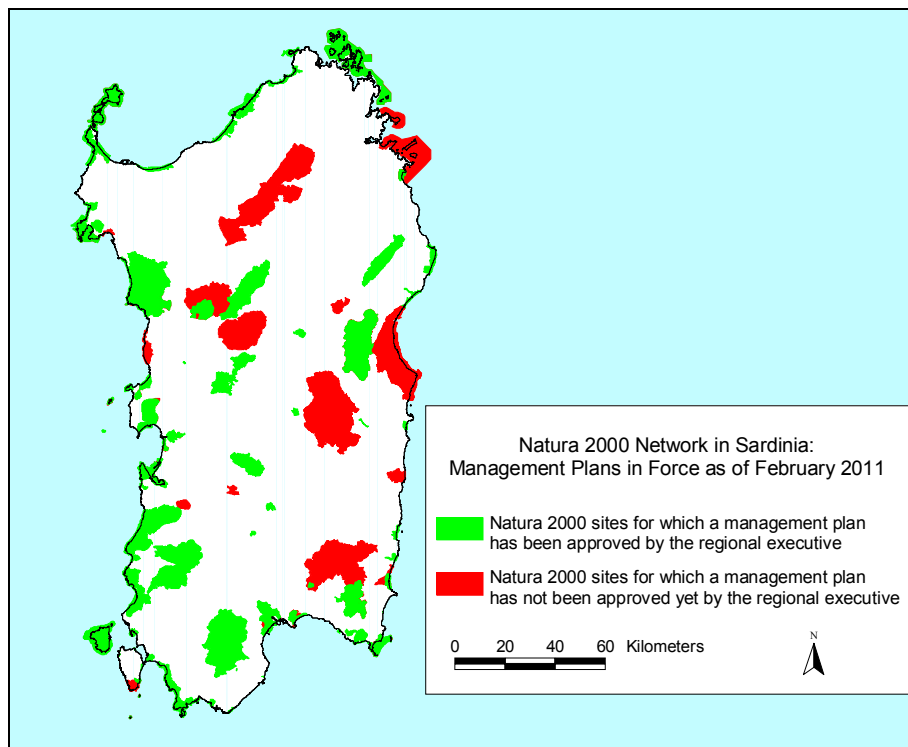


Figure 3. Natura 2000 Network in Sardinia: sites with (green) and without (red) a management plan in force as of February 2011 (map by the author).

This raises a series of questions and problems, two of which are here discussed.

First, it is still unknown what role these plans will play in the Sardinian multi-level planning system, as municipalities, by preparing and approving MPs, have agreed to make their land-use plans compliant with MPs; however, unlike the adjustment of land-use plans to the Regional Landscape Plan and to the regional basin plan, this is a voluntary agreement and not a statutory requirement. Thus, Section 2 will look at two specific case-studies in which MPs call for a change in the zoning system of two municipal land-use plans to meet conservation needs, as transformation of land permitted by these city plans risks damaging the conservation status of habitats and species of community interest.

Second, it is not yet clear how MPs will fit into the appropriate assessment of the implications of projects and plans (including land-use plans) for the site in question required by the HD.

Section 3 will therefore look into the appropriate assessment of municipal land-use plans by examining the outcomes of the processes carried out after the approval of MPs.

Finally, Section 4 draws the conclusions.

2. A PLAN WITHOUT 'TEETH'

Article 4.2.6 of the Sardinian regional guidance document on contents of MPs for SCIs and SPA, issued in 2005, states that MPs must contain a dedicated section where all of the plans in force in the territory of the site are examined, so as to assess whether their restrictions on land use and limitations on transformation of land guarantee that natural habitats and species of community interest are maintained at a favourable status, or whether permitted development of land and allowed changes in land use risk threatening either habitats or species, or even the integrity of the site as a whole. The same article also states that planners must 'integrate management plans with other plans' (although nowhere does it clarify what this means and how this should be done). The ultimate aim of this article is to establish whether other plans, and especially municipal masterplans, should be adjusted to comply with MPs.

However, in the Italian planning system, biased towards a regulatory approach, MPs do not have any legal status, contrary to what happens (for instance) with plans for national parks and nature reserves, ruled under national law no. 394/1991, and with regional parks and nature reserves, ruled in Sardinia under regional law 31/1989. With this respect, it is worth pointing out that in Sardinia, following the approval of the Regional Landscape Plan in 2006, city plans (as well as other spatial plans, among which the planning implementation code of the Regional Landscape Plan only mentions province plans, sectoral plans and plans for protected areas) have to be modified to comply with both rules and policies contained in the Regional Landscape Plan. Since SACs and SPAs (but not SCIs) have been included among 'protected areas' since 1996 under Deliberation of December 2nd, 1996 of the Committee for Protected Areas (titled 'Classification of Protected Areas'), as modified by the State-Region Conference of March 26th, 2008, apparently MPs should be regarded as equivalent to plans for protected areas. However, the State-Region Conference clarifies that, although SACs and SPAs are, strictly speaking, protected areas, they are not ruled under law 394/1991, but under decree 357/1997 and under ministerial decree of October 17th, 2008, on conservation measures for SACs and SPAs. Therefore, MPs are not equivalent to plans for protected areas, and cannot be considered part of the Italian multi-level planning system. As a consequence,

MPs are not legally binding, and nowhere does any regional or national law state that city plans have to comply with MPs. It could be argued, though, that MPs were prepared at the local level and preliminarily approved by the same city councils that are responsible for the approval of local masterplans, so the adjustment of masterplans to include conservation measures and ecological needs as identified in the MPs would be an obvious consequence, were not for the 'silo mentality' not uncommon in public administrations.

Next, two examples of changes in the city plans' zoning systems deemed as necessary on the bases of the contents of approved MPs are shown. Both of them deal with areas that host (or are meant to host) industrial activities. Although they are by no means representative of all possible changes in land uses that would be required to satisfy the ecological needs highlighted in the approved Sardinian MPs (particularly in coastal areas, where allowed tourism developments often appear, according to analyses contained in MPs, to pose a serious threat on dunes habitats, especially as far as fragmentation and reduction in patch size are concerned), they are significant because the obligation to change the city plans' zoning system was written down in the regional decrees that approved these MPs.

SCI ITB032219, 'Sassu Cirras,' was proposed as an SCI because of the importance of its dunes habitats (2110, 2120 and 2210) which, according to its 1995 Standard Data Form, made up a fifty percent of the total area of the SCI. However, studies contained in the MP (Comune di Santa Giusta, 2006) drawn up ten years later, found out that only a five percent of the area of the site hosted dunes habitats (2110, 2120, 2210, 2230 and *2250, see Figure 4.a), while an increase in area covered by habitats *1510 and 1410 (from two to thirty-two percent) was reported. Although the possibility of an error in the original Standard Data Form cannot be ruled out, planners highlighted that, together with a quarry still operating in the north-east part of the site, the main factor that accounts for the loss of dunes habitats is the nearby industrial port. According to the actual city plan (Figure 4.b), the port is allowed to expand southwards (Figure 4.c), therefore planners proposed (and the municipality agreed by means of a deliberation of the city council) to prevent any further development of the industrial area by changing the masterplan (Action IA6 of the MP). In this case, the regional administration did not take any active role in requiring that a change in the zoning system should be made, since this amendment was proposed by the city council. The regional decree that approved the MP (no. 68 of July 7th, 2008) only confirmed that a revision of the masterplan was necessary.

SCI ITB040027, 'Isola di San Pietro,' is peculiar in that it covers nearly the whole Island of San Pietro, located south-west to the main island. The only part of the island not included in the SCI is the town of Carloforte, home to nearly 6,500 inhabitants according to the 2001

national census; this population has been estimated to increase dramatically in summers to approximately 20,000 people (Sistu and Cocco, 2006). Up to now, the city lacks a proper water treatment plant, able to deal with this significant increase in population, and has a shortage of undeveloped land outside the SCI's boundaries (Figure 5.a). It was therefore proposed that a new water treatment plant should be constructed in the southern part of the island. This decision, apparently too costly because of the distance of the proposed site from the town centre and the subsequent high construction costs, was in fact justifiable on mere economic grounds, because the proposed site was somewhat in between the town centre and tourism developments scattered along the southern coast of the island (Figure 5.b). The site was therefore designated as area for industrial development in the municipal land-use plan. Prior to the making of the MP, a detailed project for the plant had been put forward and rejected on the grounds of the negative outcome of the appropriate assessment, because the site hosted (among others) habitat *1510, a priority natural habitat under the HD.

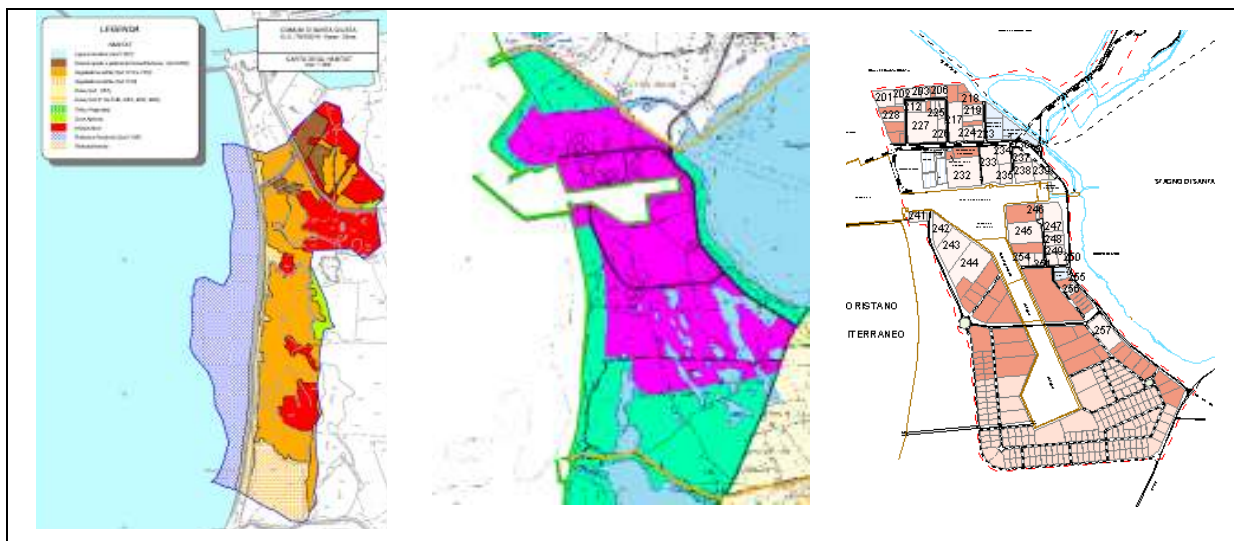


Figure 4. SCI ITB0322 ('Sassu Cirras'). Distribution of habitats (4.a, left), zoning system of the city plan (4.b, centre) and development plan of the industrial port (4.c, right) (source: Comune di Santa Giusta, 2006).

Studies contained in the MP confirmed the presence of the priority habitat, but neither a change in the zoning system was proposed nor an alternative site for the development of the plant was identified by planners. As a result, regional decree no. 10 of February 13th, 2009 approved the MP under condition that the zoning system of the city plan should be changed. Such changes in the zoning systems and in the planning implementation codes of municipal masterplans, irrespective of whether they were proposed by local authorities or imposed by the regional executive, have to be made, under a general condition contained in all of the

regional decrees that approve MPs, within the mandatory adjustment process of city plans to the Regional Landscape Plan.



Figure 5. SCI ITB040027 ('Isola di San Pietro'). Official boundaries of the site (5.a, left); proposed site for the water treatment plan, identified as site for industrial development in the city plan (5.b, centre), distribution of habitats (5.c, left) (sources: Comune di Carloforte, 2006 for 5.a and 5.c; http://webgis.regione.sardegna.it/puc_serviziconsultazione/ for 5.b – last accessed: February 28th, 2011).

3. MANAGEMENT PLANS AND APPROPRIATE ASSESSMENT

The assessment of implications of plans and projects likely to have a significant effect on Natura 2000 sites is statutory under article 6 of the HD. According to paragraph 6.3, 'any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon (...) shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.'

Appropriate Assessment (AA) of plans and projects is ruled, in Italy, under article 5 of DPR 357/1997, as amended by DPR 120/2003. If in the screening stage it is ascertained that the plan might impact on a Natura 2000 site, detailed studies must be carried out and a report must be prepared covering all of the points listed in Annex 'G' of the decree, so as to make it possible to evaluate what adverse effects the plan or project might have on Natura 2000 sites. Under national law 152/2006, as amended by various decrees (of which the latest is Decree Enacted by Law no. 205 of December 3rd, 2010), in case a Strategic Environmental Assessment (SEA) of the plan or an Environmental Impact Assessment (EIA) of the project is required, the AA must be incorporated either in the SEA or in the EIA process (article 10), but the outcomes of the AA procedure must be clearly identifiable.

In Italy, regions and the autonomous provinces of Trento and Bolzano are responsible for the final decision on the implications of the plan or project, except when the plan or project is of

national relevance; in this case, the outcomes of the AA report are assessed by the Ministry of the Environment. Regions are also entitled to detail procedures and technical aspects of environmental assessments; for the Sardinian region, DRG no. 24/23 of April 23rd, 2008 only deals with the SEA and the EIA, but not with the AA. Official (regional) policies, guidelines or laws on the AA are therefore still missing, even though a guidance document on the SEA of city plans, issued by the Regional Administration of Sardinia with DRG no. 44/51 of December 14th, 2010, contains some recommendations and requirements concerning the AA of land-use plans. The main points concerning the AA and contained in this guidance document (RAS, 2010) are as follows:

1. the AA is automatically required for city plans of municipalities whose territory overlaps an SCI or an SCA , thus the preliminary screening stage is skipped. This means that the effects of land-use plans on a Natura 2000 site are considered to be *per se* potentially harmful for habitats and species, irrespective of the contents of the plan;
2. the AA process must be embedded in the SEA process, and the AA report must be produced as a separate part of the Environmental Report;
3. the AA report must cover topics listed in Annex D of the document (RAS, 2010, pp. 50-52), which expands on the list provided by the above mentioned Annex 'G' of DPR 357/1997, *i.e.* the report must:
 - a. contain a description of the Natura 2000 site(s) that overlap the territory of the municipality for which the plan has been proposed;
 - b. analyse biotic and non-biotic components that could be potentially affected by the implementation of the plan;
 - c. describe the city plan having regards to aspects such as: direct and indirect alterations that the implementation of the plan might produce on the environmental components (*e.g.* water, air, soil); distance between impact sources and environmental recipients of such impacts; consumption of natural resources; waste production; noise and pollution; integration of the plan with other plans, in terms of compliance, or lack thereof, with them;
4. the AA report must also forecast medium- and long-term effects of the implementation of the plan on habitats and species, but no methodology on how to carry out such assessment is provided; on this issue, in fact, the guidance document only states that overlaps between types of zone contained in the zoning scheme and areas that host habitats listed in the HD must be checked and a quantitative estimate of such overlaps must be provided;

5. finally, in case the plan implementation is believed to adversely affect the integrity of one or more Natura 2000 sites, and depending on the magnitude of the potential impact, the report must give indications on mitigation measures and/or a thorough assessment of alternative solutions (concerning, for instance, a change in permitted land-uses), including the zero option.

Interestingly, although according to point 3.c in the above list the AA must give account on how the city plan relates to other plans, with the ultimate aim of assessing possible cumulative impacts of the plan in combination with other plans, MPs are not explicitly mentioned among these ‘other plans.’ To the contrary, examination of MPs is required in the Environmental Report of the SEA (RAS, 2010:67-68) and only as far as threats to habitats and species, as well as measures and actions contained in the MPs, are concerned.

As previously mentioned, the AA process must be embedded in the SEA process, and the AA report must be integrated in the Environmental Report. However, in Sardinia the final decision on the outcomes of the AA of city plans still lies in the hands of the regional administration, while provincial administration (lower in rank than the regional one) were devolved authority on the SEA process under the provision of article 47 of regional law no. 9 of June 12th 2006. Responsibilities are, therefore, split between two tiers of government. This might explain, albeit partially, why up to now only six AAs of the implications of a land use plan on a Natura 2000 site have been completed, despite the number of plans currently undergoing the SEA process and requiring an AA.

By January 31st, 2011, nine city plans that were being adjusted to the Regional Landscape Plan had completed the SEA (RAS, 2011); out of these nine, four were subject to the AA procedure. As of the same date, 62 plans were undergoing the SEA (RAS, 2011), which in 46 cases included the AA; in two out of these 46 cases, the AA procedure had already been completed. In other words, the AA process has been completed for a total of six land-use plans only, therefore it can be argued that when it comes to city plans, in Sardinia AA is still in its early stages, in spite of a long-standing experience on the AA of projects, sectoral plans of regional importance and detailed development plans.

The results of an examination of the final decisions on the six AA procedures completed so far are presented in Table 1¹, which provides details on the relationship between the AA and

¹ Data sources for Table 1 were official acts (“Decisions of the Director of the Department of Environmental Sustainability, Impact Assessment and Environmental Information Systems”, as the Director bears responsibility for issuing the final decision on the AA procedure of city land-use plans) published in the official journal of the Autonomous Region of Sardinia (“BURAS”) and available on the Internet at <http://www.regione.sardegna.it/servizi/cittadino/buras>.

the MPs, on the contents of the final decision on the corresponding AA procedures and on obligations stemming from them and to be incorporated into the municipal land-use plan before the completion of the SEA.

As shown in the table, the MP was not taken into account in one case only, which, incidentally, was also the very first AA process of a municipal land-use plan. In the other five cases, MPs were taken into account, in the assessment of the AA report leading to the final decision, as the grounds on which to base the following aspects:

- assessment of the compatibility of provisions and actions contained in the city plan with conservation objectives: as Söderman (2009) correctly points out, ‘unlike in the EIA, where only the assessment findings must be taken into account, in AA there is a direct precondition to decision-making (...) AA must explicitly ascertain with evidence that no significant adverse effects will be caused.’ Accordingly, in the assessment of the adverse effects that a land-use plan might have on a Natura 2000 site, the authority in charge can make judgements on the basis of data and information not contained in the AA report and going beyond its findings. To this end, five final decisions on the AA issued so far show evidence that at least three sections of the MPs (inventory, assessment of ecological needs, and potential impacts, as shown in Figure 1) were used as a means to assess potential negative effects on habitats and species;
- decision upon required changes to be incorporated into the city plan: as Table 1 shows, such decisions mainly entailed modifications in the zoning scheme (including reduction in size of areas designated for a certain purpose, relocation of certain activities, lower limits on new housing to be built within the site), amendment to the planning implementation code, changes to the existing network of paths and rough roads and to the allocation of land for new parking facilities (especially in coastal areas);
- top-down introduction of mitigation measures, mainly in form of restoration of vegetation and natural habitats in the most fragile areas (for instance, wetlands and sand dunes) and in form of requirement of an AA of more detailed plans and/or projects.

Although the number of decisions here examined is rather small, taking into account the fact that they represent the whole universe of AA processes completed so far, this analysis of the AA process concerning municipal plans and carried out as part of the SEA allows for some general considerations.

Municipality	Natura 2000 site(s) concerned	Does an approved MP exist?	Was the MP explicitly taken into account in the final decision?	Did the final decision on the outcomes of the AA impose any change in the city land-use plan?	What type(s) of change, if any?	Other obligations stemming from the final decision on the outcomes of the AA
Arborea ²	ITB030016 (SCI) ITB030032 (SCI) ITB034001 (SPA) ITB034004 (SPA)	Yes (for the SCIs only)	No	Yes	Change in the zoning scheme. Relocation of a camp site.	Any project concerning the camping site to be relocated must undergo an AA.
Badesi ³	ITB010004 (SCI)	Yes	Yes	Yes	Changes in the zoning scheme (all of them apply within the borders of the SCI only): <ul style="list-style-type: none"> • reduction on the maximum amount of housing volume that can be built in zones designated as residential areas; • significant reduction in size of areas designated for sports facilities; • relocation and reduction in size of an area designated for public infrastructures; • reduction in number and size of areas designated for parking facilities; • reduction in the number of paths and tracks leading to the beach. 	Any transformation of land is forbidden within those portions of the SCI that host priority natural habitat *2250 and in a 50-metre-wide buffer around them. Human activities that can be carried out in zone E5C are strictly limited to restoration and management of vegetation activities envisaged in the MP. Increase in the minimum area of the plot required to obtain a building permit in zones reserved for agriculture; in such areas, building permits can be obtained by farmers only.
Irgoli ⁴	ITB021107 (SCI)	Yes	Yes	No	-	-
Nurachi ⁵	ITB030036 (SCI) ITB034008 (SPA)	Yes (for the SCI only)	Yes	Yes	Amendment of an article contained in the planning implementation code of the city plan.	Human activities that can be carried out in zone that host natural habitats and in a 20-metre-wide buffer around the wetland are strictly limited to restoration and management of vegetation activities envisaged in the MP.

² Dec. no. 19100/805 of 16/09/2009 (BURAS 33/2009); Dec. no. 2561/27 of 29/01/2010 (BURAS 6/2010); Dec. no. 9767/427 of 20/04/2010 (BURAS 16/2010).

³ Dec. no. 14409/642 of 16/06/2010 (BURAS 21/2010).

⁴ Dec. no. 11 of 17/01/2011 (BURAS 04/2011).

⁵ Dec. no. 766 of 21/07/2010 (BURAS 27/2010).

Municipality	Natura 2000 site(s) concerned	Does an approved MP exist?	Was the MP explicitly taken into account in the final decision?	Did the final decision on the outcomes of the AA impose any change in the city land-use plan?	What type(s) of change, if any?	Other obligations stemming from the final decision on the outcomes of the AA
Oristano ⁶	ITB030037 (SCI) ITB030034 (SCI) ITB034006 (SPA)	Yes (for the SCIs only)	Yes	Yes	-	Any detailed development plan or project concerning areas designated in the city plan for public facilities (including sports facilities, and the marina) that are contained, even partially, in the SCIs or in the SPA must undergo an AA and must be preceded by a restoration project on which the Decision on the AA of the city plan gives some indications.
Siniscola ⁷	ITB020012 (SCI) ITB021107 (SCI)	Yes (for both the SCIs)	Yes	Yes	Changes in the zoning scheme (all of them apply within the borders of the SCI only): <ul style="list-style-type: none"> • reduction in number and size of areas designated for parking facilities; • reduction in the number of paths and tracks leading to the beach, to be accompanied by restoration projects on those areas where tracks are to be closed; • reduction in size of an area designated for industrial activities and formerly hosting a quarry. Amendment of an article contained in the planning implementation code of the city plan, so as to make explicit that any project to be carried out in areas designated for public facilities and overlapping the SCIs must be compliant with requirements and indications contained in the MPs.	Detailed development plans or projects concerning two areas mentioned in the Decision and designated in the city plan for tourism developments (resorts, hotels, holidays houses etc.) must undergo an AA.

Table 1. Outcomes of the six AA processes concluded as of January 2011 and concerning the adjustment of municipal land-use plans to the Regional Landscape Plan: relationship between the AA and the MPs; contents of the final decision of the AA in terms of required changes and amendments to the city plan, and other obligations stemming from the final decision.

⁶ Dec. no. 22178/1028 of 08/10/2010 (BURAS 32/2010).

⁷ Dec. no. 28276/1337 of 17/12/2010 (BURAS 02/2011).

To begin with, final decisions on the AA in the majority of cases required that some changes of the plans should be made because it was not possible to rule out the chance that the implementation of the plan could pose a threat on conservation objectives and on the integrity of the sites. It has to be remarked that those changes were required at a very late stage⁸, that is, when the preparation of the plan was already completed and choices had already been made both on locations and on designation of permitted land uses. This indicates that the AA of city plans, possibly because it is still in its early stages, is regarded as a mere bureaucratic accident, that is, as a permit to obtain before the approval of the plan⁹ and not, as it should be, as a process that helps improve the plan from the very beginning, when alternative options are still available. Lack of information and the fact that responsibilities on the AA and on the SEA are split between two tiers of government might be put forward as possible causes for that, as it was reported by privileged observers (public officers of the department of regional administration for the environment that supervise the SEA processes of city master plans, of which provincial administrations are in charge) that some municipalities started realizing that an AA was necessary only when the SEA process was about to be concluded and the provinces could not issue their ‘informed opinion’ (*parere motivato*, the act that concludes the SEA in Italy, and must be obtained before the approval of a plan) in the absence on a decision on the AA report that puts an end to the AA process.

Second, MPs appear to play an unclear role in AA process. On the one hand, AA reports not always regard them as reliable sources of information and as planning tools: one report here examined, for instance (Comune di Arborea, 2009, AA report¹⁰, p. 19) describes the two MPs in force in the territory of the municipality and provides a list of objectives and actions contained in the plan, but neglects to take into account threats to a bird species that had been clearly identified by one of the MPs (Provincia di Oristano, 2008); this, in spite of the fact that MPs and city plans had been drawn up by the same administration, led to a zoning system in some points inconsistent with the ecologic needs and requirements identified in the MPs¹¹. On the other hand, decisions on the final outcomes of the AA process appear to be

⁸ This was verified by looking at both dates provided in RAS (2001) and at Decisions examined to fill data in Table 1.

⁹ The Decision of the Director of the Department of Environmental Sustainability, Impact Assessment and Environmental Information Systems on the outcomes of the AA process must be given within 60 days from the date of the request, and it is a precondition for the issuing, by the provincial authority, of the ‘informed opinion’ that concludes the SEA, which, in turns, is a precondition for the approval of the city plan.

¹⁰ Available online (in Italian) at <http://www.comune.arborea.or.it/index.aspx?m=81&f=3&idf=676> [last accessed: 28th February, 2011].

¹¹ For this reason, the final decision on the AA demanded a change in the zoning scheme, but it was challenged by the municipality and was subsequently modified twice: see footnote no. 2.

increasingly grounded on the MPs, with regards both to the requirement of changes to the zoning scheme and to the identification of mitigation measures.

Third, in three out of the six cases presented in Table 1, the final decision on the AA introduced, as a mitigation measure, the requirement of an AA for detailed development plans or projects implementing the municipal land-use plan. As Scott-Wilson *et al.* (2006:41) point out, however, such mitigation measures are risky and might be pose future problems, as they ‘could lead to a multiplicity of inconsistent measures, a more limited range of possible measures (*i.e.* project level rather than strategic level), and [...] would not allow a competent authority to necessarily conclude that the plan has no adverse effects.’

4. CONCLUSIONS

This paper has briefly shown how the Regional Administration of Sardinia is currently planning and managing its Natura 2000 network. While MPs are not mandatory, it was decided that they were necessary because other types in plans in force do not appear effective in protecting habitats and species of community importance. The decision to devolve the preparation of MPs to lower tiers of governments and to require that local stakeholders be involved in the planning process was an attempt to compensate for the exclusion of local administrations and communities in the designation of Natura 2000 sites. It was hoped that such involvement and inclusion would help increase both awareness of the very existence of Natura 2000 sites and consensus on the urgent need to introduce measures to protect habitats and species. The large number of MPs (concerning almost the totality of the SCIs, that is 87 out of 92) drawn up by local administrations and approved by the regional executive proves that it was a wise and effective move. However, two weak points were here highlighted and discussed.

First, MPs are not mandatory planning tools, which calls into questions their effectiveness when it comes to their relationship with other plans, ‘stronger’ and legally binding as municipal master plans are, as the examples of Santa Giusta and Carloforte have shown. If the MPs were given legal status, conservation measures could be directly incorporated into city plans, and zoning systems of municipal plans could not avoid considering ecologic needs and conservation measures identified by the MPs. However, such a regulatory approach would risk misinterpreting the provisions of the HD, which regards MPs as tools to be used only when necessary and in conjunction with other measures.

Second, MPs should be taken into account in the preparation of the AA report of plans and projects. Not only should their studies be used as a baseline for the AA report, but also it would be necessary, especially when assessing implications of other spatial plans on habitats and species, that objectives and actions contained in the MPs were incorporated into these plans, so as to select, among the available options, the ones that ensure that the integrity of the site (and ultimately the coherence of the whole Natura 2000 network) is not damaged. The very fact that MPs and city plans are drawn up by the same administrations, in fact, has been proven not to automatically lead to a zoning system consistent with ecologic needs and requirements. Moreover, awareness of the significance of the AA should be raised, so as to avoid regarding it simply as additional paperwork, and begin undertaking the AA process at the very early stages of the plan preparation, which would allow for that ‘iterative’ (Söderman, 2009) planning that is often called for.

Only by tackling these two issues can MPs evolve from non-compulsory and non-binding plans ‘without teeth’ to effective planning tools capable of ensuring that the HD and the BD are correctly implemented in Sardinia.

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