TOURISM AND BIODIVERSITY ALONG THE EURO-MEDITERRANEAN COAST: PROSPECTS FOR OVERCOMING A DEEPLY ROOTED CONFLICT

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ABSTRACT
In Euro-Mediterranean coastal areas, particularly along the coastal zones of Spain, France and Italy, high biodiversity values - derived not only from natural, but also from human factors, such as grazing and agricultural activities - are coupled with traditionally intense tourist flows, related to mass seaside tourism. Since the 1950s, this type of tourism, and two major socio-economic processes associated with it—'litoralization' and abandonment of grazing and agricultural activities in inland areas—has been causing significant losses of biodiversity, along the coast and in the hinterland. Considering this critical situation, this paper investigates how tourism and some of its “threats” can be turned into an opportunity for reaching the Aichi Biodiversity Targets (Target 5, in particular) within the context of Euro-Mediterranean coastal areas. To this aim, some examples of policies developed within three coastal protected areas ('Protected Landscapes', IUCN Category V: the Parque Natural de la Albufera de Valencia, Spain, the Parc Naturel Régional de la Narbonnaise en Méditerranée, France, and the Parco Naturale Regionale del Conero, Italy) for overcoming the tourism-biodiversity conflicts are analysed. These parks can be regarded as experimental laboratories for policies relating to unprotected coastal areas as well.

THE EFFECTS OF SEASIDE TOURISM
Along the Euro-Mediterranean coast the relationship between tourism and biodiversity has been in conflict due to mass seaside tourism development. The 1950s to 1970s marked a shift from seaside tourism with limited environmental impacts to mass seaside tourism which has overrun the Mediterranean coast. This is principally due to tourist flows coming from northern European countries (Corbin, 1991; Corbin, 1996; Löfgren, 2006). During these thirty years of European economic boom ('Les Trente Glorieuses', Boyer, 1999), tourism became the most dominant economic sector in the coastal regions of Spain, France and Italy, the three countries composing the Latin arc.

Despite the emergence of increasingly complex and refined tourism, such as ecotourism, the attraction of the coast remains the main driving force behind the tourism sector in the Latin arc (Ferrari, 2008). In 2000, visitors to the Latin arc represented 64 per cent of total tourist flows in the Mediterranean basin (Benoit & Comeau, 2005). Since the 1950s this tourist ‘invasion’ (Aymard, 1992) has contributed significantly to the development of two of the main socio-economic processes along the Euro-Mediterranean coast. The first process is progressive ‘litoralisation’, which is the concentration of people and activities along the seashore. By the 1970s coastal population density values were already much higher than the national averages in Spain, France and Italy (Benoit & Comeau, 2005). The second process, complementary to the first and connected to the resizing of agricultural and grazing activity, was a massive rural exodus from inland areas. The joint action of these processes has lead to the current fracture between coastal and inland areas.

Until the first half of the Twentieth Century, coastal and inland areas were connected by the interaction between fishing and agricultural activities and transhumance practice. Today, there is an evident, "spatial dichotomy between strong, heavily populated coastal areas,
characterised by high intensity of land use and consumption, and inevitably weaker, thinly populated inland areas with lower housing density and a less dynamic economy" (UNEP, MAP, PAP/RAC, 2001, p. V). The fracture has led to a series of environmentally critical phenomena; those most related to tourism are:

- ‘artificialisation’ or an ‘urban tsunami’ (Forman, 2010), which is the uprising of manmade developments, predominantly tourist residents (Benoit & Comeau, 2005; EEA, 2006);
- an excess of human pressure in beach areas, particularly during the summer months; and,
- uncontrolled and spontaneous re-naturalisation of abandoned inland rural areas.

These phenomena are eroding the exceptional natural heritage along Euro-Mediterranean coastal areas through:

- the consumption of ecotonal land and the consequent alteration of land-sea ecosystem connectivity via ‘artificilisation’;
- pollution and disturbance of ecological balance in natural beach areas because of human pressure; and
- species and diversity loss in abandoned inland rural areas due to re-naturalization.

The degree of biodiversity in inland areas is strongly linked to anthropocentric activities, in particular to grazing and agricultural activities that have moulded the landscape through the centuries. It follows that, “the main threat to biodiversity...is the gradual disappearance of open rural environments and traditional agricultural practices” (Benoit & Comeau, 2005, p. 271). In fact, “...just as varieties of domestic plants and animals depend on the continuation of traditional farming systems, so are many wildlife species equally reliant on such forms of land management” (Phillips & Stolton, 2008, p. 10).

Plan Bleu and UN World Tourism Organization forecasts of visitor flows along Euro-Mediterranean coastal areas predict a constant visitor increase up to 2025, with a 25 per cent increase of visitors from 2000 to 2025 (Benoit & Comeau, 2005). Considering this, the related critical phenomena cited above, and the exceptional landscape and biodiversity values which characterize these areas now at risk (as recognized at international level, e.g., see the ICZM Protocol in the Mediterranean, Madrid, 2008, UNEP, MAP, PAP-RAC); the need to protect this extraordinary heritage is clear. Methods and means to integrate the dynamics of tourism with environmental conservation need to be identified in order to meet the Aichi Biodiversity Targets by 2020, especially Target no. 5. This target states, “By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced” (CBD, 2010, p. 2). This is an ambitious goal in areas such as the Euro-Mediterranean coast, where the conflict between people and nature is at its height. The, “coastal regions cry out for solutions...we are all affected and long for the crying to cease” (Forman, 2010, p. 250).

THREE COASTAL PROTECTED LANDSCAPES: RECONCILING TOURISM AND BIODIVERSITY CONSERVATION

The policies developed within the three protected coastal areas, Parque Natural de la Albufera de Valencia, Spain (1986), Parc Naturel Régional de la Narbonnaise en Méditerranée, France, (2003) and Parco Naturale Regionale del Conero, Italy (1987), are useful references for pursuing Aichi Biodiversity Target no. 5. These protected areas are comprised of territories which have been consolidated destinations for seaside tourism since the 1970s and thus, they share concerns arising from mass tourism. The parks have to reconcile tourism development, which constitutes the main driving force behind the local economies, with biodiversity conservation (Dudley, 2008). As category V, IUCN, ‘Protected Landscapes-Seascapes,’ the parks are appropriate places for experimenting with sustainable tourism strategies, because their mission specifically promotes a harmonious interaction between people and nature.

![Picture 1: Parque Natural de la Albufera de Valencia. Costal urbanisation inside the park, between El Perello and Mareny Blau: A scenic and ecological barrier between the sea and the rural inland areas © Emma Salizzoni (May 2010)](image-url)
A Protected Landscape/Seascape is: “a protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value, and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values” (Dudley, 2008, p. 21). It is: “rich in biological diversity and other natural values not in spite of, but rather because of the presence of people” (Brown, et al., 2005, p. 3). Protected Landscapes are often promoted as living models of sustainable use of land resources; they offer important lessons for sustainable development (Brown, Mitchell & Beresford, 2005).

Reported below are examples, developed within the three parks, of good practices aimed at finding a balance between the environmental costs and the socio-economic benefits of seaside tourism in the Euro-Mediterranean coast.

**LAND CONSUMPTION**

Today, the landscapes of the parks exhibit signs of several decades worth of intense seaside tourist use. The most evident sign is residential tourist urbanisation, second homes and accommodation facilities that extend over large portions of the coast. These linear settlements are mainly the result of development that took place between the 1960s and 1970s, which was often unregulated. Buildings are situated near the coastline and oriented towards the sea (Picture 1). This urban continuum is accompanied, and exacerbated, by the transport infrastructure that runs parallel to the littoral.

In addition to past development, the parks also face active urbanisation processes. The coastal area remains a coveted place for development in all three parks.

To combat this issue, park authorities have taken action to slow down coastal urbanisation. They are preserving the littoral from further development and preventing the formation of ecological barriers that could compromise ecosystem connectivity between the sea, the coast and inland areas. To achieve this goal the parks use regulatory instruments. For example, in applying the Loi Littoral (86-2/1986), the Parc de la Narbonnaise management makes provisions for ‘coupures d’urbanisation’ in the Plan du Parc (2010). ‘Coupures d’urbanisation’ are free, natural or rural areas where building is not allowed. They separate areas of urbanisation along the littoral, guaranteeing a solution of continuity in developed areas. Similarly, the Parque de la Albufera management identifies ‘areas de regeneración de ambientes rurales’ along the coast in the Plan Rector de Uso y Gestión (2004), and the Parco del Conero management ‘aree a forte valenza paesistica’ in the Piano del Parco (2010). In these areas, building is not permitted, which interrupts the continuity of coastal urbanisation. In this way, the progressive loss of littoral habitats is stopped and any new urbanization processes are promoted in inland areas, ‘en profondeur’.

In addition, in Parque de la Albufera, the Servicio Devesa has reclaimed some urbanized littoral areas. Between the late 1990s and 2008, various restoration projects were activated along the dunal area of the Devesa. Tourist infrastructure such as roads, car parks and pedestrian walkways, that were built in the 1970s based on the Plan General de Ordenacion del Monte de la Dehesa have been removed. Introduced species, namely Robinia pseudoacacia, Ailanthus altissima, Carpobrotus and Eucaliptus, have been eliminated. As well, lagoons (malladas) that were filled with earth from excavations during past urbanisation, and dunes, using earth from the restored lagoons, have been reconstructed (Pictures 2-4).
Increases in biodiversity as a result of the project are already noticeable. The restored lagoons are now acting as important habitats for bird-life, while reintroduced autochthonous plant species are once again growing on the dunes (Pictures 5-7).

Managers of Parco del Conero are currently seeking to limit land consumption in the beach area of Portonovo (Picture 8). The parks plan guides the provision of incentives to owners of the buildings along the beach, mainly tourist restaurants, who decide to move their structure back from the coastline. This initiative has yet to be tested for effectiveness, but it is nevertheless interesting. Park management abandons a purely regulatory point of view in order to promote self-managed local development by stimulating the private sector to act according to the general aims set by the plan. They are experimenting with a complex balance between environmental conservation and socio-economic development.

HUMAN PRESSURE

The parks are affected by seasonal tourism, with human pressure highest in the summer months. French and Spanish park management have addressed the problem of tourist pressure in a very similar way. To preserve environmentally valuable beach areas park authorities have chosen not to impose a restrictive regime of conservation, such as one would find in reserves. This relatively simple solution would not be suitable for the parks, which have historically experienced a great deal of tourism. Instead, they have chosen to filter visitor flows by reducing beach accesses via road. An example of this type of intervention...
can be found at the beach of Île des Coussoules in Parc de la Narbonnaise. The beach used to be covered with cars and camper vans, until, a parking area connected to the beach by pedestrian paths was built away from it (Pictures 9-11). Thanks to this simple and effective solution the beach is now completely free of vehicles.

A similar strategy was employed in the area of Devesa (El Saler) in Parque de la Abufera. Parking areas were relocated away from the beach with access made available through various footpaths that border the dunes (Pictures 12-14). As a result, tourist flows towards the sea slowed down, which respects the dune ecosystems.

In both parks, there are also highly developed beach areas where services and access have been strengthened so that they can act as a magnet for tourist flows. The general strategy used by the two park authorities to manage human pressure and conserve natural beach areas is to redistribute tourist flows between the more and less natural beaches. Tourists concentrate in the latter, for which requalification and enhancement have been carried out, resulting in a decongestion of the former (Forman, 2010).

**BEYOND SEASIDE TOURISM**

Policies have also been developed that look beyond seaside tourism through the promotion of tourism that has a lower impact on biodiversity and is more sensitive to environmental values. All over the world, seaside tourism is characterised by a quest for relaxation; it is defined by a demand for ‘sun, sand, sea’ - the three S’s tourism. This demand is not sensitive to the natural or cultural values of the destination; it is about an experience centred on the body and the related cult of the suntan.

Three S’s tourism may be of concern for inland areas. The key strategy behind the actions of park management is to redistribute visitor flows from the coast to inland areas and to limit negative impacts of ‘three S’s tourism’. Redistributing tourist flows between more and less natural beach areas is a quantitative relocation of tourists within the same type of demand. The redistribution of flows from coastal to inland areas requires the presence of a different type of tourist demand; mainly a demand based on an interest in natural and cultural resources such as ecotourism. To that end, the three parks seek to educate visitors about the value of the local environment.

The current project, managed by Servicio Devesa in the Parque de la Albufera, is exemplary, and its name, ‘Seducción Ambiental’ ('Environmental seduction'), is a clear statement of intent (Ayuntamiento de Valencia, Servicio Devesa de la Albufera, 2003). The main aim of the project is to inform visitors about the natural resources of Albufera and the impact that human presence may have on them. A similar project in Parc de la Narbonnaise is the ‘Plages Vivantes’ (‘Living Beaches’) project, co-managed by
Table 1: Policies for reconciling tourism development with biodiversity conservation (Aichi Target 5)

<table>
<thead>
<tr>
<th>Case Studies</th>
<th>Regarding Coastal Land Consumption</th>
<th>Regarding Coastal Anthropic Pressure</th>
<th>Regarding Abandonment and Renaturalization of Inland Areas</th>
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<tbody>
<tr>
<td><strong>Parque Natural de la Albufera de Valencia, 1986.</strong> Spain, Comunidad Valenciana, Provincia de Valencia. 21.000 ha, 30 km of coastal extension, 10.000 inhabitants.</td>
<td>Stopping coastal land consumption through the protection of the residual ‘empty’ areas. Restoring the original natural conditions along the urbanized littoral areas.</td>
<td>Identification of 'areas de regeneración de ambientes rurales' along the coast by means of the Plan Rector de Uso y Gestión (2004). Restoration projects in the dunal area of Devesa (removal of roads and parking areas).</td>
<td>Filtering the tourist flows (reducing accesses to more environmentally valuable beach areas); redistribution of the flows from the more natural to the less natural beach areas. Restoration projects in the dunal area of Devesa (removal of parking areas away from the beach, connected to pedestrian paths directed to the sea). Diversification of tourist supply: promoting eco-tourism (redistribution of visitor flows from the coast to the inland areas).</td>
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<td><strong>Parc Naturel Régional de la Narbonnaise en Méditerranée, 2003.</strong> France, Languedoc Roussillon, Département de l’Aude. 70.000 ha, 42 km of coastal extension, 35.000 inhabitants.</td>
<td>Stopping coastal land consumption through the protection of the residual ‘empty’ areas.</td>
<td>Identification of ‘coupures d’urbanisation’ by means of the Plan du Parc (2010), in applying the Loi Littoral (86-2/1986). Filtering the tourist flows (weakening accesses to the more valuable beach areas); redistribution of the flows from the more natural to the less natural beach areas. Project at the beach of Île des Coussoules (relocation of parking areas away from the beach, connected to pedestrian paths directed to the sea).</td>
<td>Diversification of tourist supply: promoting eco-tourism and rural tourism (redistribution of visitor flows from the coast to the inland areas).</td>
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<td><strong>Parco Naturale Regionale del Conero, 1987.</strong> Italy, Regione Marche, Provincia di Ancona. 6.000 ha, 25 km of coastal extension, 28.800 inhabitants.</td>
<td>Stopping coastal land consumption through the protection of the residual ‘empty’ areas. Restoring the original natural conditions along the urbanised littoral areas.</td>
<td>Identification of 'aree a forte valenza paesistica', by means of the Piano del Parco (2010). Providing incentives to owners to move back structures from the coastline.</td>
<td>Diversification of tourist supply: promoting rural tourism (redistribution of visitor flows from the coast to the inland areas). Definition of tourist paths in rural landscapes; applying seals of quality on agriproducts (Marchio Agricolo), publicizing agriproducts.</td>
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the park authority and the Ligue de Protection des Oiseaux (Picture 15). The main goal of the project is to introduce tourists to the biodiversity that characterises the lagoon and dune areas, with a focus on bird wildlife. This teaches visitors that the park contains more than just seaside resources. The titles of excursions organised in 2008 exemplify this, for example, ‘Richesses insoupçonnées des lagunes’ and ‘Tournons le dos à la mer’ (‘The unexpected richness of lagoons’ and ‘Let us turn our backs to the sea’).

Another project in Parc de la Narbonnaise, done in cooperation with local tourist agencies, is ‘Nature et Patrimoine’ (‘Nature and Cultural Heritage’), which promotes discovery of the local landscape and natural heritage as an alternative to traditional seaside tourism. As well, excursions to inland areas, via an extensive network of footpaths, are organised in the periods of maximum crowding on the beaches during August.

There is also another type of tourism that can play a crucial role in conserving biodiversity in Euro-Mediterranean landscapes, rural tourism. Rural tourism is based on the recognition of the value of agrarian landscapes and the quality of agricultural produce. It is sensitive to natural resources and to food-and-wine resources. It passively respects environmental values and actively contributes to maintaining and restoring biodiversity. The attractive resource is the inland rural landscape along the Euro-Mediterranean coast; this consists of abandoned fields in the Italian and Spanish parks and vineyards in the French park, which are subject to powerful processes of regeneration. Promoting rural tourism in these areas through multifunctional agriculture as defined by the ‘second pillar’ of the Common Agricultural Policy (CAP, is a potential way to ensure the permanence of agricultural activity (Pinto-Correia & Vos, 2004). In Euro-Mediterranean coastal landscapes, where cultural and natural diversity are closely connected, this means the maintenance, and in some cases the restoration, of a high degree of biodiversity.

Rural tourism has been promoted in Parco del Conero with ‘Rosso Conero Road’, a tourist walk that links the main Rosso Conero wine producers in a circuit. Similarly, in the Parc de la Narbonnaise, paths themed as ‘vignerons’ (‘winegrowers’) that connect local wine cellars have been developed. As well, park authorities directly promote local agriculture by: (a) applying seals of quality on produce (Marchio Agricolo in the Parco del Conero, and Marque Parc – Produit du Parc in the Parc de la Narbonnaise); (b) providing incentives that promote local agritourism such as with the Piano Agricolo Aziendale – Agricultural Plan – envisaged in the park plan; and, (c) advertising agricultural produce. For example in Parc de la Narbonnaise, the park authority developed the Chartes signalétique du Massif de la Clape, a signage system made with the Syndicat des vigneron, (winegrowers syndicate), to enhance local winegrowing enterprises’ by improving the promotion of agriculture in the area.

**USING TOURISM TO ACHIEVE AICHI TARGET 5**

The park examples used in this paper illustrate the role that tourism can play in achieving the objectives of biodiversity conservation along the Euro-Mediterranean coast and in reaching Target 5 of the Aichi Biodiversity Targets.

Seaside tourism is a threat to biodiversity; it needs to be regulated by normative tools, projects and incentives and managed by the redistribution of tourist flows to avoid excessive human pressure on valuable habitats. Ecotourism and rural tourism in inland areas can play an active role in biodiversity conservation and both need to be promoted by park authorities through visitor education and support for rural activities. Developing them, and in general promoting a greater diversification of tourism, rather than just the three S’s tourism, can help manage visitors along the Euro-Mediterranean coast. It is important to use ecotourism and rural tourism to redistribute tourist flows from coastal to inland areas, which decongests the coast and maintains and restores biodiversity in abandoned inland areas.

In order for this advantageous exchange between coastal and inland areas to occur, a significant change in the Euro-Mediterranean tourist system is required. This cannot be a short-term process; it will be necessary to create consolidated cultural and socio-economic models for seaside tourism that can prevail along the Euro-Mediterranean coast. Reports that forecast maturity in seaside tourism, particularly in Italy (Becheri & Becheri, 2011) and a constant growth in ecotourism at the international level (Cannas, 2011), are encouraging. In particular, an increasing attention to, and preference of visitors for, ecological-environmental holidays is rising. As a result, there is room for innovative action in the tourist trade. The management of the parks cited in this article are moving in a positive direction. They are assuming a geographically broad field of action, integrating coastal and inland areas into a single system of tourism management policy. Additionally they are once again treating coastal and hinterland areas as closely linked and profitably
complementary worlds, as they were, until the second post-war period. This large operative perspective seems to be the most efficient vision for defining policies to solve the conflict between tourism and biodiversity along the Euro-Mediterranean coast. The Integrated Coastal Zone Management approach that the parks employ (Vallega, 1999; UNEP/MAP/PAP-RAC, 2001; UNEP/MAP/PAP-RAC, 2008), is based on the integration of the management objectives conservation and development and, on the integration of spaces, land and sea, coast and hinterland. It may be an important approach to adopt in the future.

ENDNOTES

1The Plan (1963) partially implemented during the 1960s and 1970s was blocked in 1979 by the first democratic local government (Municipality of Valencia), under the pressure of the ecological movement “El Saler per al Poble”. In 1982, the “Plan Especial de protección del Monte de la Devesa de El Saler” was approved, aimed at re-establishing the natural conditions of the area.

REFERENCES


RESUMEN

En las zonas costeras euromediterráneas, especialmente en las zonas costeras de España, Francia e Italia, el alto valor en biodiversidad—derivado no solo de factores naturales sino también humanos, tales como el pastoreo y las actividades agrícolas—se suman a los flujos turísticos tradicionalmente intensos relacionados con el turismo masivo de sol y playa. Desde la década de 1950, este tipo de turismo y dos importantes procesos socioeconómicos asociados a él—la “litoralización” y el abandono de las actividades pastoriles y agrícolas en las zonas del interior—ha estado provocando pérdidas significativas de biodiversidad a lo largo de la costa y en las regiones interiores. En vista de tan crítica situación, este artículo investiga cómo se puede convertir el turismo y algunas de sus "amenazas" en una oportunidad para alcanzar las metas de Aichi relativas a la diversidad biológica (Meta 5, en particular) en el contexto de las zonas costeras euromediterráneas. A este efecto, se examinan algunos ejemplos de políticas desarrolladas en tres zonas costeras protegidas ("Paisajes terrestres y marinos protegidos", Categoría V de la UICN: el Parque Natural de la Albufera de Valencia, España, el Parc Naturel Régional de la Narbonnaise en Méditerranée, Francia, y el Parco Naturale Regionale del Conero, Italia) tendientes a superar los conflictos entre la biodiversidad y el turismo. Estos parques pueden ser considerados también como laboratorios de experimentación para políticas relacionadas con zonas costeras no protegidas.

RÉSUMÉ

Dans les zones côtières euro-méditerranéennes, notamment le long des zones côtières espagnoles, françaises et italiennes, une importante diversité biologique—issue de facteurs naturels mais aussi humains, comme les activités de pâturage et agricoles—cohabite avec des flux touristiques traditionnellement intenses et liés au tourisme balnéaire de masse. Depuis les années 1950, ce type de tourisme ainsi que les deux principaux processus socio-économiques qui lui sont associés (la littoralisation et l’abandon des activités de pâturage et agricoles à l’intérieur des terres) ont entraîné une diminution significative de la diversité biologique, le long des côtes et dans les terres. Au vu de cette situation préoccupante, ce document étudie de quelle manière le tourisme et certaines de ses « menaces » peuvent être transformées en opportunités pour atteindre les Objectifs d’Aichi pour la biodiversité (notamment l’Objectif 5), dans le contexte des zones côtières euro-méditerranéennes. À cette fin, certaines politiques mises en œuvre dans trois aires protégées côtières sont analysées à titre d’exemple (« Paysages terrestres protégés », Catégorie V de l’UICN : le Parque Natural de la Albufera de Valencia, Espagne, le Parc Naturel Réional de la Narbonnaise en Méditerranée, France, et le Parco Naturale Regionale del Conero, Italie) pour permettre de dépasser les conflits entre tourisme et biodiversité. Ces parcs peuvent également être considérés comme des laboratoires expérimentaux pour les politiques liées aux zones côtières non protégées.