

Effects of policy development on Schinias Marathon coastal landscape

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Introduction

The coastal site of Schinias in the Marathon plain, 45 km N-E of Athens, presents a particular interest as a natural landscape of outstanding scenery and a unique cultural landscape (Hadjibiros 2005). In the wider area, there are important archeological monuments while it maintains characteristics of the classic Attica coastal landscape. However, urbanisation of adjacent hills and plains has led to a less attractive wider scenery that remains unprotected. Scattered second-home developments, road-network expansion, agricultural land-use changes and other disturbances have an important impact on the everyday landscape beyond Schinias and undermine conservation perspectives; there is little chance that this urban sprawl can be adequately controlled.

Schinias is a land area of 9 km² with a variety of natural habitats: freshwater spring, coastal wetland, coastal sand dunes covered by a *Pinus pinea* and *Pinus halepensis* forest and a rocky peninsula covered by Mediterranean maquis; the forest covers an area of about 1.20 km² on a sandy strip about 400 m wide; the wetland covers an area of about 7 km²; very few coastal wetlands are still extant in the coastline of south-eastern Greece and the Aegean islands. More than 320 species of flora

and an important diversity of fauna species, including threatened resident and migrating birds, freshwater fish, amphibians and reptiles, live in the land biotope. Inflow of freshwater from Makaria spring and stagnation of fresh and brackish water in the wetland during many months of the year are essential factors for ecological habitat formation and function, for coastal forest persistence and regeneration and for land and aquatic wildlife diversity (ENVECO 1997).

Multiple and persistent anthropogenic pressures have been exerted on Schinias for decades. In the 20s, the water of the spring was diverted to the sea; only about 10% of water inflow remained available for the wetland; therefore the dynamic balance between surface and underground salt, brackish and fresh water has been modified and the wetland has been partially drained. However, the drainage project has never been completed; only a part of the wetland has been cultivated, while the rest has remained a semi-dried marsh in which small American and Greek military bases and a small civil airport have been established (Figure 1). Environmental pressures, like decrease of surface water and brackishness of underground water, noise and toxic pollution, urban solid waste disposal (Figure 2) as well as uncontrolled hunting, fishing, grazing, motocross, car parking, camping and housing have acted for decades, resulting in considerable natural landscape degradation: habitat fragmentation, decrease of nesting, wintering or resident bird populations, extinction risk for endemic and rare species, limited regeneration of *Pinus pinea* (ENVECO 1997).

The area of Schinias is valuable for nature conservation education, environmental sensitization and outdoor recreation for more than four million people living in the Attica region. If managed properly it could become, without a high cost, an attractive place for hundreds of thousands nature lovers. They will find there a tasteful and functional space for mild activities such as hiking, cycling, swimming, acquaintance with nature,

bird watching and environmental education. Schinias is very attractive for families with small children as well as for disabled people because the mild inclines of the ground facilitate movement on foot, on a cycle, a perambulator or a wheel chair. Disabled people seldom have the possibility of contact with nature and Schinias is one of the very few flat natural tracts near a large urban area.

Effective conservation of this site should be a high priority on the basis of its important natural and cultural landscape values; the application of strict protection rules in the framework of a National Park could promote conservation and environmental awareness activities. On the other hand, many social responses towards conservation have been adverse up to now, especially those from the local community. How could this conflicting situation be managed effectively? The question is examined by using different scenarios of policy development.

Methodology

Protecting and upgrading this peri-urban coastal landscape under serious pressure seemed a very difficult enterprise fifteen years ago. What should be the most efficient conservation policy? Could positive results come from immediate application of strict protection rules while pressures for degradation and loss of the precious landscape components were multiple and strong? Would it be possible to use a major event like the Olympic Games and the related technical works as a tool to overcome local opposition and to promote landscape conservation? Given his involvement in the design and implementation of technical works in Schinias for five years (1997-2002) and his presidency of Schinias Marathon National Park Management Board for six years (2003-2009), the author summarizes his experience and explores potential ways to “detour a landscape management impasse”. Four different scenarios for the development of Schinias coastal landscape under different policies or lack of consistent policy are explored; the differences between the

scenarios are related to: a) the possibility of a public intervention to control wild development b) the designation of a National Park with application of strict protection rules c) the upgrading of environmental functions based on the construction of an Olympic facility and d) the limitations due to negative reactions from the local community. All scenarios begin in 1997. After their presentation, an attempt is made to assess them with the use of quality grading (very big, big, medium, small, very small) and on the basis of evaluations in relation to: a) the estimated probability of realization b) the positive effect on landscape and c) the long term viability. The whole approach is fragmentary and partially subjective since proper quantitative data are missing, especially in relation to the social and economic situation.

Results

Scenario #1: “Business as usual” (not realized)

The first scenario is the “do nothing” case. It follows the preexisting trends in the socioeconomic framework of the 90s; according to it, no public intervention to control development takes place in Schinias since 1997. In Greece, wild exploitation of the natural landscape has been a dominant means for economic development (Beriatos 2008). Housing development has been considered for decades as the major promoter of economic growth and a great supporter of employment. Building constructions “outside city plans” (legal in pieces of agricultural land of more than 4000 m², illegal in smaller pieces of land) and the ensuing environmental alteration and downgrading, constitute a major negative pressure on the landscape. Uncontrolled urbanization and the building constructions create thus built-up formations on the periphery of cities and along the coastline. Nevertheless, many of these second home houses are not used for more than five weeks per year and remain closed for the rest of the time.

We should note that the European Landscape Convention signed by Greece in 2000 has been ratified only 10 years later. Since a landscape policy is not mandatory by European Union, there is no economic pressure on the government to adopt additional protective measures concerning landscape. High officials of the Ministry for Environment, Physical Planning and Public Works have admitted (pers. com. 2003) that adopting conservation measures for the every day landscape of Greece or even for Sites of Outstanding Natural Beauty would add an additional difficulty to national efforts for economic growth; many obstacles for housing construction activity or infrastructure works are already present because of Natura 2000 and other EU restraints on natural habitat alteration. These restraints are significantly decreasing the capacity of Greece to effectively absorb European structural funds; E.U. funds availability remains greater than the ability of the administration to elaborate sustainable plans for their absorption.

Building in the north section of Attica spreads outside the narrow limits of municipalities and villages. Formerly sparsely inhabited areas, with inhabitants looking for a better quality of life in the countryside (Beriatos 2008), are turned into suburbs and being built-up in an unprecedented pace. Northern Attica is changing fast and without a plan, without programming, without limits (Lialios 2008).

Schinias is a very privileged prospective residential area. Very probably, within 20 years, in the explosive and uncontrolled residential development characterizing this coastal zone, Schinias would be lost as a wetland, forest and natural landscape. Local Government would not oppose this prospect; on the contrary, it would co-operate, moving naturally together with the dominant interests and desires of the residents and land owners. An example of this attitude was the desire of turning a large area, that the Municipality of Marathon claims to own inside the wetland of Schinias, into a parking lot as shown by the Mayor's public statements (pers. com. 2007a).

Scenario #2: “National Park and strict landscape protection”
(not realized)

The second scenario was infeasible, given the socioeconomic conditions. According to it, Schinias is designated as a National Park since 1997, strict rules are applied, no technical works or other interventions are permitted. In Greece, 10 National Parks and 11 Ramsar wetlands had been designated until the 70s, but none ever had a well organized administration and effective protection measures. Moreover, following E.U. 92/43 directive on ecological habitat protection, 359 Natura 2000 sites have been designated until now, but no consistent and effective conservation measures have been applied. In 2003, 27 national park management boards have been established, but these “potential parks” do not really exist; 16 of them have not yet determined borders (Koumoutsou 2008). The government selected the model of national park management boards in order to avoid direct conflicts with local communities for protection matters. However, the success of management boards is impossible without support by the State. A management board does not have the right to exercise public authority. Who will force the services that do exercise public authority (Police, Coast Guard, Fire Department, Forest Inspection, Municipal Police) to control the illegal actions? The negative attitude of the local communities cannot change simply through dialogue and education, which are arduous and long term processes; there should be clear protection rules and they should be implemented.

The effective landscape conservation through well organized National Parks in Greece stumbles on the lack of a significant social pressure for the protection of the natural landscape; ecological awareness is undermined by the dominant consumerism as well as the weariness of the average citizen by “ecological” exaggerations of scant-numbered groups that are continuously rising up against every developmental project. On

the other hand, there is a strong presence of interest groups, such as farmers, shepherds, hunters and land speculators who are opposed to nature conservation.

The designation of Schinias as a protected area out of the Olympic Games context would not be easy and it would not give an operational solution to the problem of landscape protection. The upgrading of the environment in Schinias seemed almost impossible in the middle of the 90s. In spite of its ecological values, the reversal of the draining that was in effect for 80 years and the return of the water to the wetland would be minimally probable. The National Park was treated with insufficient interest by the government before the Games and with indifference after the Games (as shown in scenario #3), so that the very existence of the National Park was discredited in the minds of inhabitants and visitors; in fact, the government tried to remove Schinias from the list of Natura 2000 sites in 1999. Overcoming the obstacles for the operation of a protected area, and also securing the necessary financial and political support for dismantling disturbing infrastructures like the airfield and the old military facilities of the American Base would not have been feasible without the powerful boost of the Olympic Games.

Scenario #3: “Olympic Rowing Centre, National Park and strict landscape protection” (partially realized)

In the context of the country's preparation for the Olympic Games 2004, socioeconomic conditions have been favorable for environmental design. The construction of an Olympic Rowing Centre had been planned to upgrade environmental functions, while the creation of Schinias National Park in 2003 aimed at ecosystem and landscape conservation. However, these favorable conditions did not last after the Games.

The Rowing Centre was constructed and operates under strict environmental conditions (ENVECO 1997, Romas et al 2005a).

Significant landscape alterations – such as, e.g. the creation of large parking areas – were avoided. The Rowing Centre comprises two interconnected semi-natural lakes (earthen reservoirs, mild inclines) and was expected to have a positive impact on the ecological functions of the biotope. The location and design principles adopted for this facility aimed at restoring the natural hydrological regime and suppressing other disturbing uses. Water diverted from the spring to the sea has now been conducted to the new lakes; their overflow has been driven to the wetland. Specific benefits for the natural environment resulted, such as (Hadjibiros 2005):

- The restoration of the water's natural flow by diverting the water of Makaria spring towards the lake and then, through spillways, to the wetland, caused essentially a lifting of the drainage that had begun in 1923; the creation of a new, almost natural lake brought an increase of the presence of surface water and amelioration of the natural landscape condition and increased the available water quantity and quality.
- The small airport has been removed; this returned the ground to nature and caused a significant decrease of noise pollution.
- An automatic forest fire suppression system feeding with water from the new lakes has been constructed; this should contribute greatly to the protection of the coastal forest against fire.
- The complete dismantling of the old military facilities of the American Base, the pollution abatement and environmental rehabilitation of the natural ground they occupied was a costly project that restored the natural environment to the corresponding section of the wetland.
- As a compensation for the sports facility inside the biotope, the founding of a National Park was decided for the effective protection and organization of the space, aiming at the reduction of illegal activities (grazing, hunting, motocross, camping, debris disposal etc.) that

constituted a long-lived status quo. The creation of a unique ecological, cultural and athletic centre seemed like a fascinating idea.

Six years after the Games, mainly due to the physical changes made by the technical works, significant improvement of natural landscape has been achieved (Panagiotidis and Zogaris 2009). In fact, the technical aspects of the project have proved to be reliable and, consequently, the environmental outcomes of the intervention in Schinias have proved to be very positive. The channeling of water from the Makaria spring increases the available quantity of water in the wetland and provides better hydrological conditions of groundwater with the expectation of an improvement of the forest's natural regeneration. An extension of freshwater marshes and vegetation is observed with positive effects for the condition of the fauna. The ecosystems have been upgraded in the last years. The natural fluctuation of the water's presence in the wetland during the year constitutes an essential restoration of its function. The decrease of noise pollution and of some disturbing activities, such as hunting or debris disposal, strengthens the naturalness of the existing ecosystems; at the same time, new conditions for the increase of biodiversity are created due to the presence of a new ecological habitat (freshwater lake).

Bird diversity goes up spectacularly: 117 species were recorded in Schinias before 1997, 236 species have recently been recorded (Panagiotidis and Zogaris 2009, Hadjibiros and Sifakaki 2009). This number includes at least 52 species that reproduce regularly in the area. The number of aquatic birds which winter there is greater than any other count before 2004. The area has been integrated in the network of the caretakers of the Hellenic Ornithological Society since 2004 and through the continuous presence of volunteer ornithologists, knowledge about the bird fauna has improved significantly. The increase of the observed bird species number is due to the increase of monitoring in the last years as well as to the changes that have

come about in the area by the creation of the Rowing Centre; the importance of the area for the birds has increased due to the protection and expansion of the freshwater habitats; the restoration works in the wetland, the abolition of the airfield and the removal of military infrastructure have increased the attractiveness of the area for the birds; the athletic activities in the Rowing Centre cause a limited nuisance because a “side lake” eastwards of the Rowing Centre seems to offer significant cover to the birds.

Moreover, the freshwater fish fauna seems to have increased. At least five species have been observed. Among them, the endemic *Pelagus marathonicus* that was upgraded in 2007 to the level of species (synonymous with the former subspecies *Pseudophoxinus stymphalicus marathonicus*) and whose presence in the waters of the Rowing Centre has been ascertained (Panagiotidis and Zogaris 2009).

The possibility of a financial support of the Park through sustainable activities appeared feasible by the study conducted in the context of a LIFE project. The purpose of this project was to promote sustainable tourism and accessibility in the National Park, to influence the behavior and minimize the environmental impact of visitors and to enhance the quality of life of disabled people, especially those in Attica (where almost half of the Greek population lives). Concerning this last point, the project aimed at:

- Making environmental, cultural, historic and recreational attractions accessible to disabled people
- Making transportation services to and within the Park accessible by disabled people
- Enhancing the visitation experience of disabled people.

The idea of sustainable tourism and accessibility in the National Park included the environmental, social (especially for disabled people) and the financial dimension. With the realization of the appropriate actions, the Park could receive an important number

of visitors and gain considerable revenues that might be enough for its financial viability.

However, the necessary political and financial support by the State and the overcoming of negative reactions of the local community have not been possible. Whereas the technical intervention in Schinias seems to be successful for the upgrading of the natural landscape, major difficulties arise in relation to the possibilities of implementation of the National Park's rules.

Scenario #4: Olympic Rowing Centre and National Park's co-existence with the social constraints

This scenario is carried out up to this day.

When the discussion about the plan begun in 1997, nobody believed that the establishment of the Olympic works in Schinias would end up in anything else but the destruction of the natural landscape of the area. Careful environmental impact assessment (ENVECO 1997, Romas et al 2005b) showed that it was possible for the technical project not only to not destroy but in fact to upgrade the landscape (Figure 4), as the outcomes of scenario #3 demonstrate. However, what happened during the period 2004-2010 did not follow the scenario #3 because the social reality, as expressed on a local as well as on a central governmental level, created serious restraints for the application of the rules of the National Park. The mediation between the State and local communities by the Management Board failed due to the absence of a well-ruled State and a developed civil society. Multiple efforts to develop environmental awareness through public hearings, local educational initiatives etc. have not led to significant results. Thus, on the one hand, we have the lasting positive environmental impacts from the Rowing Centre as mentioned in Scenario #3, and, on the other hand, the following negative developments that are mainly connected with the difficult operation of the National Park:

- The costly automatic fire extinguishing system was constructed along with the Rowing Centre in 2003 but it never functioned. Later, it broke down due to lack of maintenance; thus, there is a risk of destructive fire, especially in the dry summer months.
- Some complementary environmental conditions of the Rowing Centre were not materialized, e.g., the construction of a ring-road for the de-congestion of the Park from the traffic of cars passing through or the development of organic farming cultivations.
- Illegal taverns and bars that belong to a Building Co-operative and the Marathon Municipality remained and are working at the edge of the forest and on the beach. They are powered by gas-engines that present the risk of causing fire in the forest and, moreover, they drain waste water into the National Park's sea illegally. These facilities should have been demolished, according to a judicial decision of 2005 that still remains unexecuted.
- In the summer, many cars enter the National Park illegally and park in the forest and on the beach. The trampling of the vegetation by the car wheels prevents the regeneration of *Pinus pinea*. Moreover, there is an accumulation of garbage left behind by the car passengers.
- Guarding of the National Park is not sufficient or continuous due to lack of funding. The prohibition of camping, overnight staying, hunting, grazing, motocross, debris disposal etc is often violated, though the situation has improved in relation to the past (Figure 3).

The realization of the ambitious integrated scheme has met considerable opposition from the beginning. Modern conservation management accepts that change can be a healing force in the landscape rehabilitation of degraded areas (Hadjibiros and Sifakaki 2009). However, the question whether a technical work can be beneficial to an important landscape has

received firm negative answers by many Greek or international NGOs; in the period 1998-2000, they were strongly opposed to what they considered as an artificial construction in an important natural landscape; they refused to consider possible positive landscape aspects resulting from an environmentally friendly technical project. The subject was a dominant one in the Greek mass media for many months and took on significant international proportions. Because of the strong reaction and the international pressures by well-meaning but insufficiently informed people, both a strong scientific documentation and the political intervention of the country's Prime Minister were necessary for the final positive decision to be made. When the protests wore out without a suggestion of a feasible alternative solution, the initial plan was applied as it was. Finally it has been proved that the fears about a degradation of the natural landscape or its archaeological value were exaggerated or unfounded. However, the protesting NGOs have not since actively supported the National Park. Also, up to now, there has not been any active support by the hundreds of thousands of potential users, who could put a well organized Park to good use.

On the other hand, conservation of the wetland and rehabilitation of its water balance, as well as implementation of measures that should restrict disturbing human pressures has met local opposition that undermines any protection activity of the National Park. Many inhabitants protest because they disagree with the rules; they are annoyed by the control of car movement and parking in the Park, the limitation of building, the restoration of the marsh etc. The wetland is crossed by two asphalt paved roads that create undeniable nuisance to birds and other fauna species. Although one of these roads does not serve vital needs, the local community opposes its pedestrianization in spite of the fact that the National Park legislation prescribes it. The local Public Authorities – Police, Fire Department, Coast Guard, Forest Inspection, Municipal Police - do not intervene effectively for the control of illegal actions that harm the

environment and, in general, they maintain an indifferent attitude towards the efforts of the Management Board for fighting the degradation of the landscape. This attitude reached the point of being even hostile against the National Park Management Board; unfair fines were imposed to it or its legal activities were hindered; thus, in certain cases, it seemed that some Public Authorities were indirectly serving the dubious interests of local businesses or land owners who were restricted by the operation of the National Park. Some officials of the Local Government or businessmen made various suggestions, after 2004, for a financial utilization of the space towards a different direction – the luxurious tourism development. For example, it was proposed to turn the Rowing Centre into a marina for tourist boats or to turn the wetland into a golf course (pers. com. 2005a), indicating that the environmental message has not been heard yet.

Since 2006, attempts of sabotage begun against the hydraulic system that regulates the water flow from Makaria spring to the Rowing Centre and the wetland; sabotage obviously aimed at the drainage of the wetland. In July 2006, the fresh, brackish and salt water marsh was almost drained temporarily with negative repercussions for the aquatic vegetation and deaths of bird, fish, amphibian and invertebrate species that depend on the protected habitats. The drainage of the wetland is sought after by particular notables of the region who own pieces of land with doubtful documents of title. Problems relative to the regulation of the water flow still continue with the tolerance of the Municipality and the administrators of the Rowing Centre who are responsible for the operation of the hydraulic system.

A common endeavour that begun with positive prospects was the three-year project LIFE; it was commissioned by the E.U. in 2004. For the best possible implementation of the objectives mentioned in Scenario #3, the following key partners were selected for their strategic positioning in relation to the National Park:

- Municipality of Marathon
- Municipality of Marathon Development Enterprise
- Management Board of Schinias Marathon National Park
- National Technical University of Athens
- EPTA Ltd, a consultant specialized in services in the fields of Environmental Management and Engineering.

The combined attributes of these partners included considerable experience in environmental planning and management issues, a vested interest in conserving the unique cultural and natural heritage and extensive knowledge of current and past patterns, changes and needs of the area. Each partner would play a significant role in the implementation of the project, according to their specific fields of expertise. The project was an opportunity for strengthening the cooperation among the social partners that were important for the Park. It failed partly because of the lack of support from the Ministry for Environment, Physical Planning and Public Works, but mainly because of the reserved, if not negative attitude, of the local community. The indifference of the inhabitants about the subject of the infrastructure for facilitating the access of disabled individuals to the forest, the sea and the wetland was impressive; however this plan could give a strong boost to the Park as well as to the local economy. The Mayor's treatment of the situation was characteristic; although he was coordinator of the LIFE project, he publicly undermined it in an official meeting that took place on the third year of its elaboration (pers. com. 2007b). As a result, the E.U. decided to discontinue its implementation.

While the technical works have significantly upgraded the natural landscape in Schinias, the local community seems to need more time in order to, hopefully, adapt to the landscape management rules.

Evaluation of scenarios

<i>Scenarios</i>	1 st	2 nd	3 rd	4 th
<i>Criteria</i>				
Probability of realization	High	Low	Low	Very high
Effect on landscape	Very big, negative	Very big, positive	Very big, positive	Big, positive
Long term viability	High	Medium	Medium	High

Table 1: Evaluation of scenarios

A comparison of the scenarios (Table 1) indicates that:

- Scenario #1, based on the extension of the 90s trends, is not acceptable because it would cause great harm to the landscape.
- Scenario #2 is not feasible because the establishment of a protected area without the Olympic facility would be minimally probable.
- Scenario #3 is not feasible because the application of strict protection rules after the Games would be very difficult, given the opposition of the local community to the National Park.
- Scenario #4 may open a positive perspective by affording time to deal with social difficulties, while the landscape is maintained in good condition by the technical works.

Discussion

The European Landscape Convention requires the promotion of protection, management and planning of outstanding and of everyday landscapes, taking into account the particular values assigned to them by interested parties and the population concerned. Of course, conservation measures are difficult to apply if landscape protection does not meet aspirations of the local society (Weidner and Janicke 2002). Nevertheless, in some cases the values of interested parties are strongly conflicting;

landscape conservation meets the aspirations and needs of some people but other people are less mobilized by environmental values or more interested in short-term profits incompatible with conservation. On the other hand, landscape conservation needs substantial financial and political support by public authorities; unfortunately, the European Landscape Convention, even after its ratification by the Greek Parliament, is considered by some Greek authorities as a theoretical legal text that, in practice, has a small effect; efficient landscape conservation is conflicting with other state and private priorities related to economic growth and interests.

In Schinias, due to a major event, adequate technical works have been able to upgrade the natural landscape. However, the Olympic Games will not come back soon and the long-term preservation of ecological values strongly depends on uncertain socioeconomic and political conditions. Expectations that a significant evolution of mentalities could follow the special event of the Olympic Games have not been confirmed; the traditional social mentality has naturally returned. The question whether social conditions allow landscape conservation remains open and the efficient operation of the National Park is uncertain. Part of the local population still expects quick high profits from the housing development of this coastal area. In fact, the rapid economic growth of Greece during the last decades did not bring a rapid modernization of social mentality and public administration; there is a deficit of environmental awareness, especially among the populations outside the big urban centers where, however, we find the most noteworthy landscapes. Greek economy of year 2007 was in the 22nd place globally in relation to per capita GDP, but the environmental concern remains quite low for the time being and does not verify the rise that could be expected according to the Environmental Kuznets Curve (Inglehart 1997, Diekmann and Franzen 1999, Xepapadeas 2003, Hadjibiros 2007).

In the case of Schinias, the main factors that undermine the effort for landscape conservation is the neutral apathy of the larger part of society along with the negative actions of certain local interests. Up to now, social support to the ambitious initial plan is too weak to deal with local protests for restrictions on cars or wetland flooding and with expectations to build in the Park area. The municipal authorities and the local communities they represent are still governed by the traditional mentality of familism, localism, clientelism (Piattoni 2001). Modern ideas do not easily penetrate closed societies; the lack of concern about an important matter of progressive humanism, as the facilities for disabled people, is very characteristic. Opposition is not so much expressed by direct offensives against the National Park but it is usually done so indirectly; for example, many people found the increased presence of mosquitoes as an excuse so that they could condemn the conservation of the wetland; they are not willing to pay for the biological control of mosquitoes (less than 10 Euros/person/year), although this control proved to be effective when the Committee of the Olympic Games applied it in 2004. With the exception of the period of exultation due to the Olympic Spirit, the phenomenon of neutral apathy was not absent from the central government either. The project was properly funded for the construction phase but after the Games the environmental expectations have not been fulfilled; priorities changed and they have not allowed significant funding of the National Park. Moreover, the Minister of Environment, Physical Planning and Public Works, one year after the Games, unofficially characterized Schinias wetland as a useless swamp (pers. com. 2005b).

Of course, one way of controlling local communities' illegal actions is the authoritative exercise of power. For example, in spite of the Municipality's opposition, the Greek military base is still operating in a fenced section of Schinias wetland. Its presence is negative for the landscape; however access restriction contributes to an increased protection of biodiversity. This fenced tract is the only part of the National Park where

people's daily activities do not impact on nature. Of course, there are other potential risks, e.g. toxic substances, which may be used for military activities, could be leaking into the waters.

Nevertheless, the environmental situation today (Figure 5) is the best one in the last 80 years and the prospects for landscape conservation are positive for the coming years. Through the Rowing Centre technical project, there have been irreversible positive interventions; they offer a significant time prospect to the effort for landscape conservation, with the expectation that, gradually, Greek society will acquire environmental concern corresponding to its economic condition, according to the Environmental Kuznets Curve. Therefore, Scenario #4 may be viable in the long-term both from an environmental and a social point of view, thus offering a landscape management perspective. The necessary support to landscape conservation by the State for bending negative actions may be provided for in Scenario #4, as opposed to #2 or #3, mainly through technical form; careful preservation and maintenance of technical works, such as the channelling of water into the wetland, as well as small technical interventions implemented during the period of the Games, like those that restrict the uncontrolled parking and speeding of cars in the roads of the Park strongly contribute to landscape conservation; it would be difficult for this infrastructure to be abolished once it has been constructed, in spite of the numerous local protests.

A promising positive sign of the wider society's mobilization is the volunteer action. For example, thanks to the yearly repeated organized efforts of citizens from all over Attica for cleaning the coast and the forest from the garbage left behind by many not environmentally sensitized summer visitors, the National Park remains clean in the winter months. Such phenomena create encouraging future prospects.

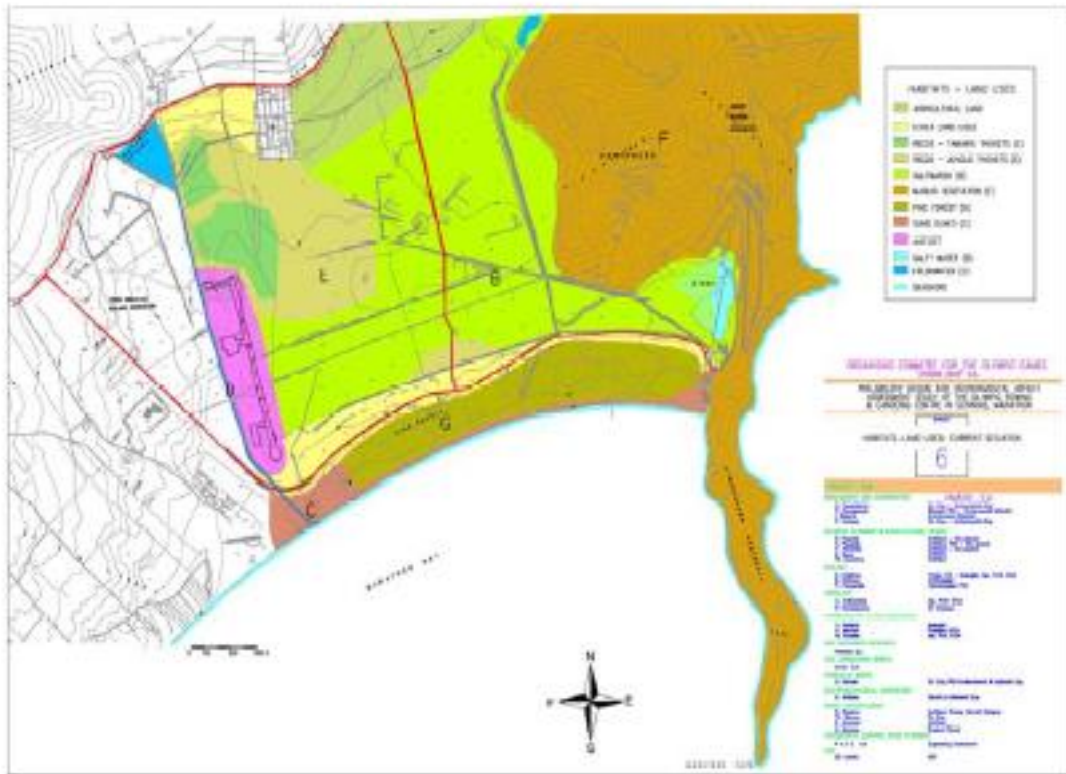
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**Figure 1: Schinias in 1997 (pink color indicates the airport),
source: ENVECO 1997**



Figure 2: Debris in the wetland (1997), photograph taken by the author



Figure 3: Cleaning the wetland (2004), photograph taken by the author



Figure 4: Schinias with the Rowing Centre (2005)



**Figure 5: Panorama of the National Park (2005),
photograph taken by the author**