

Marine Turtle Newsletter

The National Marine Park of Zakynthos: A Refuge for the Loggerhead Turtle in the Mediterranean

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The first national park in the Mediterranean to protect sea turtles was recently established on the island of Zakynthos, Western Greece. This was the result of longstanding efforts made by NGOs, the Greek Government, the European Union, the Council of Europe (Bern Convention) and other concerned parties. The primary aim of the Park is to provide the appropriate nesting conditions for the most important known loggerhead (*Caretta caretta*) nesting population in the Mediterranean.

In the Mediterranean the loggerhead turtle has established local populations (Bowen et al. 1993; Laurent et al. 1998) and is the only marine turtle species to nest in Greece (Margaritoulis 1988).

Beach monitoring work since 1982 has proved the Bay of Laganas on the island of Zakynthos in Greece to be an extremely important nesting aggregation of the loggerhead turtle in the Mediterranean (Margaritoulis 2000) and, despite more recent discoveries (Baran & Kasperek 1989; Broderick & Godley 1996; Laurent et al. 1995; Laurent et al. 1999; Margaritoulis et al. 1995) the Bay continues to host by far the largest single nesting colony known in the Mediterranean (Groombridge 1990). Zakynthos Island covers an area of about 40,600 ha and its coastline stretches about 110 km, but only a small portion of this is comprised of sandy beaches. The annual number of clutches deposited in the Bay of Laganas ranges from 857 to 2,018 (Margaritoulis 2000). The nesting habitat in the bay comprises six discrete beaches (Gerakas, Daphni, Sekania, Kalamaki, E. Laganas and Marathonissi islet), totalling about 5 km in length, of which Sekania is rated amongst the world's highest loggerhead nesting concentrations. The Bay of Laganas has been included in the national list proposed for the Natura 2000 network, under the EU-Habitats Directive 92/43 (Dimopoulos et al. 1999).

Zakynthos over the past 20 years has experienced a fast growing tourist industry, which exerts significant pressure on the nesting beaches (Arianoutsou 1988; Katselidis & Dimopoulos 2000). Since 1983, the number of tourists arriving by means of charter flights has increased twenty-fold, reaching over 380,000 in 1999. The resident population of the Island is about 30,000. Around 50% of tourist facilities are located in the Bay of Laganas. Development has been basically unplanned thereby exacerbating the problems sea turtles face.

Legal status of the nesting habitat: To counteract the adverse effects of rank tourist development, the Greek Government introduced specific regulations in 1984 in order to protect the nesting beaches and restrict coastal development (Dimopoulos 1995). Based on the frame law 1650/86 for the protection of the environment passed in Parliament in 1986, a Ministerial Decision in 1987 and a Presidential Decree in 1990 (Dimopoulos 1991; Warren & Antonopoulou 1990) further strengthened the legal status of the nesting area. The main restrictions included no access to the beaches at night, beach furniture confined to a small portion on two beaches, no vehicles on the beaches, and light regulations. Furthermore, marine traffic and fishing have been regulated since 1988 by a separate Ministerial Decision. A particularly significant measure was the fact that privately owned land was declared as nature reserves and set aside for sea turtle conservation. Unfortunately enforcement of legislation was very poor mainly due to the unwillingness of the local authorities to comply and the lack of a specific body to co-ordinate law enforcement efforts. Furthermore, no appropriate compensation strategies for affected landowners were ever implemented and there was no communication with local interest groups who rejected all legislation proposals and conservation plans. In addition, the local authorities and communities struggled to relax protection measures. Consequently, illegal activities (construction of bars, restaurants, holiday homes, deployment of beach furniture) mushroomed over the years and parts of the habitat experienced severe degradation. Protection measures were also not welcomed by a group of local landowners that saw their plans for tourist development thwarted. Local reaction occasionally erupted in violence toward members of the Sea Turtle Protection Society of Greece, that has been running annual monitoring and conservation projects in the area since 1983 (Charalambides 1990; Dimopoulos 1991; Sfantos, 1990).

As the loggerhead turtle is listed in Appendix II of the Bern Convention (UNEP/IUCN, 1990) the Council of Europe, as

early as 1986, placed Zakynthos high on its agenda, recommending at its annual meetings of the Standing Committee that the Greek Government enforce existing legislation and proceed with the establishment of the National Park (Council of Europe 1998; Dimopoulos et al. 1999). National and international pressure finally prompted Greece to commission a Specific Environmental Study in 1991, as required by frame law (1650/86) in order to establish a protected area. The establishment of a National Marine Park was for a long time the main request of conservationists (Arapis & Margaritoulis 1994; Arianoutsou 1988; Dimopoulos 1992).

The European Commission, too, took an active concern in the Zakynthos case. In 1998, due to non-compliance with the EU Habitats Directive EEC92/43 (the loggerhead is included as a priority species in Annex II; Animal and Plant Species of Community Interest whose Conservation Requires the Designation of Special Areas of Conservation, and Annex IV; Animal and Plant Species of Community Interest in Need of Strict Protection) and the recommendations of the Council of Europe, the European Commission froze funds earmarked for the development of infrastructure in the protected area. Furthermore, the Commission started an infringement procedure against Greece and the case since 1999 is pending in the European Court of Justice (Venizelos 1999). Following years of delays the Presidential Decree establishing the National Marine Park of Zakynthos (NMPZ) was finally signed on 1 December 1999 and published in the Government Gazette on 22 December 1999.

The National Marine Park of Zakynthos: The recently established National Marine Park addresses the problems pertaining to the overall status of the site protection, integrated management and sustainable development. The main aim of the NMPZ is to protect the natural heritage of the coastal area of the Bay of Laganas, the two islets within the Bay as well as the islands of Strofadia (important stopover for migratory avifauna, up to 50 nautical miles off the island of Zakynthos). Furthermore, the NMPZ promotes the development of activities that are compatible with nature protection in the broader area. Specific aims are: the protection of the loggerhead nesting areas; the protection of the monk seal population and habitats; the protection of endangered avifauna especially migratory avifauna; protection of endemic flora; protection of coastal and marine ecosystems especially those of European importance; protection of fisheries and the marine ecosystems; promotion of environmental education and other nature activities; promotion of sustainable tourism and recreation; promotion and safeguarding of traditional activities; preservation of natural and cultural landscapes.

The NMPZ comprises: The main Area: with 7 terrestrial core zones (Zone A1, A2, A3, P 1, P 2, P 3, Y and Y) and 4 buffer zones (Zone Ö1, Ö1', Ö2 and Ö3) with a total area of 1,471 ha and 2 maritime zones (Ia and Ib), with a total area of 8,918 ha. Ia is subdivided in the Bay in three zones controlling boat traffic and fishing activities between 1 May and 31 October every year. Ib circumscribes at a radius of 500m the islands of Strofadia and regulates fishing activities. Building activities are not allowed in the core zones and are strictly controlled in the buffer zones. The Peripheral Area: with 7 terrestrial zones (O1, O2, O3, O4, T1, T2 and T3), acting as a transition stage to the main area of the park, with a total area of 3,071 ha. Land use is defined and building is regulated.

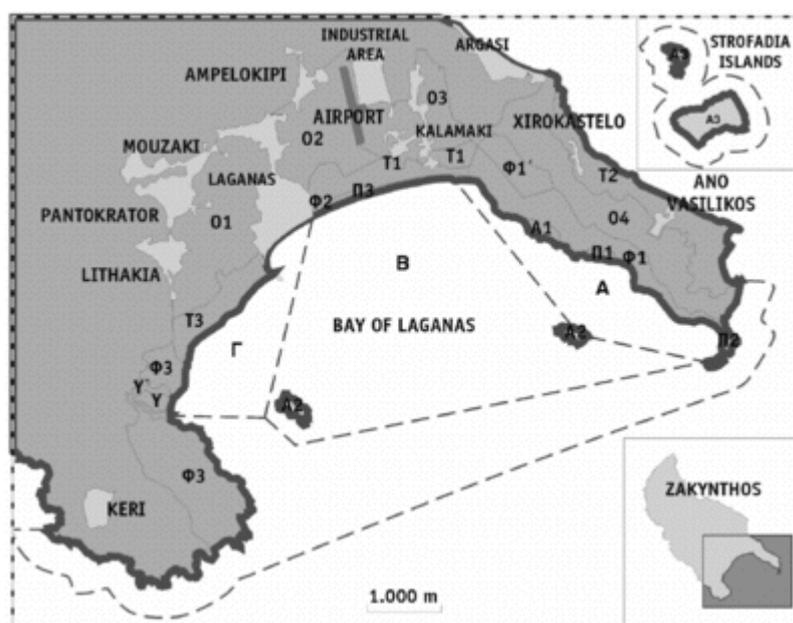


Figure 1. A sketch map of the boundaries of the National Marine Park of Zakynthos

The NMPZ incorporates and in certain cases expands the existing protection zones on land (limits of nesting core areas have been further extended) and at sea (protected maritime zone has significantly increased). Furthermore, it strengthens the protection status of two nature reserves within the Park (Sekania and Marathonissi) and provides for integrated land and sea management. Sekania area is off limits to the public day and night (Absolute Protection Site) and no building is

permitted on the islet of Marathonissi. It is worth noting that Sekania holds over 50% of the nests laid in the Bay, hence private land behind the beach was acquired by WWF Greece in 1994 (Charalambides & Katsoupas 1994), following long-standing STPS recommendations to prevent any development schemes (Margaritoulis 1982). The Ministry of Environment and the European Commission supported the acquisition. The public can visit the rest of the nesting beaches between 7am and 7pm, providing the carrying capacity defined in the Presidential Decree is not exceeded. Limited use of beach furniture is confined to three beaches (E. Laganas, Kalamaki and Gerakas). Vehicles, horseback riding and lights are prohibited on all nesting beaches.

The major achievement of the new Presidential Decree is the establishment of a private, non-profit management body, the Board of the Management Agency, to administrate the NMPZ under the supervision of the Ministry of Environment. The Board comprises 10 members (with single representation from each of the central, regional and local governments and two NGOs that work on Zakynthos, namely the Sea Turtle Protection Society of Greece and WWF Greece) appointed by the Ministry of Environment. The Board will work closely with the local authorities, and competent Ministries in order to ensure the proper operation of the NMPZ; the control of visitors on the beaches; fisheries policies; management of forest and agriculture land; eco-tourist activities; public awareness; management of natural resources, law enforcement. Its tasks include the preparation and submission to the Ministry of Environment of the Regulations for the Operation of the Management Agency and triennial management plans and annual action plans. The NMPZ may receive funds from the State, the Local Government, European Union programmes, levies, private donations, concessions, loans etc.

Furthermore, the Presidential Decree foresees the creation of an Advisory Committee and a Scientific Committee, following a decision of the Ministry of Environment. It also provides for a Finance Auditing Committee to be appointed by the Ministry of Finance.

Since its inception (30 July 2000), and until 18 December 2000, the Board of the Management Agency has convened on Zakynthos seven times, with over 130 decisions adopted unanimously. The milestones of the decisions and actions taken are outlined below:

Acquisition of an interim office offered by the Municipality of Zakynthos to cover current needs. The Archbishop of Zakynthos has offered long-term administration facilities for the Board on the premises of an old monastery. The Ministry of Environment will restore the building before it is handed over to the Board.

Three initial job positions (secretary, resource manager and administration officer) have been filled.

An annual Business Plan defining priorities and actions to be taken until the end of 2001 was adopted. The Business Plan includes among others: elaboration of internal regulations for the Management Agency and drafting of a Management Plan for the National Marine Park, as required by law, elaboration of a study for ecotourism and compensation measures for affected landowners, formation of a committee to propose necessary amendments to the enabling Presidential Decree of December 1999. The committee comprises local and government consultants. Its task is to harmonise the Presidential Decree with the law 2742/1999 which describes the role of Management Agencies in Greece and suggest amendments within the remit of existing legislation.

The positive steps taken by the Management Authority were furthered with the recent release of the funds frozen by the European Commission. This allows planned infrastructure works in the Park to go ahead (sewage system, construction of information stations etc). As the NMPZ is actually the first national park with a Management Agency established in Greece, there is a definite lack of experience in dealing with such issues. The formation and operation of the Management Agency will be a real challenge. It will not only be a turning point for the Zakynthos nesting area, but a paradigm for management bodies soon to be established in several other protected areas in Greece.

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