

THE FUTURE OF NATURE PARKS IN MALTA: INNOVATION AND MANAGEMENT



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A discussion paper published by The Today Public Policy Institute

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The Future of Nature Parks in Malta: Innovation and Management

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Din l-Art Helwa

THE 'SAVE THE COUNTRYSIDE' CAMPAIGN

The think-tank is most grateful for the support given to the Lead Authors by the *Din l-Art Helwa* 'Save the Countryside campaign', of which this report forms an important adjunct.

Din l-Art Helwa is a Maltese heritage and environmental NGO founded in 1965. Its 'Save the Countryside' campaign was launched in November 2014, seeking to raise public awareness of the threats to biodiversity through the over-development of the countryside and the destruction of habitats and ecological corridors. Biodiversity loss is a growing problem.

The campaign has mainly been conducted through social media, promoting messages, photos, advertisements and video-clips of the countryside. In March 2015, a public survey was carried out by MISCO for the campaign. A public debate was organised on Wednesday 28th October 2015 at the Old University in Valletta, entitled '*Il-Futur tal-ODZ. Għall-Maltin kollha jew għall-ispekulaturi biss?*' (The Future of ODZ. Just for speculators or for everyone?).

The 'Save the Countryside' campaign highlights the importance of the countryside, and the biodiversity that it sustains, to the daily lives of the Maltese community and for future generations. The campaign aims to inspire people to take action to conserve the countryside. Our natural heritage includes many plants and animals and their diverse habitats. They depend upon the countryside to survive. The countryside also provides scenic beauty and educational benefits to Maltese society.

The Lead Authors owe their sincere thanks to a number of persons who assisted in the writing and presentation of this Discussion Paper.

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The appraisals and recommendations in the following pages do not necessarily purport to reflect their views.

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THE FUTURE OF NATURE PARKS IN MALTA: INNOVATION AND MANAGEMENT

EXECUTIVE SUMMARY

- Today, the Maltese Islands still boast a wealth of beautiful natural landscapes. The countryside supports biodiversity and provides important natural habitats and ecosystems. Yet, Malta's countryside is rapidly dwindling in size. Its biodiversity is in decline, and is disappearing through habitat loss and fragmentation.
- Considerable progress has been made in the conservation and management of Malta's built heritage, yet the conservation and management of Malta's natural heritage lags behind.
- The spread of building across the countryside is a major environmental concern for the Maltese population. A public survey carried out in 2015 shows almost unanimous agreement that the countryside needs to be protected more, with 97% of the Maltese population supporting this view and with high concerns registered across all age groups, regions and socio-economic groupings.
- It is incumbent on the Maltese government to move away from treating the countryside as a cheap resource to be developed, towards understanding that it is a valuable resource to be safeguarded through management, protection and conservation measures.
- The imperative aspect of protecting the countryside seeks to ensure the health and well-being of the nation; to prevent the further loss of natural heritage and biodiversity; to safeguard the important economic role of the countryside, such as for tourism; as well as to fulfil Malta's legal obligations under both national and European legislation.
- Significant advances were made from the 1990s onwards regarding the designation of protected areas, and the enactment of legislation and policies to protect land, as well as biodiversity. It is positive that a management structure was established for some protected areas, yet the active management of protected areas in general is still largely absent.
- Malta designated 34 terrestrial Natura 2000 sites in terms of European Union legislation following accession in 2004. Malta has also protected and managed other nature sites under national legislation. Other natural areas are, however, also in need of conservation, incorporating agricultural areas, areas of scenic beauty and coastline. Although some areas are scheduled, many are still unmanaged and subject to serious development pressures.

- Clearly reflecting the pressure the population feel the countryside is under, the 2015 public survey shows that 88% of the population believe that Malta should have more protected nature sites. This Discussion Paper proposes that an area in the north-west of Malta is included in the nature parks system.
- This Discussion Paper recommends the creation of a national management structure which would oversee all protected natural areas in the Maltese Islands.
- The existing management of nature parks in Malta is not sufficient. A variety of entities today have a hand in operating Malta's protected areas, resulting in an uncoordinated approach which promotes conflict as well as lacunae and lack of leadership. A holistic management structure is required to provide direction and resources dedicated to protecting Malta's countryside, effectively.
- This Discussion Paper proposes a management system which includes a regulator (the Malta Environment Authority) and a managing agency – a new entity which has here been named Natura Malta.
- It is recommended that a clear distinction is made between the regulator which ensures adherence with legislation, policies and plans and site managers who oversee daily operations. The active management of protected areas will be delegated to various entities by Natura Malta.
- It is proposed that Natura Malta would oversee the management of all protected areas in Malta by different site managers, coordinating the activities, management plans, financing and marketing of all protected natural sites. It would also be responsible for promoting awareness and the enjoyment of protected areas for the benefit of the public.

Part 1

INTRODUCTION

MALTA'S COUNTRYSIDE

1. This Discussion Paper proposes to identify a management solution to work towards ensuring that Malta's remaining and protected natural landscapes are properly conserved, to protect our natural heritage and biodiversity, as well as for the economic benefit and the well-being of present and future generations.
2. The Maltese Islands still boast a wealth of beautiful natural landscapes and the countryside supports biodiversity and provides important natural habitats and ecosystems. However, the countryside is rapidly diminishing in size and its biodiversity is in decline due to habitat loss and fragmentation.
3. The Maltese countryside is characterised by karstic rock and typical Mediterranean flora and fauna. It is a cultural landscape profoundly shaped by human activity, including agricultural practices.
4. The countryside is vital for the well-being and quality of life of citizens, and supports a range of important socio-economic activities, including agriculture, recreational activities and tourism. It is also an economic resource which, within sensible limits, may be exploited to improve the standard of living.
5. The abandonment of agricultural land is one of the major threats to the rural environment. 'Abandoned' land is used as a pretext for construction and land speculation.
6. Considerable progress has been made in the conservation and management of Malta's built heritage. Many old buildings have been restored or scheduled over the years, although village cores and historic streetscapes continue to be subjected to serious and relentless threats from demolition and poor re-development. Moreover, green spaces within urban areas, including large gardens attached to historic houses and in village cores, are declining rapidly.
7. The conservation and management of Malta's natural heritage is still largely unenforced.

CONCERN ABOUT THE LOSS OF THE COUNTRYSIDE

8. Concern about the loss of the countryside has been voiced regularly by environmental NGOs over the years, however this spiked upwards following a change in government in 2013 due to the general perception that planning regulations were to be relaxed in line with demands from the pro-development lobby.
9. This concern is reflected, for instance, in a street rally held in late 2013; in Din l-Art Ħelwa's 'Save the Countryside' campaign which began at the end of 2014; and in the establishment of a new coalition of environmental NGOs called 'Front Ғarsien ODZ' in 2015 which was

triggered by the call for a strong, united voice on the protection of the countryside. This was followed by the largest environmental street rally ever held in Malta, which took place in June 2015 and which focused specifically on the loss of the countryside.

10. The spread of building across the countryside is a major environmental concern for the Maltese population. A public survey carried out in 2015 (see Appendix B) shows that 56% of the population are very concerned about this issue. Unsurprisingly, on a geographical basis the highest rates of concern are found in the south of Malta, reflecting the lack of open spaces, while the lowest rates are found in Gozo, reflecting the relatively high proportion of countryside in our sister island.
11. Reflecting the population's concern at the spread of building across the countryside, 80% of the Maltese population believe that the government should stop more building in the countryside. Only 10% of the population disagree with this.
12. The construction industry and the government treat the countryside as a 'cheap' option for building and development, compared to the 'expensive' option of using land within the established development zones. Yet, while the financial cost of land outside development zones may be less for a developer, it needs to be recognised that its actual value to society is at least the same as the value of land in urban areas.
13. Given that land outside development zones often has scenic, natural or some other common heritage significance, its value to society is likely to be greater than that of land within the established development zones. The speculative gain made by developers when permits are granted to them on land outside development zones is already large but increases when its value to society is added in. Furthermore, this speculative gain which the government and regulators refuse to quantify is a cost which is fully paid by society – including both present and future generations – rather than by the developer.
14. By way of example, new projects such as the proposal to build a new private university at Żonqor Point in Marsasclia could be wholly located in existing urban areas. However, rural land outside development zones is being preferred because it costs the developer less to acquire it and therefore reduces the developer's risk. Whilst the government claims that this is making what it terms 'an important project economically viable,' the reality is that while this manoeuvring makes the project financially viable for the developer, the economic viability or otherwise of the project for Maltese society has to be based on the real value of the land to society – including both present and future generations – not simply the financial cost being paid for the land by the developer.
15. In 2015 the government, in its *Strategic Plan for the Environment and Development*, introduced the notion that rural land can be used for building development if it is more 'feasible,' while leaving the interpretation of this phrase very open-ended. This certainly does not augur well for the conservation and protection of rural areas in future.
16. In the 20-year period from 1995 to mid-2015, 12,572 building permits were granted in areas 'outside the development zones' in Malta and Gozo. A significant number of these permits might well have been granted for valid reasons, for example, for agricultural purposes or for industrial uses which are not compatible with urban areas. Yet, in spite of the increased scarcity of rural land, the pace continues with around 400 building permits

still being granted annually ‘outside the development zones.’

17. The 2015 public survey shows almost unanimous agreement that the countryside needs to be protected more, with 97% of the Maltese population supporting this view and with high concerns registered across all age groups, regions and socio-economic groupings.
18. The survey also shows that 73% of the population are ‘Somewhat concerned’ or ‘Very concerned’ about the potential loss of biodiversity in Malta.

REGULATION AND POLICIES

19. Attempts at regulating land use in Malta began in earnest with the setting up of the Planning Authority in 1990 and the approval of the *Structure Plan* by the Maltese Parliament in 1992. A Town and Planning Act had been enacted by the Nationalist Government at the end of the 1960s at some political cost but not brought into force prior to the 1971 elections – it was then repealed by the incoming Labour government after these elections. The 1992 *Structure Plan* marked a conscious effort to try to regulate building construction and land use, and to take forward development planning in a comprehensive manner through the drafting of policies.
20. The *Structure Plan* provided strategic guidance on land use in the Maltese Islands over a 20-year period, aiming to improve all aspects of the environment. It encouraged social and economic development while ensuring, as far as possible, that sufficient land and support infrastructure would accommodate it. It also aimed to ensure that land and buildings were used efficiently and that urban development activity would be channelled into existing built-up areas, particularly through the rehabilitation and upgrading of urban areas, while constraining further inroads into undeveloped land.
21. The success of the original *Structure Plan* in achieving its aims is debatable, but it did mark a significant move away from the concentration of responsibility in the hands of the government minister of the day responsible for development.
22. In July 2015, the *Structure Plan* was ill-advisedly replaced with a significantly lesser document, the *Strategic Plan for Environment and Development* (SPED). The SPED aims to address spatial issues until 2020 with the intention to shift from traditional land use planning to what is termed ‘a more holistic spatial planning approach.’ Unlike the *Structure Plan*, the final SPED document does not include detailed policies to guide planning decisions, and only provides high-level thematic objectives, with little practical and positive relevance to decision-making in the planning sphere.
23. The introduction of the SPED was widely criticised as a retrograde step by environmental NGOs and the general public, yet the government went ahead and approved the SPED in July 2015 and replaced the *Structure Plan* with this unsatisfactory document.
24. The Planning Authority was expanded into the Malta Environment and Planning Authority (MEPA) in March 2002, and is now again being divided into two separate entities – the Planning Authority and the Environment Authority.

25. By and large, over the last twenty years, the combination of the *Structure Plan* and MEPA began to apply some form of brakes to the irresistible urge for consumption of our cultural and natural assets. Poor development has however continued, both with respect to the quality and aesthetics of the structures built. The extent of development that has taken place is of major concern, both in the countryside and within the development zones, including historic urban cores.
26. In 2012, the government adopted the *National Environment Policy*, which includes a section on 'Improving Countryside Quality.' This document acknowledges that the main threats to the countryside are related to building development, dumping, habitat loss and fragmentation, intensive agricultural practices and agricultural land abandonment.
27. The *National Environment Policy* recognises that the character of Malta's landscape is an important element of Malta's identity, and that countryside activities and "high quality rural landscapes are also essential for tourism." The *National Environment Policy* emphasises that rural tourism should not, however, put additional pressure on rural areas.
28. The 2012 *National Environment Policy* lays out a set of objectives to protect and enhance the rural environment, particularly areas of conservation value, by seeking better integration of environmental considerations into policies and programmes; improving and managing access to the countryside; and upgrading the appearance of rural areas.
29. Access to the countryside is far from straightforward. The *National Environment Policy* proposes that access (including visual access) to the countryside should be promoted through the spatial planning system and the enforcement of legislation, while reviewing "the current legal framework governing rights of way in rural areas, with a view to a clearer provision of pedestrian rights of way for informal recreation."
30. The *National Environment Policy* states that the countryside should be protected from inappropriate development, including light pollution, through the spatial planning system. It recognises that "valleys are some of the most ecologically-sensitive rural areas" and that an integrated approach to valley management should be adopted, "preparing guidelines for valley management, such that the numerous objectives of valley conservation, including the protection of biodiversity and geology, water conservation, flood relief, provision of water for agricultural use, provision of informal recreational areas where appropriate, prevention of erosion and visual integrity, can be reconciled and furthered." The *National Environment Policy* also proposes to "explore integrated approaches to the rehabilitation of large rural areas affected by activities, such as quarrying."
31. In 2012, the government also adopted a *National Biodiversity Strategy and Action Plan 2012-2020* (NBSAP). This document noted significant positive steps to safeguard biodiversity over the previous few years, including "the building of a coherent national legal framework, as well as a national ecological network of protected areas. Various research projects have also been undertaken with the assistance of European Union funding."
32. The *National Biodiversity Strategy* notes that targets for halting the loss of biodiversity have not been met in the European Union, including Malta, mainly due to "the incomplete implementation of certain legal instruments, poor integration of biodiversity concerns into sectoral policies, insufficient scientific knowledge and funding, lack of instruments

to tackle specific problems, and the need for improved communication and education to increase awareness within the community.”

33. Among its many targets, the *National Biodiversity Strategy* includes the sustainable management of agricultural areas (Target 7). It aims to ensure that “at least 15% of degraded ecosystems are restored, while 20% of the habitats of European Community importance in the Maltese territory have a favourable or improved conservation status” (Target 13). It also aims to maintain “linear features in the landscape (such as dry stone walls, watercourses, field margins, vegetated road verges) to serve as ecological corridors between fragmented areas and protected areas and for maintaining their vital role as important microhabitats for wild species and their dispersal” (EN3).
34. In September 2014, the government adopted a new planning policy regulating development in the countryside, the *Rural Policy and Design Guidance*. This was received negatively by environmental NGOs due to fears that the new guidelines were too lax and could encourage widespread abuse, enabling further construction in rural areas through the redevelopment and enlargement of existing buildings and inappropriate or derelict structures which should instead be removed.
35. Another concern with respect to the 2014 *Rural Policy* is the promotion of construction of accommodation facilities for agritourism; given Malta’s size, such accommodation could instead be directed to nearby village cores instead of taking up more land ‘outside the development zones.’ The 2014 *Rural Policy* contains few safeguards to alleviate concerns that the spread of building development in the countryside will increase over the coming years.

HUNTING AND TRAPPING

36. European Union membership has intensified scrutiny of illegal hunting and trapping in the countryside. Malta’s annual application of a derogation to the EC Birds Directive to allow hunting in spring was the subject of a national referendum held in May 2015, which was narrowly lost by the anti-hunting lobby. The government’s reintroduction of finch trapping in 2014 caused the European Commission to commence legal proceedings against Malta in 2015.
37. Widespread bird trapping sites in Malta and Gozo cause significant damage to the countryside, through the removal of vegetation and the use of toxic herbicides, to clear and level out areas for the laying of bird nets. Many trapping sites lie within areas of rich biodiversity, including protected areas.
38. According to a study of bird migration and trapping carried out by Birdlife Malta in 2009, “Trapping in Malta saw a surge in popularity especially in the 1980s, when many trapping sites were cleared and large numbers of people started trapping. In 2007, MEPA estimated the number of used and disused trapping sites to stand at 7,310 throughout the Maltese Islands. Trapping sites can have one or more net runs, with most having more than one and some having up to 5. If all the sites recorded by MEPA had just one net run, they would be degrading an area of natural habitat approximately 1.12 times the size of Malta’s capital city, Valletta.”

Part 2

THE CASE FOR NATURE PARKS

THE IMPORTANCE OF CONSERVING THE COUNTRYSIDE

39. The case for protecting and conserving our countryside has become an imperative concern. The increase in developed land mass can readily be seen visually, in aerial views, comparing images from 1957, 1988 and 2004.
40. It is incumbent on the Maltese government to move away from treating the countryside as a cheap resource to be developed, towards understanding that it is a valuable resource to be safeguarded through management, protection and conservation measures.
41. The imperative of protecting the countryside seeks to ensure the health and well-being of the nation; to prevent the further loss of natural heritage and biodiversity; to safeguard the important economic role of the countryside, including for tourism; as well as to fulfil Malta's legal obligations under both national and European legislation.

OPPORTUNITIES & BENEFITS

42. There are many benefits to be gained from establishing a strong and efficient management system which can ensure that biodiversity is protected, and results in a healthy countryside. This includes economic benefits, as well as other benefits associated with the health and well-being of the population.
43. Malta is one of the most densely populated countries in the world. Access to open spaces is important for relaxation purposes and for escaping from the pressures of daily life. Being away from people, traffic and noise has been shown to help generate a feeling of well-being. The direct health benefits of outdoor activities should not be underestimated. Such activities are on the increase and include walking, jogging and cycling, as well as family picnics and social gatherings.
44. The countryside provides an important location for individuals, families and friends to relax and enjoy a day out. It is a resource used for entertainment and recreation whether to walk, have a picnic, or enjoy the scenery and weather.
45. Education, whether formal or informal, supports a healthy and balanced society. The countryside provides an open-air classroom or laboratory for subjects such as geography, history, biology and related subjects. Field trips by schools, the University, foreign educational institutions or by individuals expanding their experiences through visits to the countryside, makes the countryside an important educational tool.
46. Agriculture, professionally managed, monitored and controlled, is an essential activity based in the countryside. Safeguarding the countryside ensures the protection of locally grown produce. Agriculture also forms part of the cultural traditions of the nation.

47. Water is a very scarce resource in Malta. Building development, including roads and other structures, prevents water from reaching the water table. The rapid expansion of building areas has affected the water table adversely. It has also created ancillary problems such as flooding through run-off water. The protection of the countryside helps to stop further deterioration of the water supply. The over-abstraction of ground water from the water table poses a real problem for the country.
48. At times, the protection of the countryside may be viewed negatively by local communities and residents, since protective measures can place restrictions on some activities. However, the opposite is also true. Local communities can thrive through visitors to the area, supporting local businesses or creating employment opportunities. Local communities often take pride in their own cultural and natural heritage.
49. Earnings from tourism are the most obvious economic benefits from the conservation and protection of the countryside, especially those with high scenic value. In Malta, the off-peak and shoulder months present a challenge for the tourism industry and therefore the promotion of the attractions of the local countryside and the activities which can take place there is an important marketing tool used by the Malta Tourism Authority to attract visitors during these periods. In-flight or tourism promotional magazines dedicate a high proportion of the pages to Malta's natural or cultural attractions.
50. Commercial entities in Malta which have started to exploit the potential of eco-tourism are growing appreciably, as is the case in other countries. Today, apart from guided walks and the encouragement of visitors to go to the countryside in general, there is also paragliding, abseiling and cycling (both off-road and on-track) activities for conferences and team-building events, fell (or trail) running, rock climbing, agritourism, and local produce activities (vineyards, apiaries, etc). National statistics do not yet record what these new sectors contribute to GDP but there is clearly an increase in those participating in these activities.
51. The Malta Tourism Authority (MTA) does not report statistics of the number of tourists who visit the countryside but its 2015 report shows that 85% of visitors include sightseeing during their trip.
52. The world is only now beginning to understand the huge consequences of climate change and the loss of biodiversity. Malta has diverse and important indigenous flora and fauna which require protection. The planting of trees and shrubs will also offset the country's carbon footprint.

THREATS

53. Areas which have been scheduled under the 1992 *Structure Plan* or designated as Natura 2000 sites in terms of European legislation have unfortunately still been subject to degradation from different sources. This degradation continues unabated in spite of a growing awareness among Maltese citizens that there is a strong case for conservation.
54. Causes of degradation may include: dumping and littering; vehicular access through offroading or excessive use where this should be restricted; hunting and trapping,

particularly illegal hides and trapping sites; illegal buildings, both single rooms and entire buildings; objectionable permits for development in the countryside, such as for residences and supermarkets; derelict buildings, including historical military structures; replacement of rubble walls with cut stone walls; illegal prohibition of access on country paths; and an increase in invasive species.

55. Adverse visitor impact can take many forms. This can be caused by the sheer numbers that create a nuisance to locals, through littering after picnics or barbeques, offroading, degradation, erosion and disturbance. Parks can be victims of their own success if heavy visitor traffic negates some of the benefits of having the area managed and conserved.
56. Large tracts of Malta's countryside are degraded. Some areas are inaccessible to visitors through the illegal blocking of paths, and therefore the visitor experience may not always be favourable.
57. Trespassing can pose a problem when visitors assume they are on public land. Others may damage property or steal agricultural produce.
58. Damage can be caused by the wearing out of pathways, or by activities held in the protected area, including supposedly low-impact activities.
59. Traffic and vehicular impact is probably the most pressing concern, as access through country lanes can cause traffic jams, parking problems and damage to pathways. Restriction of vehicular access may be unpopular with local communities, farmers or residents in the area. However, this can be addressed through good administration, and communication and understanding between the users of the park and the park managers.
60. Illegal blocking of pathways by various stakeholders, including hunters and land owners, is common and restricts access to the countryside, as well as facilitating illegal development.

Part 3

MALTA'S PROTECTED AREAS

DESIGNATION OF PROTECTED AREAS IN MALTA

61. Many countries worldwide have designated areas of outstanding natural beauty and/or ecological importance as nature parks. This involves not only a scheduling process but also a management structure to ensure that such areas are actively protected.
62. The protection of the countryside is especially important in Malta where the density of the population to total land area is by far the highest in the European Union, at around 1,320 people per square kilometre.
63. One benefit of Malta having started its accession process for European Union membership

in 1998 is that environmental and agricultural policies in Malta have developed at a faster pace over the last fifteen years, with both sectors enjoying a significant increase in funding. EU membership has obliged Malta to adopt policies and regulations which ensure the conservation of its natural heritage.

64. The European Union promotes the protection of natural areas which now form part of the European network of Natura 2000 sites. This network places an obligation on each Member State to identify and manage areas which afford protection to habitats and species of wild fauna and flora of Community interest, to ensure their survival. This is not a system of strict nature reserves where all human activities are excluded. The management of Natura 2000 sites aims to ensure both ecological and economic sustainability.
65. Following EU accession in 2004, Malta designated 34 terrestrial Natura 2000 sites. 28 of these sites include Special Areas of Conservation (SACs) under the EC Habitats Directive, and 13 sites also include Special Protection Areas (SPAs) under the EC Birds Directive. Together, these cover around 13.5% of Malta's land area (ca. 42km²). These sites include the smaller islands of Kemmuna, Filfla and Selmunett, the coastal cliffs, saline marshlands, sandy beaches and dunes, areas of garrigue and maquis, woodland areas, as well as caves and other geological features.
66. Malta has also protected and managed other nature sites under national legislation, including Xrobb I-Għagin Park at Delimara, the Foresta 2000 site at Għadira, and the Majjistral Nature and History Park at Manikata.
67. Other natural areas are also in need of conservation, incorporating agricultural areas, areas of scenic beauty and coastline. Although some areas are scheduled they remain unmanaged and subject to serious development pressures.
68. The work in past years to introduce protected nature sites or parks in the Maltese countryside has not gone unnoticed by the population. The 2015 public survey (see Appendix B) showed that 70% were able to mention one or more of these nature sites or parks. 79% of respondents claimed to have visited at least one of these sites or parks in the past year. 36% claimed to have visited at least one of these sites or parks in the past month and 11% claimed to have visited at least one of these sites or parks in the past week.
69. Clearly, reflecting the pressure the population feel the countryside is under, the public survey shows that 88% of the population believe that Malta should have more protected nature sites. No new terrestrial nature sites or parks have been established in the Maltese Islands since 2013.
70. Significant advances were made from the 1990s onwards regarding the designation of protected areas, and the enactment of legislation and policies to protect land, as well as biodiversity. It is positive that a management structure was established for some protected areas, yet the active and professional management of protected areas in general is still largely absent.

EXISTING MANAGEMENT STRUCTURES

71. Today, the management of Malta's nature parks is fragmented. At government level, responsibility for management and protection is divided amongst various government ministries and entities, including the Planning and Environment Authorities, the Ministry for Resources, the Ministry for Gozo and Local Councils. The Malta Tourism Authority is also involved in the management of protected beaches, such as Għajn Tuffieħa, Blue Lagoon and Ramla l-Hamra. This fragmentation leads to the inefficient use of resources, problems of co-ordination, and a lack of a holistic vision for the management of protected areas by the government.
72. Furthermore, non-governmental organisations are also involved in the management of some nature parks, giving rise to a number of different management structures without an overall coordinating body to ensure a holistic approach.
73. The myriad organisations involved in the areas registered as 'Parks' can lead to competing and conflicting objectives and demands. For instance, local councils who have an electorate to consider, often look at access (with vehicles) for park users and stakeholders as more important than conservation. They may also defend the rights (real or presumed) of squatters over illegal structures, hides and trapping sites, when this may go against conservation principles. The Malta Tourism Authority may also have different objectives in areas under their jurisdiction (such as licensing food and beverage establishments). This leads to lacunae in enforcement, confused directions and differing regulations without establishing a strict hierarchy of priorities, which ultimately leads to inertia.
74. A full list of protected areas in Malta and Gozo is included in Appendix E. Out of all these sites, only thirteen fall under some sort of management structure, as follows:
- GHADIRA NATURE RESERVE (BirdLife Malta);
 - SIMAR NATURE RESERVE (BirdLife Malta);
 - FORESTA 2000 (BirdLife Malta, *Din l-Art Ħelwa*, Resources Ministry);
 - XROBB L-GĦAĠIN NATURE PARK (Nature Trust Malta, Resources Ministry, Environment Authority);
 - WIED GHOLLIEQA (Nature Trust Malta);
 - GĦAJN TUFFIEĦA (Gaia Foundation);
 - RAMLA L-HAMRA (Gaia Foundation);
 - BUSKETT NATURE RESERVE (Resources Ministry);
 - IL-MAJJISTRAL NATURE & HISTORY PARK (*Din l-Art Ħelwa*, Nature Trust Malta, Gaia Foundation, reporting to Majjistral Management Committee including representatives from Lands Department, Environment Authority, Resources Ministry, Mellieħa Local Council and a government-appointed chairperson);
 - DWEJRA HERITAGE PARK (Government committee led by Environment Authority);
 - COMINO BLUE LAGOON (Malta Tourism Authority and Environment Authority);
 - SALINI NATURE PARK (Resources Ministry).
 - PEMBROKE HERITAGE PROJECT (Malta Tourism Authority)
75. Some areas which were earmarked for protection, either through the 2006 Local Plans or in development briefs, have still not been addressed. These include, for example, an area at White Rocks adjacent to Pembroke Natura 2000 site (development brief), and an

area at Żonqor (2006 Local Plans). Such proposed sites should all be incorporated into the proposed nature parks management system as outlined in Section 4.

76. This Discussion Paper proposes that a new area in the north-west of Malta is included in the Nature Park system (see Appendix C).

NATURA 2000 SITES

77. The Malta Environment and Planning Authority was granted €1.3 million through the European Agricultural Fund for Rural Development (EAFRD) as co-financing in order to create management plans for all 34 terrestrial Natura 2000 sites in Malta and Gozo, and to increase awareness of the Natura 2000 network in Malta among the general public and stakeholders.
78. The preparation of management plans for Natura 2000 sites is a legal requirement under Maltese legislation, as transposed from the EU Habitats Directive (92/43/EEC).
79. The project was launched in January 2013, and the draft plans were concluded in late 2014. In August and September 2015, a public consultation exercise on the draft plans was conducted. These consisted of Conservation Orders for 8 sites, and 22 management plans for the rest of the sites, some of which were grouped together. An awareness campaign was also carried out. The final management plans were not yet available to the public at the finalisation of this report.
80. These management plans do not cover other nature parks designated under national legislation, which have their own management plans approved by the Environment Authority and implemented by the site managers.

MARINE PROTECTED AREAS

81. Malta has vast marine resources which contribute greatly to the food security, economic and recreational resources and biodiversity of the country. The benefits, as well as the threats, are similar to those mentioned above for terrestrial parks. The threats to marine biodiversity are significant and have a great impact both economically, as well as ecologically.
82. Five Marine Protected Areas have been designated. These take up a significant portion of the sea around our coastline. The first was designated by the government in 2007 and the following four in 2010 (See Appendix E).
83. However, as with terrestrial scheduled areas there is no management, no enforcement and no easy reference regarding what is permitted or what is to be conserved and to date, this has been largely a paper exercise with no beneficial impact on this resource.
84. At present, there are no management plans for the designated marine protected areas in Maltese coastal waters, activities are not adequately regulated and enforcement is lacking.

85. Whilst marine protected areas fall outside the scope of this Discussion Paper, the need to create a solid structure for their management is also vital. Our recommendation would be for the marine protected areas to fall under the same management structure as the terrestrial nature parks.

Part 4

A NATURE PARK SYSTEM FOR MALTA: A PROPOSED WAY FORWARD

THE NEED FOR A HOLISTIC MANAGEMENT STRUCTURE

86. The objectives of a nature park system in Malta include:
- Conserving and protecting Malta's patrimony.
 - Protecting and managing the biodiversity of the Maltese Islands.
 - Securing the economic benefits of nature parks in a sustainable manner.
 - Securing the human benefits (health, recreation, etc.) in a sustainable manner.
 - Securing benefits to the community in a sustainable manner.
 - Securing sustainable agriculture and conserving the water table.
 - Managing public access.
 - Providing a legacy for future generations.
 - Allocating adequate funding and resources to achieve the objectives.
 - Providing support and guidance to achieve sustainability including funding.
87. A nature park management structure should:
- Provide a clear vision of the objectives.
 - Provide clear detailed objectives of each site through management plans.
 - Empower the organisation to achieve the objectives through secure funding including the ability to raise funds; authority over the management of the nature park areas; and the ability to enforce strategy within the nature park areas.
 - Enable the involvement of the voluntary sector, particularly environmental NGOs.
 - Ensure good communication with all stakeholders (government, landowners, farmers, hunters, Local Councils, environmental NGOs, Malta Tourism Authority, etc).
 - Have a system of checks and balances through a regulator / operator / manager system to ensure proper supervision of management structures.
88. The attainment of the objectives set out above is complex and can be implemented in a number of ways. This Discussion Paper recommends the creation of a national management structure which would administer all the areas designated as nature parks.
89. The existing management structure administering nature parks in Malta needs to be radically reviewed and a proper workable administrative body must be put in place. As outlined in Section Three of this Discussion Paper, a variety of entities today have a hand

in operating Malta's protected areas, resulting in an uncoordinated, fragmented approach which promotes conflict, lacunae and lack of leadership. A structure is required to provide direction, as well as resources dedicated to protecting Malta's biodiversity effectively.

90. An area designated as a nature park can incorporate a variety of attributes and features, including agricultural land, dwellings, roads, chapels, ecosystems (woodland, valleys, garrigue) as well as existing industrial or historic buildings or hamlets falling within the park boundaries.
91. A clear distinction must be made between a regulating entity which is to ensure adherence with legislation, policies and plans, and a managing entity which is to oversee daily operations. The active management of designated areas would be delegated to other entities by the managing entity.
92. The management system proposed by this Discussion Paper includes the Malta Environment Authority as the regulating entity and the establishment of a new entity, which has here been named Natura Malta to oversee the management of all sites. An essential part of the proposal is that Natura Malta would ensure that a specific and specialised entity – referred to as a site manager – would be in place to manage each site. The division of tasks is set out and explained below.

THE REGULATOR

93. The regulator is a statutory body tasked with supervision and ensuring that the conservation objectives of the nature parks are achieved. The regulator is the Environment Authority.
94. The functions of the regulator should be clearly separate from the implementation of site management and conservation, which should be administered by Natura Malta, a separate entity. A similar division of duties exists in the case of cultural heritage in Malta, with the Superintendence of Cultural Heritage acting as regulator and Heritage Malta acting as the agency responsible for the management of certain cultural sites.
95. Under the proposed management structure, the regulator is responsible for the scheduling of protected areas; the approval of management plans and guidelines; the drafting of policies; environmental data; environmental permits; environmental research and reporting; and its other statutory and legal obligations as environmental regulator in relation to protected areas and biodiversity.
96. This is in line with practice in other European Member States, some of which have consolidated the overall management of protected areas under single larger entities.

NATURA MALTA

97. It is proposed that the new entity, Natura Malta, would oversee the management of all protected areas in Malta, coordinating the activities, management plans, financing and marketing of all protected natural sites. It would also be responsible for promoting awareness and the enjoyment of protected areas for the benefit of the public.

98. The nature parks system incorporates different protected areas requiring diverse skills, expertise and effort, including not only all the Natura 2000 sites but all other protected nature sites. Natura Malta would not implement the daily management of all the different sites itself, but would delegate management to other entities, in coordination with the regulator. Management would be entrusted and delegated to the site manager, under specific agreements.
99. It would be the duty of Natura Malta to seek out a site manager for each protected area, and to ensure that each site is administered by a management agreement and an approved management plan.
100. Natura Malta would liaise with the regulator and other government entities, and oversee the disbursement and auditing of funds for the management of protected areas.
101. The regulator will task Natura Malta with preparing a management plan, or updating existing plans, for all designated nature parks. These plans would require approval by the regulator before they can be implemented by the site manager.
102. Natura Malta would supervise the site managers ensuring that management plans are drafted for all sites and that the management plans are adhered to and implemented by the site manager. Funds will be allocated by Natura Malta following set and transparent criteria.
103. Apart from being a management and funding agency, Natura Malta would also provide certain resources which can be accessed by the site manager. As with funding, applications will be received from the site manager and resources allocated in as open and transparent a manner as possible and on the basis of set criteria.
104. Resources would be allocated to Natura Malta by government. This could include a number of wardens or rangers, guides, rubbish collection teams, equipment, etc. These resources can be available internally or accessed from central government. They can be allocated to the site managers following the same overall method as used for the allocation of financial resources, as described below. Clearly, it would not make sense to have resources replicated over each site (especially the smaller ones) and therefore, some central mechanism to allocate such resources is relevant here.
105. Natura Malta would be set up by an Act of Parliament, determining its duties and obligations. Its budget would be funded through government.
106. The appointment of the Board of Natura Malta should be as transparent and representative as possible. The members should include a wide representation, including representatives from government, and nominations by NGOs, relevant university departments and local councils, but excluding members of parliament. It should, as far as possible, be independent from government and look to the long-term future and sustainability of national parks. The Chairman should be non-executive and would be elected from among the members of the Board.
107. A Chief Executive Officer should oversee the day-to-day operations of Natura Malta, ensuring the separation of duties and proper overseeing of the functioning of the agency

by the Chairman and Board members. The Chief Executive Officer would be appointed by the Board and be responsible to the Board.

108. The funding of Natura Malta should be on a long-term contractual basis, with the government entering into a renewable long-term contract which will provide some security of funding which would enable Natura Malta to plan for the medium to long term.
109. The 2012 *National Biodiversity Strategy and Action Plan* aims to ensure that “a range of governance types for long-term management of protected areas is in place, based on good governance principles” (EN6), also establishing “standards, criteria and indicators” to evaluate the effectiveness of protected area management. It also aims to recognise and enhance the “contribution of local communities/entities to the sustainable management of biodiversity” (Target 17).
110. Another aim of the *National Biodiversity Strategy* is that “the mandate of environmental management partnerships/consortia is tied to environmental requirements and priorities, and to a clear set of objectives, forming part of a holistic area management plan which enables better gearing toward area management, environmental restoration, and high-quality ODZ planting, with proper differentiation made between urban and rural landscaping, and, between landscaping, forestation and environmental restoration” (CB3).

THE SITE MANAGERS

111. Site managers would be responsible for operating, in terms of their agreements with Natura Malta, a particular protected site or sites. Individual sites could have different types of management structures, involving NGOs, local councils, private enterprise and/or government entities, depending on the history and requirements of the different sites.
112. The site manager would have to fulfil the terms of the management agreement and the management plan (as approved by the regulator), would be responsible for expenditure of funds, and report back to Natura Malta on the tasks achieved, as well as provide normal financial reporting for funding received, and also prepare an annual projection for the site.
113. The site manager would also be involved in the enforcement and management of the agreed measures and regulations related to the nature parks, through the employment of staff, such as rangers, and the use of external services including green wardens, labourers or volunteers.
114. As is already the case at, for example, the Majjistral Nature and History Park, the site manager may recommend site rules through Natura Malta, which would be given the legal power to enact binding site rules on the same basis as that already granted to other legal entities, such as the University of Malta, specific to designated protected areas. For example, site rules may regulate vehicular access, camping or picnics, among other matters. Site rules would also be used to establish any user fees if these are warranted (see Appendix A).

115. The decision as to whether concessionaires should be considered for a particular site will rest with Natura Malta which, however, can only act if a recommendation in this sense is made by the site manager. Concessions should only be granted following a public call and any income from concessions should be split equally between Natura Malta and the relevant site manager.
116. The *National Biodiversity Strategy* states that “site managers entrusted with the responsibility of managing protected areas are well-trained and appropriately equipped to carry out their duties effectively and based on best-practice” (CB2).

FUNDING

117. Natura Malta will support the site managers financially, to help to achieve the objectives of the individual management plans of each site.
118. Areas designated as Nature Parks vary in size as well as in the complexity of management and resources required. They include smaller areas, such as some Natura 2000 sites, whilst others are larger. Degraded sites may require more intensive conservation measures, and sites which face intense pressure from tourism also have specific requirements. Funding depends substantially on government sources. This provides financial stability which is necessary for the fulfilment of obligations over time.
119. Strict financial controls are necessary for the nature parks management system to be successful, as well as close supervision of finances and proper reporting structures to the regulator both in terms of how funds are utilised (including funds raised independently), and the objectives achieved as targets of the management plan.
120. In parallel, some security of income is necessary. The allocation of funds must be carried out transparently, fairly and systematically, to ensure that agreed long-term goals can be achieved. As far as possible, political patronage should be taken out of the equation.
121. To be transparent and fair, the allocation of funds by government would need to be estimated at the initial stage of the nature parks system. This would be achieved by reviewing the management plans where they exist, and extrapolating the requirements of existing plans to other areas.
122. The initial estimates would include:
- Conservation costs including the marking of pathways and renovation of rubble walls, removal of rubbish and dump sites, removal of alien species and planting of appropriate indigenous shrubs and trees propagated from local stock;
 - Environmental studies;
 - Enforcement;
 - Health and safety, and related aspects (signage, hand rails, possibly benches, etc).
123. Once the global sum is estimated, having taken into account that some conservation projects would run over a number of years, the total funds must be allocated among the various sites. As noted above, the role of site manager may be taken up by different entities

including government, NGOs, local councils, commercial entities, and/or individuals.

124. Funds would be allocated by Natura Malta in line with defined criteria which would consider:
 - Land area.
 - Complexity and ecological sensitivity of the area.
 - Level of degradation and interventions required.
 - Number of visitors.
 - Intrinsic value of the particular area.
 - Requirements of the management plan.
 - Feasibility of raising money from the area in question.
 - Adequacy and security of funding for each area within the park.
125. Applications received from the site managers would be assessed by Natura Malta and each project given the number of merited points which would then be applied to the global sum. Special projects would be assessed separately. Applications for funds would be submitted every three years to provide a degree of stability, whilst reporting would be carried out annually providing details on the achievements on the management plan objectives, as well as financial reporting.
126. Natura Malta would issue instructions or regulations regarding controls and procedures regulating the administration of funds by the site managers.
127. Natura Malta would receive audited accounts from the site managers annually, and assess whether the funds were expended in accordance with financial regulations and whether they were used effectively.
128. On funding matters, Natura Malta should be subject to the scrutiny of the Public Accounts Committee.

LEGISLATION AND PLANNING

129. The Malta Environment Authority is already set up at law as a regulator. It must select and recommend areas to be designated as a nature parks. This scheduling process is incorporated in its embodying Act.
130. It is recommended that areas which fall 'outside the development zones' (ODZ) should have different levels of scheduling. The different schedules could include existing criteria, such as high ecological value or high landscape value, but may be overlaid by Natura 2000 scheduling and national park status. Designating an area within a park boundary will mean that a site manager will actively conserve the area and that there are additional safeguards against development or damage to the area or habitat.
131. From a planning point of view, the existing legislation should generally be sufficient to administer nature parks. The development planning process should, however, be guided by the fact that a site falls within the designated park boundaries.

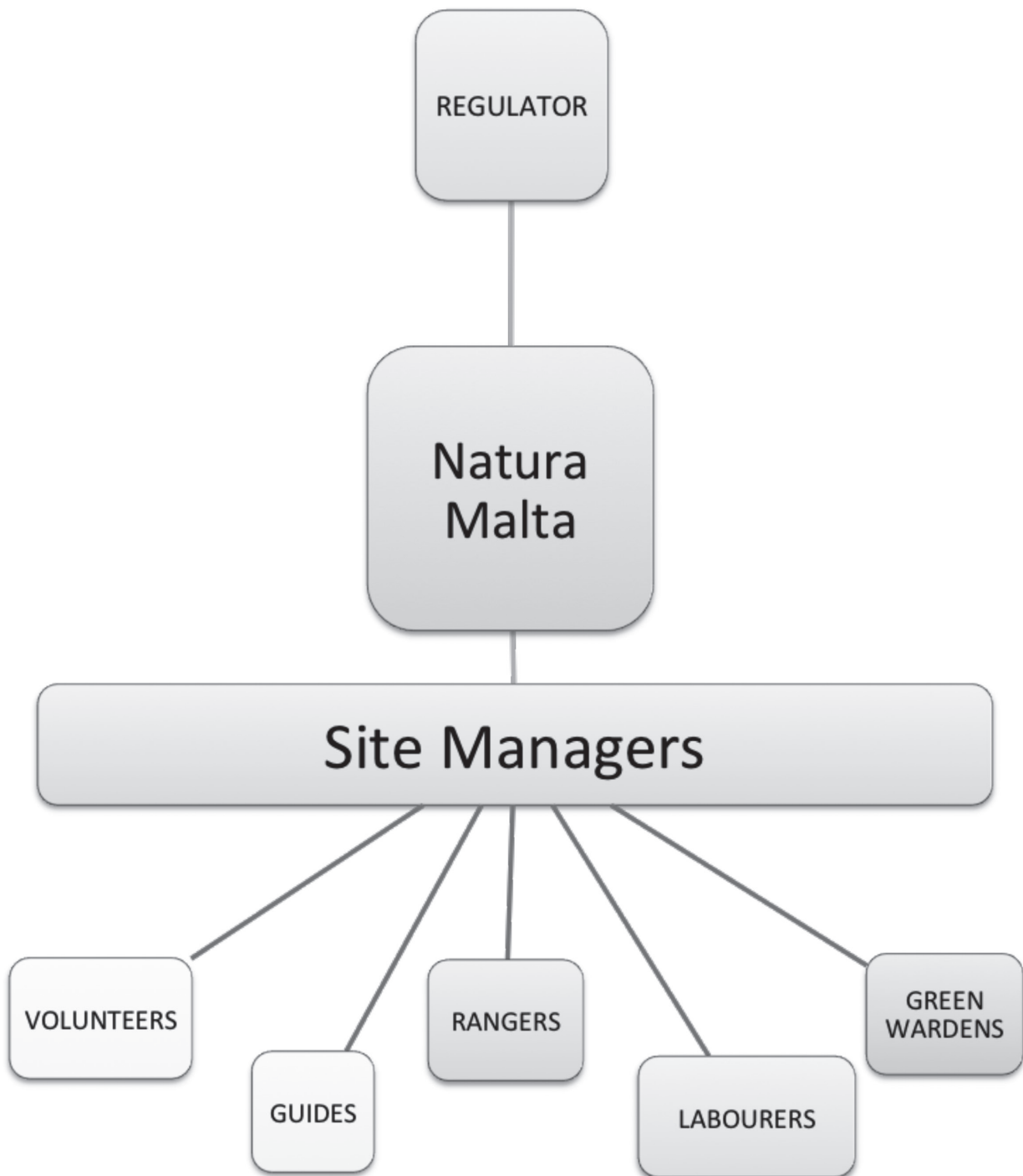
132. Planning legislation is necessarily complex and open to pressures from those eager to develop their property sited outside development zones. It would not be sensible to duplicate the work of the Planning Authority which is properly set up for handling planning applications. As with the UK, many of the areas within the proposed nature parks management system are privately owned, including agricultural land, farms, dwellings, or even hamlets which further complicates the matter.
133. As is already the case with existing parks such as the Majjistral Nature and History Park, the Planning Board should consult Natura Malta on any development planning applications falling within park boundaries. Both the Planning Authority, as well as Natura Malta would apply what in the UK is termed the Sandford Principle (See Appendix D), as follows: *“National Park Authorities can do much to reconcile public enjoyment with the preservation of natural beauty by good planning and management and the main emphasis must continue to be on this approach wherever possible. But even so, there will be situations where the two purposes are irreconcilable ... Where this happens, priority must be given to the conservation of natural beauty”* (Lord Sandford, 1974).^[2] This principle should be written into Maltese law and be enforceable by the Courts.
134. Two main purposes of nature parks are the conservation of the natural environment, and access for the public. This places an overriding emphasis on the conservation and protection of the common good regarding sites falling within protected areas. Applications which would adversely affect the harmony, beauty, or biodiversity of the park would be rejected. To further safeguard these areas, development applications within a nature park area (or ‘outside the development zones’) should be clearly marked, and highlighted as such on the application as well as in the newspaper adverts issued by the Planning Authority which list all planning applications.
135. Site rules would be made by Natura Malta either on its own initiative or following a request by a site manager or other interested parties. A process would need to be introduced to allow binding arbitration where a particular site manager is not in agreement with proposed site rules. Such site rules may, for instance, limit vehicular access to the area, prohibit trapping on garrigue or set fines for dumping.

CONCLUSIONS AND RECOMMENDATIONS

136. Malta is a country of great beauty having a diverse landscape and great biodiversity. A limited land mass, high population density, as well as a careless disregard of natural heritage has resulted in great and irreparable loss. To date there is no organisation tasked with managing areas designated as ‘outside the development zones,’ or providing holistic and hands-on management of areas of high ecological value or areas of great beauty.
137. Threats to the countryside come from many sources including building development, dumping, vehicular access, misuse of biodiversity and illegal prohibition of access to pedestrians.

138. This rapidly dwindling resource is important on a number of fronts, including biodiversity and cultural and recreational value, as well as having a high economic potential from tourism.
139. The government needs to act quickly to ensure that what remains of the countryside is actively conserved and protected for the enjoyment of future generations.
140. This Discussion Paper recommends the setting up of a system of national parks. The parks would be actively managed by site managers, in accordance with detailed management plans. Site managers would be appointed by the managing agency, here named Natura Malta. Site managers could be non-governmental organisations, commercial entities, local councils or individuals, depending on the requirements and history of the site.
141. Natura Malta would be set up by an Act of Parliament and would be an independent entity funded by government and tasked with identifying and supervising site managers, allocating funding, and acting as a central resource for nature parks. It would prepare and oversee management plans, and ensure that the site managers implement and adhere to them.
142. The Environment Authority acts as the overall regulator of protected areas and identifies land to be designated as protected areas by government. According to this proposal, the regulator would ensure that Natura Malta is properly selecting site managers and allocating funds in accordance with the set criteria, and that protected areas are being properly administered in line with approved management plans.
143. The government has an obligation to act in the public interest and to protect the countryside from further encroachments. It must act with determination and urgency if the short window left to save this precious heritage is not to be squandered.

PROPOSED ORGANISATIONAL CHART



Appendix A

FUNDING

BACKGROUND

1. The funding of protected areas is essential to enable the achievement of long-term goals, mainly the conservation of biodiversity. Increased legal obligations along with other pressing social issues including poverty and education, are placing a heavy strain on the financial structures of protected areas internationally (Phillips, 2000; Quintela, Thomas & Robin, 2004). The IUCN (2012) claims that setting up protected areas without proper management and finance structures in place will not halt further biodiversity loss.
2. Requirements for a financial structure begin with the designation of the site itself, the formulation of management plans, and the implementation of these plans. Globally, many protected areas receive less than 30% of the required funds (James *et al.*, (1999) quoted in Spergel, 2001), despite the benefits expected from these areas. The EU estimates that the economic benefits of Natura 2000 sites within Europe amount to approximately €300 billion annually (European Commission, 2004).
3. Traditionally, the main sources of funding for protected areas have been national governments (Lopez, Ornat & Jimenez-Caballero, 2006; Phillips, 2000). As in most economic sectors, there is also a trend here towards privatisation and market mechanisms (Wiersma, 2005). This perspective is important in the current economic situation whereby government funding is expected to remain static despite significant increases in the designation of protected areas.
4. Government funding is often the largest source of income for protected areas (Emerton, Bishop & Thomas, 2006) and also tends to be the most reliable (Spergel, 2001). This can be in the form of national budgeting, taxes, subsidies or even through funding unrelated to the environment, for example through national lotteries in the Netherlands (Mansourian & Dudley, 2008). These funds often cover basic salaries but are not substantial enough to cover the full requirements of biodiversity conservation.
5. Further disadvantages of over-reliance on government funds is that priorities can change and funding can then dry up (CBD, 2011). Government funding decisions are also often based on political patronage rather than on scientific reasons (CBD, 2011) and national budgets are often inflexible making it difficult to transfer an allocation of funds when necessary. Taxation falls under the polluter-pays concept, with the disadvantage that it is often difficult to win support for such measures. Furthermore, when applied, governments often divert the income elsewhere (CBD, 2011; Spergel, 2001). Subsidies sometimes pose a threat to conservation. Cases in point are the fisheries and agricultural subsidies, with the former financing unsustainable fishing practices, and the latter financing monocultures (Damanaki, 2014; Lopez Ornat & Jimenez-Caballero, 2006).
6. The European Union also provides a number of funding mechanisms to Member States that aim to facilitate the funding of protected areas. There are also territorial cooperation

funds with a 'family' of instruments that Malta, as a Member State, has access to. Significantly, EU funding is only expected to cover 20% of the estimated costs of Natura 2000 sites (Gantioler *et al.*, 2010).

7. A few protected areas in Malta currently receive some government funding, although they depend on a considerable volunteer effort which is largely unquantified. These sites mainly include Simar, Għadira, Ramla, Għajn Tuffieħa, Majjistral and Xrobb l-Għaġin. Government grants mainly cover basic costs such as salaries and operational expenses whilst major conservation initiatives are not generally covered. Costs for maintaining Natura 2000 sites were estimated at €800 per annum per hectare in 2002. This works out at €3.3 million just for the Natura 2000 sites alone (Gantioler *et al.*, 2010).
8. The Natura 2000 management plans recently prepared by the Government under EAFRD funding propose a number of revenue-generating and self-financing opportunities.
9. Taking the financial proposals in the management plan for the island of Comino as an example, this plan states that management requirements 'are limited to ecological monitoring and research, periodic patrolling.' This statement gives the impression that actual costs on Comino will be low. However, management does cost money, including periodic updating of management plans, proper monitoring of indicator species and other control measures, and the handling, monitoring and mitigating of anthropogenic activities, ultimately to ensure that the site falls under a good conservational status in line with the legal requirements for such sites. Furthermore, IUCN (2012) states that in order to achieve biodiversity conservation, protected areas must be managed by competent professionals. All in all, substantial funding is required and a lack of funding limits conservation (Phillips, 2000, Quitela, Thomas & Robin, 2004).
10. The revenue-generating mechanisms mentioned in the Natura 2000 management plans for the Maltese sites focus on some elements which have already been implemented in a number of protected sites in Malta. An example is the requesting of a donation in lieu of user fees. In practice, Maltese citizens are quite reticent in giving donations for environmental management. The experiences of BirdLife (Malta), the Majjistral Nature and History Park, and Scouts (Malta) indicate that with the introduction of user fees, attendance drops.
11. The successful introduction of such schemes must involve awareness campaigns to gradually introduce the concept of user fees to the general public, explaining its importance for conservation. Sometimes, even when applied, user fees do not reflect the true value of the product on offer. This could arise due to the product having always been free of charge or the authorities avoiding issues with the electorate (Font, Cochrane & Trapper, 2004). The application of user fees in areas that were previously free of charge can prove difficult without an awareness or outreach campaign (Norris & Curtis, 1999). Furthermore, for sites like Comino which have open access, user fees would be difficult if not impossible to control.
12. Nevertheless, when properly applied user fees can generate substantial revenues and have been adopted by protected areas in various countries. Groom (2006) notes that Wanglang Nature Reserve in Sichuan, China, covers up to 30% of its costs from tourist revenues. Likewise, Kruger National Park (South Africa) covers all its operating budgets

from similar revenues. Tourists on the Galapagos Islands, Ecuador, annually spend over US\$80 million on entry fees, souvenirs, tours and so on (Spergel, 2001). One stumbling block related to user fees is pricing equity, although this can be overcome by staggered pricing or free 'open days.'

13. User fees can be considered as an umbrella term. The Natura 2000 management plans for Malta include fees for camping and other such activities. This could enable the involvement of concessionaires, thereby directing fees towards profit-making entities rather than the general public. Concessionaires include hotels, food trucks, diving schools and any other entity that operates on the site requiring them to pay fees. In this way, fees would be mandatory rather than discretionary, and set according to predetermined criteria. Concession fees often risk the danger of not reflecting their true value, often being a result of political appointment rather than scientific evaluation of the site (Spergel, 2001). Additionally, concessionaires are profit-based and may not have the same conservation values as park managers and therefore need to be strictly monitored (Norris & Curtis, 1991).
14. Another mechanism for income generation adopted by a number of sites, including in Malta, concerns contributions from tourists using hotels on site. Hotels would automatically charge guests a minimal contribution for the nature park, whilst informing guests that the charge is being placed on their bill giving them the option of removing it. This has proven to be a substantial income generator and such a scheme may be applied to the existing hotels in Comino or near the Majjistral Nature and History Park. This should, however, not be in lieu of fees the hotel should be expected to pay as a concessionaire within a protected area.
15. The Natura 2000 management plans for Malta also refer to funding mechanisms of the European Union. These mechanisms represent the EU's commitment to biodiversity conservation and the Natura 2000 network. However, the use of these funds also involves some limitations.
16. EU funding mechanisms involve considerable bureaucracy that requires both time and human resources, often both a limiting factor for the management of protected areas. Co-funding is also necessary, whereby the applicant must put forward a certain percentage of the total amount required.
17. Co-funding requirements can be substantial. LIFE, for example, require 50% co-funding and obtaining this obligatory financial input tends to be a limiting factor. Applicants are further required to prove that there are alternative incomes in place for the post-funding period. An important issue is that these funds are considered to be short-term, often having a life span of three to nine years and are usually project-based.
18. European Union funding mechanisms are based on five major building blocks, cooperation, ideas, people, capacities and nuclear research. Furthermore, each funding mechanism is based on co-financing and reimbursement. This can be up to 50%, though some organisations may receive up to 75% and certain activities (for example, training) up to 100%. However, co-funding can often be a limiting factor, since it is generally the applicant that must come up with these funds. LIFE is the main funding mechanism for the environment, however, other mechanisms may still be tapped into for funding

environment-related projects.

The main EU funding mechanisms include:

- Horizon 2020 – A programme for research and technological development. This is the main funding mechanism for research.
 - Structural Funds – This includes the European Regional Development Fund (ERDF) and the European Social Fund (ESF). In some countries (those that joined in 2004 or 2007) there is the Cohesion Fund for the modernisation of infrastructure. An example of use of this funding mechanism in Malta was for the establishment of management plans for the terrestrial Natura 2000 sites and to promote awareness of the Natura 2000 network in Malta.
 - EU Grants - Europaid. Different funds are available for cooperation and development projects.
 - Erasmus Plus – A programme for education, training, youth and sport.
 - LIFE – A funding mechanism for the environment and climate change. This mechanism is made up of three components, LIFE Nature and Biodiversity, LIFE Environment Policy & Governance and LIFE Information and Communication. An example of this funding mechanism used in Malta was the study for an SPA site and sea actions saving *Puffinus yelkouan* in Malta, which was concluded in 2010.
19. Project-based, short-term funding can often go against the concept of longer-term strategic vision and ultimately against the sustainability of protected areas. Hence, whilst the EU is extremely important, it must be considered on a project-by-project basis. For the longer term and more holistic management of the site, such mechanisms must be included within a larger framework of income-generating activities that should include concessionaires and fee-based activities, along with government funding.
20. It is important for managers of protected areas to understand which funding mechanism is best suited for their sites, and the differences between each income-generating activity in the short, medium and longer term. For example, areas that are more based on national heritage or culture, where visitor numbers may not be so high, yet where the site is still considered important, are more likely to aim for national surcharges and taxes to fund necessary conservation of the site, whilst areas that have high visitation numbers can use concession or visitor fees, in that way utilising the higher visitor numbers to bring in revenue.

Appendix B

PUBLIC SURVEY ON BIODIVERSITY

In March 2015, *Din l-Art Helwa's* 'Save the Countryside' campaign conducted a survey of the Maltese population's views on the countryside in collaboration with MISCO International.¹

The key results are the following:

ALMOST UNANIMOUS AGREEMENT THAT THE COUNTRYSIDE NEEDS TO BE PROTECTED MORE

- 97% of the Maltese population believes that the countryside needs to be protected more. Every age group, region and socio-economic grouping registered percentages in the upper 90s.

NATURE SITES OR PARKS

- The work in past years to introduce protected nature sites or parks in the Maltese countryside has not gone unnoticed by the population. In fact, 70% were able to mention one or more of these nature sites or parks.
- 79% of respondents claimed to have visited at least one of these sites or parks in the past year. 36% claimed to have visited at least one of these sites or parks in the past month and 11% claimed to have visited at least one of these sites or parks in the past week.
- Only 21% of respondents said that they have not visited at least one of these sites or parks in the past year; this figure drops to 12% for those aged 25-34 and 6% for those aged 16-24.
- Clearly reflecting the pressure the population feel the countryside is under, 88% of the population believe we should have more protected nature sites.
- No new nature sites or parks have been established since 2013 although there is at least one pending request to the government for an identified area to be declared as nature sites or parks. See report of proposal made by BirdLife Malta, *Din l-Art Helwa, Flimkien għal Ambjent Aħjar* and Nature Trust: <http://dinlartelwa.org/uncategorized/dlh-news/proposal-from-4-ngos-to-establish-a-nature-park-in-the-south-of-malta/>

¹ Interviewing was carried out using the computer-assisted telephone interviewing mode. Stratified random sampling was used to select the 500 participants. Telephone numbers were randomly selected using a random digit dialling system. Respondents were stratified by age and gender. Interviews were carried out during February 2015. The data analysis was produced by MISCO International. Assistance was provided by MCAST students of Environmental Sustainability.

CONCERN AT THE SPREAD OF BUILDING ACROSS THE COUNTRYSIDE

- The spread of building across the countryside is a major environmental concern for the Maltese population. Only 6.2% of the population are not concerned at all. 56% of the population are very concerned and 26% somewhat concerned.
- Surprisingly, the younger elements of the population, though registering high levels of concern at the spread of building in the countryside, register lower levels of concern than the middle-aged elements of the Maltese population:

74%: 16-24 age group;

74%: 25-34 age group;

85%: 35-44 age group;

89%: 45-54 age group;

88%: 55-64 age group;

81%: 65+ age group.

- Unsurprisingly, on a geographical basis² the highest rates of concern are found in the South of Malta, reflecting the lack of open spaces, while the lowest rates are found in Gozo, reflecting the relatively high proportion of countryside in our sister island:

81%: Malta – Northern;

81%: Malta – Northern Harbour;

86%: Malta – Southern Harbour;

88%: Malta – South Eastern;

78%: Malta – Western;

69%: Gozo.

- Although the level of concern at the spread of building across the countryside is highest among professionals and managers and white collar employees, the level of concern expressed by skilled workers and unskilled workers/state pensioners is still extremely high:

89%: AB socio-economic group (higher managerial, administrative or professional intermediate managerial, administrative or professional);

85%: C1 socio-economic group (supervisory or clerical, junior managerial, administrative or professional);

80%: C2 socio-economic group (skilled manual workers);

² Malta Geographical Codes

Southern Harbour: Valletta, Senglea, Cospicua, Żabbar, Fgura, Floriana, Kalkara, Luqa, Marsa, Paola, Santa Luċija, Tarxien, Xgħajra.

Northern Harbour: Qormi, Birkirkara, Gżira, Hamrun, Msida, Pembroke, Pietà, St Julian's, San Ġwann, Santa Venera, Sliema, Swieqi, Ta' Xbiex.

South Eastern: Żejtun, Birżebbuġa, Gudja, Għaxaq, Kirkop, Marsaskala, Marsaxlokk, Mqabba, Qrendi, Safi, Żurrieq.

Western: Mdina, Żebbuġ, Siġġiewi, Attard, Balzan, Dingli, Iklin, Lija, Rabat, Mtarfa.

Northern: Għargħur, Mellieħa, Mgarr, Mosta, Naxxar, St Paul's Bay.

Gozo and Comino: Victoria, Fontana, Għajnsielem and Comino, Għarb, Għasri, Kerċem, Munxar, Nadur, Qala, San Lawrenz, Sannat, Xagħra, Xewkija, Żebbuġ.

72%: DE socio-economic group (semi and unskilled manual workers, state pensioners or widows (no other earner), casual or lowest grade workers).

GOVERNMENT SHOULD STOP MORE BUILDING IN THE COUNTRYSIDE

- Reflecting the population's concern at the spread of building across the countryside, 80% of the Maltese population believe that the government should stop more building in the countryside. Only 10% of the population disagree with this.
- The call for government to stop more building in the countryside is highest amongst:
 - 45-54 age group (83%) and 55-64 age group (90%);
 - Those living on the Northern side of the Harbour (84%) and in South Eastern Malta (83%);
 - Professionals, managerial (AB) and white-collar employees (C1) (both at 85%).

CALL FOR MORE ENFORCEMENT IN THE COUNTRYSIDE ON DUMPING/LITTERING

- 96% of the Maltese population believes that more enforcement in the countryside is required on dumping/littering. Virtually every age group, region, socio-economic grouping registered percentages in the mid and upper 90s.

MOTOR VEHICLE POLLUTION

- 89% of the Maltese population are very concerned (66%) or somewhat concerned (23%) about motor vehicle pollution. The least concerned are those aged 16-24 (82%), those resident in the northern part of Malta (84%) and the C2 (82%) socio-economic grouping.

AIR QUALITY

- 85% of the Maltese population are very concerned (53%) or somewhat concerned (32%) about air quality. The least concerned are those aged 16-24 (81%), those resident in the Southern Harbour area (80%) and the DE (81%) socio-economic grouping.

CLIMATE CHANGE

- 79% of the Maltese population are very concerned (41%) or somewhat concerned (38%) about climate change. The least concerned are those aged 65 or older (71%) and the DE (74%) socio-economic grouping.

WASTE CONTROL

- 66% of the Maltese population are very concerned (31%) or somewhat concerned (35%) about waste control. The least concerned are those aged 65+ (58%), those resident in Gozo (56%) and the DE (59%) socio-economic grouping.

WATER (GROUND WATER/WATER TABLE)

- 63% of the Maltese population are very concerned (34%) or somewhat concerned (29%) about water issues (ground water/water table). The least concerned are those aged 16-24 (44%), those resident in the Northern Harbour area (52%) and the DE (50%) socio-economic grouping.

ENVIRONMENTAL ISSUES OF CONCERN IN MALTA³

- Only 11% of the Maltese population did not list at least one issue when asked to identify environmental issues of concern in Malta. The top issue for the population as a whole is Waste (28%), which is followed by Air Pollution (18%), Traffic (15%), Too Much Construction (11%), Lack of Cleanliness (9%), Environment Pollution (8%), Infrastructure Problems (5%) and Lack of Trees (5%).
 - **16-24** age group expressed a noticeably higher⁴ than average concern about Traffic and the Lack of Trees.
 - **25-34** age group expressed a noticeably higher than average concern about Waste and Traffic.
 - **35-44** age group expressed a noticeably higher than average concern about Air Pollution.
 - **45-54** age group expressed a noticeably higher than average concern about Infrastructure Problems.
 - **55-64** age group expressed a noticeably higher than average concern about Air Pollution and the Lack of Cleanliness.
 - **65+** age group expressed a noticeably higher than average concern about the Lack of Cleanliness.
- Those resident in the northern part of Malta expressed a noticeably higher⁵ than average concern about Waste. Those resident in the Southern Harbour area and the south eastern part of Malta expressed a noticeably higher than average concern about the Lack of Cleanliness. Those resident in the western part of Malta expressed a noticeably higher than average concern about Waste, Air Pollution, Construction and Hunting/Birds. Those resident in Gozo expressed a noticeably higher than average concern about Construction and Sea Contamination.

³ Only issues registering at least 5% are listed.

⁴ Equal to, or greater than, 5%.

⁵ Equal to, or greater than, 5%.

- The AB socio-economic grouping expressed a noticeably higher⁶ than average concern about Air Pollution and Construction. The C1 socio-economic grouping expressed a noticeably higher than average concern about Waste.

The top five issues per population segment were as follows:

By Age:

- **16-24** age group: Waste (30%), Traffic (22%), Air Pollution (21%), Environment pollution (14%) and Lack of Trees (10%);
- **25-34** age group: Waste (35%), Traffic (20%), Air Pollution (15%), Construction (12%) and Environment Pollution (9%);
- **35-44** age group: Waste (27%), Air Pollution (24%), Traffic (15%), Construction (13%) and Environment Pollution (9%) and Lack of Trees and Cleanliness (both 6%);
- **45-54** age group: Waste (29%), Air Pollution (20%), Traffic (15%), Infrastructure (13%) and Construction (10%);
- **55-64** age group: Air Pollution (24%), Waste (22%), Cleanliness (17%), Construction (14%) and Traffic (12%);
- **65+** age group: Waste (25%), Cleanliness (14%), Construction (11%), Traffic (10%) and Infrastructure (7%).

By Region⁷:

- **Northern:** Waste (35%), Traffic (16%), Air Pollution (15%), Construction (11%) and Environment Pollution (7%);
- **Northern Harbour:** Waste (26%), Air Pollution (19%), Traffic, Construction and Cleanliness (all 13%);
- **Southern Harbour:** Waste (24%), Traffic (20%), Air Pollution (16%), Lack of Trees (9%), Cleanliness and Environment Pollution (both 7%);
- **South Eastern:** Waste (31%), Air Pollution (16%), Cleanliness (15%), Traffic (12%), Environment Pollution and Infrastructure (both 11%);
- **Western:** Waste (36%), Air Pollution (23%), Traffic and Construction (both 17%) and Hunting/Birds (9%);
- **Gozo:** Air Pollution (19%), Traffic and Construction (both 17%), Sea Contamination (14%) and Environment Pollution (11%).

By Socio-Economic Classification⁸:

⁶ Equal to, or greater than, 5%.

⁷ **Malta Geographical Codes:**

Southern Harbour: Valletta, Senglea, Cospicua, Żabbar, Fgura, Floriana, Kalkara, Luqa, Marsa, Paola, Santa Luċija, Tarxien, Xgħajra.

Northern Harbour: Qormi, Birkirkara, Gżira, Hamrun, Msida, Pembroke, Pietà, St Julian's, San Ġwann, Santa Venera, Sliema, Swieqi, Ta' Xbiex

South Eastern: Żejtun, Birżebbuġa, Gudja, Għaxaq, Kirkop, Marsaskala, Marsaxlokk, Mqabba, Qrendi, Safi, Żurrieq; **Western:** Mdina, Żebbuġ, Siġġiewi, Attard, Balzan, Dingli, Iklin, Lija, Rabat, Mtarfa.

Northern: Għargħur, Mellieħa, Mġarr, Mosta, Naxxar, St Paul's Bay;

Gozo and Comino: Victoria, Fontana, Għajnsielem and Comino, Għarb, Għasri, Kerċem, Munxar, Nadur, Qala, San Lawrenz, Sannat, Xagħra, Xewkija, Żebbuġ

⁸ **List of socio-economic groups:**

AB: Higher managerial, administrative or professional intermediate managerial, administrative or professional.

C1: Supervisory or clerical, junior managerial, administrative or professional.

- **AB:** Waste (28%), Air Pollution (25%), Traffic (19%), Construction (16%) and Cleanliness (10%);
- **C1:** Waste (34%), Air Pollution (17%), Traffic (14%), Construction (13%) and Environment Pollution (11%);
- **C2:** Waste (23%), Air Pollution (18%), Traffic (14%), Cleanliness (10%) and Infrastructure (9%);
- **DE:** Waste (25%), Traffic (14%), Air Pollution (11%), Cleanliness (12%) and Construction (10%).

ENVIRONMENTAL ISSUES OF CONCERN IN THE WORLD⁹

- 26% of the Maltese population did not list at least one issue when asked to identify environmental issues of concern in the world. The top issue for the population as a whole is Environment Pollution (20%), which is followed by Air Pollution (14%), Terrorism/Wars and their effects (11%), Global Warming (10%) and Waste (5%).
- The 16-24 age group expressed a noticeably higher¹⁰ than average concern about Environment Pollution, Global Warming and Waste. The 25-34 age group expressed a noticeably higher than average concern about Environment Pollution and Terrorism/Wars and their effects. The 35-44 and 55-64 age groups expressed a noticeably higher than average concern about Air Pollution. The 65+ age group expressed a noticeably higher than average concern about Terrorism/Wars and their effects.
- Those resident in the Southern Harbour area expressed a noticeably higher than average concern about Air Pollution. Those resident in the south eastern part of Malta expressed a noticeably higher than average concern about Air Pollution and Terrorism/Wars and their effects. Those resident in the western part of Malta expressed a noticeably higher than average concern about Environment Pollution and Global Warming.
- The AB socio-economic grouping expressed a noticeably higher¹¹ than average concern about Environment Pollution and Global Warming. The C1 socio-economic grouping expressed a noticeably higher than average concern about Air Pollution.

The top five issues per population segment were as follows:

By Age:

- **16-24** age group: Environment Pollution (27%), Global Warming (16%), Waste (11%), Air Pollution (8%), Traffic and Deforestation (both 7%);
- **25-34** age group: Environment Pollution (26%), Terrorism/Wars and their effects (17%), Global Warming (11%), Climate Change (7%) and Air Pollution (5%);
- **35-44** age group: Air Pollution (29%), Environment Pollution (24%), Global

C2: Skilled manual workers.

DE: Semi and unskilled manual workers, state pensioners or widows (no other earner), casual or lowest grade workers.

⁹ Only issues registering at least 5% are listed.

¹⁰ Equal to, or greater than, 5%.

¹¹ Equal to, or greater than, 5%.

- Warming (14%), Waste and Traffic (both 4%);
- **45-54** age group: Environment Pollution (20%), Terrorism/Wars and their effects (13%), Global Warming (10%), Air Pollution (9%) and Construction (6%);
- **55-64** age group: Air Pollution (22%), Environment Pollution (17%), Terrorism/Wars and their effects (10%), Waste (8%), Global Warming and Climate Change (both 5%);
- **65+** age group: Terrorism/Wars and their effects (16%), Air Pollution (14%), Environment Pollution (7%), Global Warming and Climate Change (both 5%).

By Region:

- **Northern:** Environment Pollution (17%), Air Pollution (16%), Global Warming (12%), Terrorism/Wars and their effects and Construction (both 8%)
- **Northern Harbour:** Environment Pollution (20%), Terrorism/Wars and their effects (11%), Air Pollution and Global Warming (both 8%) and Climate Change (6%);
- **Southern Harbour:** Environment Pollution (21%), Air Pollution (20%), Global Warming (11%) Terrorism/Wars and their effects (10%), Waste and Traffic (both 3%);
- **South Eastern:** Environment Pollution, Air Pollution and Terrorism/Wars and their effects (all 19%), Construction (7%) and Global Warming and Waste (both 5%);
- **Western:** Environment Pollution (27%), Global Warming (17%), Air Pollution (14%), Terrorism/Wars and their effects (9%), Waste, Climate Change and Construction (all 4%);
- **Gozo:** Air Pollution (14%), Environment Pollution (11%), Global Warming and Waste (both 8%) Climate Change and Terrorism/Wars and their effects (both 6%).

By Socio-Economic Classification:

- **AB:** Environment Pollution (26%), Global Warming (19%), Air Pollution (15%), Climate Change (9%) and Terrorism/Wars and their effects (7%);
- **C1:** Environment Pollution (23%), Air Pollution (18%), Terrorism/Wars and their effects (10%), Global Warming (7%) and Construction (5%);
- **C2:** Environment Pollution (20%), Air Pollution and Terrorism/Wars and their effects (both 12%), Global Warming (7%) and Waste (5%);
- **DE:** Terrorism/Wars and their effects (14%) Environment Pollution and Air Pollution (both 12%), Waste and Traffic (both 6%).

IMPORTANCE OF THE COUNTRYSIDE FOR MALTESE FAMILIES IN SPRING

- The importance of the countryside for Maltese families in spring comes out of the survey in dramatic terms.
- 50% of the Maltese population walk or go for a drive in the countryside each week in spring.
- A further 20% of the population do so two or three times a month, and a further 10% once a month.
- Only 20% of the population walk or go for a drive in the countryside less often than once a month in spring.

ANIMALS AND PLANTS UNDER THREAT, LOSS OF BIODIVERSITY

- 73% of the population are 'Somewhat concerned' or 'Very concerned' about the potential loss of biodiversity in Malta.

HUNTING AND ACCESS TO THE COUNTRYSIDE

- 55% of the population aged 16 and over, believes that hunting restricts access to the countryside for families. This was a particular concern for people aged between 35 and 44 years old – probably reflecting the fact that this age group is more likely to have children who wish to access the countryside. In fact, 63% of this age group voiced this concern.
- On coming into government, Prime Minister Joseph Muscat introduced hunting on Sundays and public holidays in spring which had previously been banned. The survey results show that this was not supported by the Maltese population who wanted this decision reversed and a hunting ban introduced for the whole weekend and all school holidays:
 - 60% of the population believe that, even if hunting is allowed in spring, no hunting at all should be allowed on spring weekends; this figure rises to 66% for persons aged 35-44 and to 65% for persons aged 45-54.
 - 53% believe that, even if hunting is allowed in autumn, no hunting at all should be allowed on autumn weekends; this figure rises to 61% for persons aged 35-44 and to 57% for persons aged 45-54.
- Showing the importance of the countryside to parents, the Maltese population also believes that hunting should be stopped during school holidays:
 - 64% of the population believe that, even if hunting is allowed in spring, hunting should be stopped during spring school holidays; this figure rises to 71% for persons aged 35-44 as well as for persons aged 45-54.
 - 57% believe that, even if hunting is allowed in autumn, hunting should be stopped during autumn school holidays; this figure rises to 69% for persons aged 35-44.

IMPORTANCE OF THE COUNTRYSIDE FOR MALTESE FAMILIES IN THE TRADITIONAL HUNTING AND TRAPPING PERIODS

The importance of the countryside for Maltese families in spring, autumn and winter, the traditional hunting and trapping periods, is clearly shown in the survey:

- The results showed that 50% of the Maltese population walk or go for a drive in the countryside each week in spring. The figure is also high in autumn and winter. It should be noted that the so-called autumn hunting season today stretches from 1st September of any given year to the 31st January of the following year.

- In autumn, 44% of Maltese walk or go for a drive in the countryside each week and only 13% never walk or go for a drive in the countryside.
- In winter, 39% walk or go for a drive in the countryside each week and only 14% never walk or go for a drive in the countryside.
- For obvious reasons, fewer Maltese walk or go for a drive in the countryside during summer although 31% still claim to do so on a weekly basis. During summer, the number of those who never walk or go for a drive in the countryside rises to 28%.

HUNTING IN SPRING

- Only 30% of the population were against a ban on spring hunting. 19% did not give an opinion.
- 51% of respondents stated that hunting should be banned in spring.
- Women are more likely to support a spring hunting ban than men, and students are more likely to support a ban on spring hunting than are the rest of the population. In fact, 53% of women believe that hunting should be banned in spring, as do 61% of students.

HUNTING IN AUTUMN

- The results were very different for autumn hunting, with people making a clear distinction between the two seasons. A relative majority (albeit a very small relative majority) of the population were against a ban on hunting in autumn.
- 40% of respondents were, in fact, against an autumn hunting ban while 39% were in favour of such a ban. Women were more likely to support an autumn hunting ban, as were young people.

ENFORCEMENT IN THE COUNTRYSIDE ON HUNTING AND TRAPPING

- Without making any distinction between spring or autumn, 65% of the population believe that there should be more enforcement on hunting and trapping, with citizens over 65 years old showing the most concern over this issue, followed by people aged 45-54 years old.
- Marginally more men at 66% than women at 64% believe there should be more enforcement.
- Only 21% of the population think that enforcement is adequate, showing that the government seems out of touch with the expectations and concerns of Malta's citizens. 14% of respondents gave a 'Don't Know' answer.

Appendix C

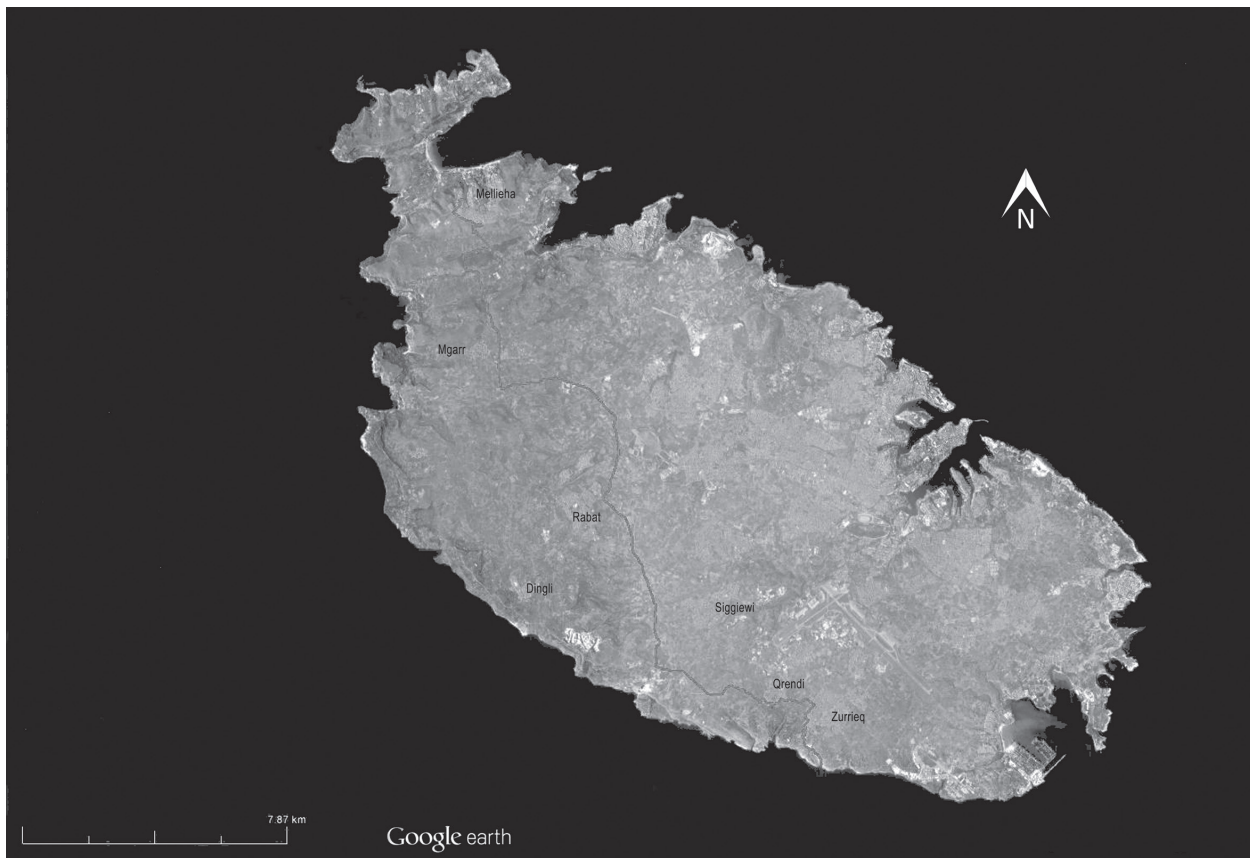
THE NORTH-WEST OF MALTA

This Discussion Paper is proposing that an area in the North-West of Malta is designated as a national park. This proposal is based on various factors, including:

- Topography.
- Landscape character.
- Watershed and ecology.
- Visual value.
- Historical and cultural features and potential impact on tourism.

This proposal has identified the high ground within the west of the Maltese Islands as worth protecting. These areas are important for their diverse landscape character which guaranteed the existence of water ways due to the presence of the impermeable clay layer in the local geology and were the catalyst for the way in which the land has been shaped and managed for centuries by human activity. The hillsides have been systematically terraced to create space for agriculture and to protect the soil from erosion. This type of high ground was also used for defence purposes as in Mdina, and for habitation as in Mellieħa.

This topography has determined the landscape character of the Maltese Islands. The valleys vary in character depending on their orientation and the way they were formed, whether due to faulting or by the action of water. Either way, their formation gives rise to the character of



the specific valley bed. Valley beds are generally rich in biodiversity and are highly managed agricultural areas. They are sought after due to their sheltered environment, the presence of water and deep fertile soils. The steeper valleys such as Wied Babu were cultivated in the past, but have been abandoned probably due to difficulty of access and the shift from an agricultural community to a more urban one. Natural processes generally predominate in such areas although not without a fair amount of human interference.

The area selected provides some of the most spectacular scenery in Malta, it contains some of our most important archaeological sites as well as a wealth of cultural heritage. Ecologically, much of it has already been scheduled as having high ecological value. The area includes part of the existing Park at Majjistral, as well as Foresta 2000 and incorporates Ras il-Pellegrin, Kuncizzjoni, Fomm ir-Rih all the way down through to Buskett and Wied iz-Zurrieq. It mainly encompasses private land, dwellings, farms and tended fields.

Providing the status of a National Park would ensure pedestrian access, as well as protecting the area from building encroachment, dumping and the other threats noted in the body of the report. The status of national park for this area would also ensure that the Sandford principle would be applied in an area which is increasingly seeing encroachments and creeping development in the countryside.

This proposal is just the start of what should be the active protection of our inheritance and its preservation for future generations.

Appendix D

CASE STUDIES FROM AROUND THE WORLD

A BRIEF HISTORY OF NATURE PARKS IN OTHER COUNTRIES

The concept of Nature Parks has been implemented successfully in many countries. It is useful to see how these came about and fared over time; how they are structured and funded; and how their success is measured (visitor numbers, environmental considerations, etc).

The earliest Nature Park is Yellowstone National Park founded in 1872 in America just after the Indian wars. Canada followed with Banff National Park in 1885. In Europe, Sweden led the way in 1909 whilst the UK lagged behind and only founded the first National Park in 1951.

In England this was the result of a considerable national movement to gain access to the countryside which culminated in the mass trespass of Kinder Scout of 1932. This led to the UK Parliament passing the National Parks and Access to the Countryside Act 1949 and founding the first park in the Peak District in 1951. Whilst the government lagged behind, it was individuals who set up the first National Trust in 1895 and who set up the first nature reserve in England in 1899.

The International Union for the Conservation of Nature notes that nearly all countries have a national park system. Some, such as the UK, New Zealand, Chile and France cover about 10% of the land area. Small Belize is probably the highest at 38% whilst Malta has one recorded national park which was founded in 2007 and which covers 0.69% of the land area – Majjistral.

The funding, visitor numbers and overall conservations success would vary tremendously across the different countries but it is useful to see how some of these parks are managed, funded and what they would consider to be their successes and challenges.

YELLOWSTONE NATIONAL PARK

Yellowstone National Park is a nearly 9000 square kilometre wilderness featuring dramatic canyons, alpine rivers, lush forests, hot springs and gushing geysers, including its most famous, Old Faithful. It is also home to hundreds of animal species, including bears, wolves, bison, elk and antelope. Set up in 1872 it receives about 3.5m visitors a year.

Yellowstone National Park is funded through four main sources:

- a. Congressional funding intended for day-to-day operations.
- b. Congressional funding for specific projects.
- c. Revenue generated by the park.
- d. Reimbursable funds (fees paid to park for services rendered).

Whilst expenditures have increased steadily, there has been a relative decline in government funding from 65% of the Park's expenditure in 1995 to 48% in 2002. As a result, from 1997 the

Park introduced programmes to retain 80% of visitor fees; this revenue has steadily increased. Entrance fees now bring in around 70% of the total revenue (National Park Service, 2003). Entrance fees are about \$30 for a car and \$15 for an adult. The Park has nearly 300 employees engaged in repairing 500 miles of roads, trails and pathways, 710 buildings, providing law enforcement, emergency medical response, structural fire protection as well as interpretive services and centres.

ENGLAND AND WALES

England and Wales have 13 national parks, each managed by a separate park authority. Unlike most other national parks in the world, parks in England and Wales do include substantial areas of private land and also substantial settlements including dwellings, hamlets and villages, as well as local farms and farm lands. Each Authority has two statutory purposes; to conserve and enhance the natural beauty, wildlife and cultural heritage of the area, and to promote opportunities for the understanding and enjoyment of the parks. In cases of conflict the Sandford Principle is applied where conservation is given priority. Spatial planning is devolved from the local councils to the national park authorities. The park authority boards would come from the local authorities and appointments by the Secretary of State of Environment whose appointments would generally include local parish or community councillors.

It is estimated that the number of visits to National Parks in England and Wales exceeds 110 million annually. England draws on a number of different sources for funding of its national parks. As with other countries, government funding remains the largest source of income, mainly through local grants but also from national lotteries. In this particular scenario, match funding is used to lever greater amounts from the government (ENPAA, 2012).

COSTA RICA NATIONAL PARKS

There are 26 national parks in Costa Rica which, along with other protected areas cover an area of approximately a quarter of the land mass. The parks include wetlands, rainforests, tropical forests, as well as marine parks. Coming after years of severe deforestation, there was growing acknowledgement that the rate of destruction could not continue. In 1970, a national park system was established – declaring about 10% of the land ‘inviolable.’ Other reserves including areas for forests or indigenous tribes make up a further 15%.

Costa Rica has a total of approximately 2.67m Ha of forest (FONAFIFO 2012), the ownership of which can be split into four main categories (Percentages from 2005 - GOCR 2011):

- (i) National Parks and Biological Reserves, which should be state-owned and cover 11% of the country, including 22% of the forest.
- (ii) National Wildlife Refuges and Forestry Reserves, which may be private, public or mixed and cover 14% of the country, including 19% of the forest;
- (iii) Indigenous Territories, 6.5% of the country and 10% of the forest.
- (iv) Private land, which includes 50% of the forest (GOCR 2011).

Much of the funding has come from international sources and in recent years, this has been reduced which has impacted adversely on conservation and enforcement. In the seventies,

the World Bank had encouraged the Costa Rican Government to reduce funding and cut employment within the national parks due to the high national debt and spiralling costs. Through a complex arrangement of debt reduction for nature swaps (Payment for Ecosystem Services Programme) some measure of funding was restored. In 1994 entrance fees to some national parks were increased from approximately \$1 to \$15 to raise funds. This resulted in a fourfold increase in revenue, despite a fall in visitor numbers.

About 17% of the forests are privately owned with logging rights, and poaching of rare animals is increasingly found to be a problem.

The Reserves and Nature Parks are principally governed by the Biodiversity Management National Commission (CANAGEBIO) along with the National System of Protected Areas (SINAC). These are government entities.

Since the late 1980s, Costa Rica has become a popular nature travel destination and earns more from this source in foreign exchange than bananas, pineapples and coffee exports combined. In 1988 tourism was 329,000, through to 1.03 million in 1999, to a historical record of 2.52 million foreign visitors in 2014. This, in a country with a population of 4.8m. In 2012 tourism contributed 12.5% of the country's GDP and it was responsible for 11.7% of direct and indirect employment. In 2010 the tourism industry was responsible for 21.2% of foreign exchange generated by all exports.

MAJJISTRAL NATURE AND HISTORY PARK MALTA

Majjistral Nature and History Park was set up in the aftermath of the government proposal to site a golf course in the Majjiesa area of Għajn Tuffieħa. Facing considerable popular opposition to the project, and after continuous lobbying to turn the area into a national park by Din l-Art Ħelwa, the government finally agreed to this.

The Park was set up by Legal Notice in September 2007 and was to have a Board of Management made up of a chairman appointed by the Minister, representatives from MEPA, the Estates Management Division and Parks Division, and representatives from three NGOs, namely - Din l-Art Ħelwa, Nature Trust and Gaia Foundation. The Mellieħa Local Council was later also appointed to the Board. The Park was to be managed by the three NGOs who set up the Heritage Parks Federation for this purpose. A formal agreement was signed on 27th January 2008 stipulating that the Park would receive an annual grant of €70,000 per annum from the government which would be administered by the Heritage Parks Federation and overseen by the Board of Management. The park has not been wholly successful in achieving its aims. Delays in government funding in the early years stalled the implementation of the management plans, while continued vehicular access, has hindered the conservation of much of the area.

The Federation has been supported by volunteers and companies who have helped in funding or clean ups to rehabilitate the area but funding remains a problem and there is little opportunity to raise funds from access fees or users, such as the horse riding establishments or from hotels built on the perimeter of the park.

Appendix E

PROTECTED AREAS IN MALTA TODAY

- There are 34 terrestrial Natura 2000 sites in Malta. Draft management plans have been drawn up for each site but the final versions were not yet available by the date of this Discussion Paper. Most sites are not yet professionally managed. The European Union has long appreciated the importance of protected areas, with its two pillars of biodiversity conservation - the Birds Directive¹² and the Habitats Directive.¹³ The Birds Directive requires designation of Special Protected Areas and the Habitats Directive deals with Special Areas of Conservation. These two directives together form the Natura 2000 network and each member state is required to bring these sites up to a favourable conservation status.
- Besides the Natura 2000 sites, some other natural areas in Malta are protected through national legislation.
- Common threats to Malta's protected areas include mass tourism, infrastructure including over-development, harmful agricultural practices, planting of invasive and non-native species and insufficient warden supervision and law enforcement. Low public awareness is also an issue and leads to further threats, such as dumping and lighting of fires. Recreational activities, such as rock climbing and off-roading, trampling and littering including spent shotgun cartridges, further threaten these areas along with vandalism and other illegal activities. Other threats include delays in implementing measures and legal frameworks and pressures from the TEN-T Development Plan (in particular for Għadira) (Natura 2000 draft management plans). Fresh water bodies may be polluted by fertilisers and pesticides.
- Climate change is causing pressure on biodiversity with major shifts occurring in the distribution and abundance of species (Cliquet, 2014). Temperature changes are expected, leading to warming with varying rainfall patterns, sea level rise and more frequent extreme weather. According to the Intergovernmental Panel on Climate Change (2007), climate change will compromise the ability to meet EU targets for biodiversity conservation.
- Legal instruments protecting important areas and their designation include government and legal notices issued under the Environment and Development Acts. International legislation includes the Bern Convention, EC Birds Directive, the EC Habitats Directive, the Ramsar Convention, and the Convention on Biodiversity. Further to this, there is the scheduling of smaller areas under different subsets, ecology, geology, geomorphology, amongst others.

¹² Birds Directive Council Directive 2009/147/EEC of 30 November 2009 amending directive 79/409/EEC of 2 April 1979 on the conservation of wild birds.

¹³ Habitats Directive – 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora.

TERRESTRIAL PROTECTED AREAS IN MALTA AND GOZO

- L-Inħawi tal-Buskett u tal-Girgenti** - This area is a Special Area of Conservation and Special Protection Area (GN 112 of 2007 as per LN 311 of 1986), Bird Sanctuary (LN79 of 2006), Tree Protection Area (GN 473 of 2011 as per LN 200 of 2011), Area of Ecological Importance/Site of Scientific Importance, Area of High Landscape Value and Scheduled Woodlands (GN 403 of 1996). It has been declared as an important Bird Area of EU importance by BirdLife Malta and a Global IBA by BirdLife International. A cluster of trees have been protected since 1933 (GN 269 of 1933) with some trees having antiquarian importance. As one of the few semi-natural wooded areas on the Maltese Islands, Buskett is rich in biodiversity, housing a number of species and biotopes. Species include *Pinus halepensis*, *Ceratonia siliqua*, isolated remnants of *Quercus ilex* and *Salix alba* (the only area where this species is known). It is also an important recreational area.
- L-Inħawi tad-Dwejra u tal-Qawra, Gozo** - This site is a Special Area of Conservation (GN 112 of 2007 as per LN 311 of 2006). Hagret il-General is designated an Area of Ecological Importance/Site of Scientific Importance (GN 827 of 2002), and is also a Nature Reserve (LN 22 of 1992) and a Special Protected Area (SPA Protocol, Barcelona Convention, 1986). Parts of this area have been designated important Bird Areas by BirdLife Malta and the site overlaps with the Natura 2000 sites Rđumijiet ta' Ġhawdex: il-Ponta ta San Dimitri sal-Ponta ta' Ħarrux & Rđumijiet ta' Ġhawdex: il-Ponta ta' Ħarrux sal-Bajja tax-Xlendi. Il-Qattara has a freshwater wetland, an Area of Ecological Importance/Site of Scientific Importance (GN 288 of 1995). It has been designated as a Tree Protection Area (GN 473 of 2011). Dwejra/Qawra is important for its unique character and range of landscapes along with rare geological features and important biodiversity. It is important for several economic activities that include agriculture, fishing, diving and other tourist-related activities with approximately 750,000 visitors annually. Dwejra/Qawra is also a proposed Heritage Park and has been nominated as a World Heritage Site. Features of the area include the Fungus Rock, the Azure Window and three subsidence structures. Dwejra and Qawra are characterised by a number of 'widien' or dry valley systems. It is rich in endemic and threatened species with a number of different communities, such as coastal cliff and rdum communities, cliff plateau and coastal communities, the 'widien' and Qattara freshwater pool. The site is also important for endangered and endemic species, such as the Maltese cliff-orache (*Cremnophyton lanfrancoi*) and the Maltese Hyoseris (*Hyoseris frutescens*) and the Maltese stocks, *Matthiola incana subsp. Melitensis*. Other endemic/important species are present, including the Maltese Wall Lizard (*Podarcis filfolensis generalensis*), a species endemic to Fungus Rock.
- Filfla u l-Gżejjer ta' madwarha** - These islands are a Special Area of Conservation, a Special Protection Area (GN 112 of 2007 and LN 311 of 2006) and a Bird Sanctuary (LN 79 of 2006). Filfla has been a Specially Protected Area since 1986 through the SPA Protocol (Barcelona Convention). It is also an Area of Ecological Importance/Site of Scientific Importance (GN 827 of 2002). LN 16 of 1987 prohibits berthing or navigation of any craft within one nautical mile radius off Filfla. It is a strict Nature Reserve (Act XV of 1988), hence access to the island is prohibited. Filfla is an offshore rocky islet, bounded by steep escarpments. It was used as a bombing target in the past and being isolated from the mainland has a unique ecosystem including endemic species. Examples of these include the snail *Lampedusa imitatrix* confined to Filfla and Miġra Ferħa, and the

snail *Trochoidea spratti*, endemic to Filfla. This tiny islet also has the largest breeding colony of the Storm Petrel and is the only known locality of the *Podarcis filfolensis filfolensis* lizard; this is the largest of these lizards found on the various Maltese islands.

- **L-Inħawi ta' Għajn Barrani, Gozo** - This is as a Special Area of Conservation (GN 112 of 2007 through LN 311 of 2006), a Tree Protection Area (GN 473 of 2011) and an Area of Ecological Importance/Site of Scientific Importance (GN 935 of 2006 as amended by GN 369 of 2008). It is characterised by a plateau known as il-Qortin ta' Għajn Damma and tal-Gabdoll which is now highly degraded as part of the official dumpsite of the Maltese Islands. It also forms part of the coastal cliffs ranging from Marsalforn to Ramla. It is characterised by a number of springs, providing an important habitat which is rare in Malta due to the scarcity of water. The site is in relatively good condition and supports rare species like the *Juncus acutus*. The area includes phrygana communities, halophytic communities and pre-desert scrub amongst others. Għajn Barrani provides records of the terrestrial snail *Sicilaria septemplex* which, if a living population is confirmed, would be of great biogeographical interest as the species is endemic to Sicily.
- **Għar Dalam** - This site is designated as a Special Area of Conservation (GN 112 of 2000 as per LN 311 of 2006) and an Area of Archaeological Importance under GN 358 of 1998. The site is a cave that runs back into the hillside, and is partly open to the general public. It contains fossilised bones of Malta's Pleistocene fauna and is the habitat of the endemic isopod, *Armadilidium ghardalamensis*, a priority species.
- **Iċ-Ċittadella, Gozo** - This site is a Special Area of Conservation (GN 112 of 2007 as per LN 311 of 2006). It is an area of High Landscape Value, an Area of Archaeological Importance along with the hill it lies on. The Ċittadella is scheduled under the Development Planning Act, and has fortifications and old buildings. It is also the habitat of a number of endemics such as *Darniella Melitensis*, siculo-maltese endemics such as *Antirrhinum siculum* and pelagic endemics such as *Linaria pseudolaxiflora*.
- **Il-Ballut ta' Marsaxlokk** - This site is a Special Area of Conservation (GN 112 of 2007 as per LN 311 of 2006). The saline coastal wetland at il-Magħluq is scheduled as an Area of Ecological Importance/Site of Scientific Importance (Development Planning Act, GN 1069 of 2006). It is also a Bird Sanctuary (LN 79 of 2006). It was originally a series of fishponds but eventually formed a marshland, which is rare in Malta. It is the habitat of the *Juncetalia maritimi* communities, the endangered *Carex extensa*, *Brachygluta globulicolis aubei* and *Brachygluta simplex hipponensis* which have restricted distribution and are associated with halophytic plants. Another endangered species present here is the *Hydrobia acuta*, whilst the *Aphaniosoma grisescens* is only reported from this site. There are also a number of invertebrates associated with saline marshlands with a restricted distribution.
- **Il-Ballut tal-Wardija** - This site is a Tree Protected Area (GN 473 of 2011) and its holm oak trees are protected for their historical importance (GN 269 of 1933). The site is a Special Area of Conservation (GN 112 of 2007 as per LN 311 of 2006) and is characterised by the *Quercus ilex*, supporting the oldest known population of these trees, some of which are 500 to 900 years old. There is also a self-generating woodland mainly based on the *Pinus halipensis*. The site also has permanent springs. Other rare tree

species include the *Rhamnus alaternus* and the *Myrtus communis* both with restricted distribution across the Islands.

- **Il-Gzejjer ta' San Pawl (Selmunett)** - This site is a Special Area of Conservation (GN112 of 2007 via LN 311 of 2006), a Nature Reserve (LN 25 of 1993) and a Special Protected Area (SPA Protocol – Barcelona Convention, 1986). These islands are located along the North-Eastern side of Malta and are separated by a low land bridge that is submerged in rough weather. Due to exposure to the sea, vegetation is characterised by its extreme halophytic element with dominant species like *Arthrocnemum glaucum* and *Mesembryanthemum nodiflorum*. Also present is the extremely rare *Limonium zeraphae* which is endemic. There is a good population of the very critically endangered *Linaria pseudolaxiflora*. The species *Podarcis filfolensis kieselbachi* lizard (Bern Convention Annex II; Habitats Directive Annex IV) is endemic and different to the version found on the mainland, *Podarcis filfolensis maltensis*. Rats are a growing problem in this area.
- **Il-Magħluq tal-Baħar ta' Marsascala** - This site is an Area of Conservation (GN 112 of 2007 via LN 311 of 2006), and an Area of Ecological Importance/Site of Scientific Importance (Development Planning Act, GN 288 of 1995). Il-Magħluq is a brackish water body formed from two fishponds, thus it represents one of the few marshes in Malta. Located at the mouth of a large valley system and within a highly urbanised area, the site supports communities of the *Juncetalia maritimi* and various halophytic plants.
- **Il-Maqluba** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006) and a Tree Protection Area (GN 473 of 2011 via LN 200 of 2011). Lying on the outskirts of Qrendi, the site is probably a doline and is the largest that is completely isolated from the sea, providing a unique habitat within the Maltese Islands. It supports a dense maquis, with a notable population of *Laurus nobilis*, a locally rare species, making the site important. It is also important for the macrofungi and myxomycetes species, many of which are confined to the site or have restricted distribution on the Islands. The walls support a population of the *Tetraclinis articulata*, which is considered rare and is known only from Malta and Spain within the Mediterranean. This species has a Maghrebian affinity. A paleoendemic with North African/Saharan affinities that is found there is the *Darniella melitensis*.
- **Il-Qortin tal-Magun u l-Qortin il-Kbir, Gozo** - This site is a Special Area of Conservation (GN112 of 2007 via LN 311 of 2006). Il-Qortin Isopu and il-Qortin il-Kbir are Areas of Ecological Importance/Sites of Scientific Importance (GN 712 of 2006). The site has one of the best examples of phrygana on the Maltese Islands. It is characterised by Anthyllis phrygana, labiate garrigue and pre-desert scrub with species such as *Thymus capitata*, *Euphorbia melitensis* and *Cistus monspeliensis*. A number of kamenitzas are also present.
- **L-Inħawi tar-Ramla, Gozo** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006) and an Area of Ecological Importance (Development Planning Act, GN 7 of 1995). It lies between two headlands and at the mouth of a valley system. It has the only intact sand dune on the Maltese Islands with a number of sand dune species, such as *Euphorbia terracina* and *Pancratium maritimum*. These support a number of sand-associating invertebrates with restricted distribution on the Islands.

The Centaureo-Ononidetum ramosissimae fixed dune community is dominated by the *Ononis natrix* subsp. *Ramosissima* and *Euphorbia terracina*. A good population of the sand cricket *Brachytrupes megagephaus* is present. The site is also the only known extant for the endemic and critically endangered *Pseudoseriscius cameroni*.

- **Is-Salini** - The site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). Kennedy Grove and Salina Area are also designated as a Bird Sanctuary (LN79 of 2006). The saline marshland, garrigue, grove and rocky steppe are scheduled as an Area of Ecological Importance/Site of Scientific Importance (Development Planning Act, GN 402 of 1996) and the trees at Kennedy Grove are scheduled under GN 402 1996 in terms of Section 48 of the Development Planning Act, 1992). One of the last remaining salt marshes on the Maltese Islands, is-Salini supports a number of endemic flora and fauna. Examples of these are the rare salt marsh bindweed *Calystegia sepium* and the Borrer's salt marsh grass *Puccinellia fasciculata*. The *Pisuara maderiana* is only known in two localities, is-Salini being one of them, and is only found in Malta and Madeira. The inner parts of a canal running along the salt pans is characterised by the *Phragmites australis*, which is important to reed associating birds. The site is an important ornithological site for migratory birds.
- **Is-Simar (l/o San Pawl il-Baħar)** - this site is a Special Area of Conservation and a Special Protection Area (GN 112 of 2007 via LN 311 of 2006). It is also a Wetland of International Importance under the Ramsar Convention (1996) and a Bird Sanctuary (LN 79 of 2006), an Area of Ecological Importance/Site of Scientific Importance (Development Planning Act via GN 1070 of 2006, amended by GN 371 of 2008). Part of the site is used for agricultural purposes, and it has garrigue represented by a mosaic of labiate garrigue and rocky andropogonid grass steppe. The wetland is brackish due to its proximity to the sea and has been artificially recreated, yet is considered important as a habitat for killifish, *Aphanius fasciatus*, despite this species not naturally occurring here. Is-Simar provides a habitat for a number of migratory birds such as rails, bitterns, moorhens and warblers, all associated with reeds.
- **Ix-Xagħra tal-Kortin** - This site is designated as a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). The saline marshland of Wied il-Mistra (l/o Mellieħa and San Pawl il-Baħar) is scheduled as a Level 1 Area of Ecological Importance and Area of High Landscape value (GN 400 of 1996. It is also an Area of Ecological Importance/Site of Scientific Importance (GN 288 of 1995). This latter classification is due to the isopod *Trischoniscus halophilus*, known only from this locality, the rare *Juncus acutus* and the occurrence of certain woodlice species. The site also has a transitional water body that is protected (LN 194/04). The site is a mosaic of boulders, forming a boulder scree landscape with typical communities. Due to this inaccessibility, flora are often in pristine conditions, a number of which are included in the National Red Data Book, as for example, the *Convolvulus oleifolius* and the *Sedum caeruleum*. The site is entirely privately owned.
- **Kemmuna u l-Gzejjer ta' Madwarha:** Comino is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). Ir-Ramla ta' Kemmunett is scheduled as a Site of Scientific Importance while Kemmunett is an area of Ecological Importance/Site of Scientific Importance (GN 827/2002). Il-Ġebel ta' Bejn il-Kmiemen is an Area of Ecological Importance (GN 827/2002) and the areas at il-Ħażina and Il-Qala ta' Santa Marija are

Tree Protection Areas (GN473 of 2011 via LN 200 of 2011). Il-Qala ta' Santa Marija sand dune and salt marsh is scheduled as a Level 1 Area of Ecological Importance/Site of Scientific Importance (DPA –GN 401/96. Kemmuna is also designated a Bird Sanctuary (Env Protection Act (Act No. XX of 2001, LN 27 of 2006). It has also been designated by BirdLife International as an important Bird Area of Malta and thus is a Global Important Bird Area. The site is a small island lying in the channel between Malta and Gozo made up of a number of small islets. The cliff sides are characterised by scarps and boulders and are colonised by typical rupestral vegetation. Rare endemics found on the islands include the *Limonium zeraphae* (listed as rare), *Limonium melitensis*, *Anacamptis urvilleana* (also listed in the national RDB, an orchid with restricted distribution on the Maltese Islands) and a number of others. The landscape has a number of typical Maltese and Mediterranean landscapes.

- **L-Inħawi tal-Għadira** - The site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). L-Għadira area from il-Bajja tal-Mellieħa to Iċ-Ċumnija is an Area of Ecological Importance/Site of Scientific Importance (GN 491 of 2006 (DPA) and a Bird Sanctuary (LN79 of 2006). Il-Hofra (the saline marshland) is an Area of Ecological Importance (GN 288 of 1995) and in 1988 the site was declared a Wetland of International Importance under the RAMSAR Convention. L-Għadira marshland is internationally designated as a Specially Protected Area through the SPA Protocol of the Barcelona Convention (1986). The site has a number of different habitats including a saltmarsh and wetland area, sand dunes, garrigue/phrygana, steppe and agricultural land. The garrigue area contains the rare orchid *Barlia robertiana*. The wetland has been engineered to form a brackish wetland that is very important for migrating birds. It is also a habitat for killifish (*Aphanius fasciatus*). The dune system is very degraded but is important for the species that it supports, including a small population of the sand cricket.
- **L-Għadira s-Safra** - The site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). The freshwater wetland is designated an Area of Ecological Importance (GN 288 of 1995 as per DPA of 1992) and a Level 1 Site of Scientific Importance (Structure Plan Policy RCO 12). Situated between Qalet Marku and Għallis, this consists of a "transitional coastal wetland" supporting freshwater habitats during the wet period. It also is one of two locations that support the Prickle Grass (*Crypsis aculeate*), listed in the National RDB as endangered. Also found are the Tadpole Shrimp (*Triops cancriformis*) (also listed as rare) and Fairy Shrimps.
- **L-Għar tal-Iburdan u L-Inħawi tal-Madwar** - this site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). Though partly natural, it has been greatly extended by man and has a two storey plan. The cave is important for the bat species that inhabit it, but also for the Roman cave systems making it an important archaeological site.
- **L-Inħawi tal-Imġiebaħ u tal-Miġnuna** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). Il-Wied is a Tree Protection Area (GN 473 of 2011 via LN 200 of 2011). The area is also designated an Area of Ecological Importance/Area of High Landscape Value (GN 400 of 1996). Due to the ancient *Quercus ilex* found there, the area is listed in the List of Historical Trees having Antiquarian Importance (GN 269 of 1933). This is the largest single site designated a Special Area of Conservation on the Maltese Islands. It is essentially made up of coralline limestone outcrops and blue clay;

the slopes are characterised by a mosaic of chasmophytic vegetation and vegetated sea cliffs. The plateau consists of a mosaic of pre-desert scrub and Mediterranean salt steppe. A permanent spring is present and is used for agricultural activities in the area. Due to its habitats, the labiate garrigue, clay slope steppe, cliff and boulder scree amongst others, many endemic species are present.

- **L-Inħawi ta' Ta' Ċenċ, Gozo** - This site is a Special Area of Conservation (GN 859 of 2008 via LN 311 of 2006), a Special Protection Area (Rdumijiet ta' Ghawdex: Ta' Ċenċ) and Wied Mgarr ix-Xini (GN937 of 2011) falls within this site, which is an Area of Ecological Importance/Site of Scientific Importance. The cliffs are designated as a Bird Sanctuary (LN79 of 2006) and are scheduled (DPA, GN 853 of 2005 – Level 1 Site of Scientific Importance). BirdLife Malta designated them an Important Bird Area of EU and BirdLife International designated them a Global Important Bird Area. Ta' Ċenċ's landscape covers sheer cliffs, a steep escarpment, an extensive karstic plateau, former terraced fields and a promontory. Habitats include maritime steppe communities, rupestral communities, mosaics of grasslands, ermes, phrygana and pre-desert scrub communities and archaeophytic vegetation. Species such as *Cremnophyton lanfrancoi*, *Matthiola incana ssp. Melitensis* are supported by this area, along with fairy shrimps and the amphibian *Discoglossus pictus*.
- **L-Inħawi ta' Pembroke** - This site is a Special Area of Conservation (GN112 of 2007 via LN 311 of 2007), an Area of Ecological Interest/Site of Scientific Importance (GN 583 of 1996). Habitats include garrigue and rocky steppe due to the karstic terrain found there. The garrigue is characterised by *Anthyllis hermanniae* and *Thymus capitatus*, whilst the rocky steppe is characterised by *Hyparrhenia hirta* and *Urginea pancracion* (listed in the NRD book due to its limited distribution in the Mediterranean).
- **L-Inħawi tar-Ramla tat-Torri u tal-Irdum tal-Madonna** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). The sand dunes are an Area of Ecological Importance/Site of Scientific Importance (GN 400 of 1996). The Rdum tal-Madonna area has been designated as an Important Bird Area of EU Importance by BirdLife Malta and an Important Bird Area by BirdLife International. Coastal habitats, boulder scree communities, a sand dune community and rupestral communities are present. Garrigue dominates a large area of this site and its coastal cliffs are important as a seabird breeding site, in particular the *Puffinus yelkouan*. Endemics such as *Darniella melitensis*, *Euphorbia melitensis* and *Limonium melitensis* also grow here.
- **Rdumijiet ta' Ghawdex: Ta' Ċenċ, Gozo** - This site is a Special Protection Area (GN 859 of 2008 via LN 311 of 2006), partly a Special Area of Conservation (L-Inħawi ta' Ta' Ċenċ), the 'wied' is an Area of Ecological Importance/Site of Scientific Importance and the cliffs a Bird Sanctuary (LN79 of 2006). The cliffs are also scheduled (GN 853 of 2005 – Level 1 Site of Scientific Importance). BirdLife Malta has designated the area as an Important Bird Area of EU Importance whilst BirdLife International has designated the Area as a Global Important Area. Karstland, formerly cultivated fields and cliffs supporting rupestral and maritime phrygana/ steppe communities. The cliffs are also important for breeding sea birds having a large population of Cory's Shearwater.
- **Rdumijiet ta' Ghawdex: Id-Dawra tas-Sanap sa Tal-Ħajt, Gozo** - This site is a Special Protected Area (GN 112 of 2007 via LN 311 of 2006). It overlaps with the site, Xlendi –

Wied Tal-Kantra Area, designated a Special Area of Conservation (GN 112 of 2007 via LN 3111 of 2006). It also overlaps within the scheduling of Wied il-Lunzjata/Wied ix-Xlendi – Wied il-Kantra as an Area of Ecological Importance/Site of Scientific Importance (GN 856 of 2000). BirdLife Malta has also designated this site as an Important Bird Area of EU Importance.

- **Rdumijiet ta' Għawdex: Il-Ponta ta' Harrux sal-Bajja tax-Xlendi, Gozo** - This site is designated as a Special Area of Protection (GN 112 of 2007 via LN 311 of 2006).
- **Rdumijiet ta' Għawdex: Il-Ponta ta' San Dimitri sal-Ponta ta' Harrux, Gozo** - This site is a Special Area of Protection (GN 112 of 2007 via LN 311 of 2006) and partly falls within the Dwejra/Qawra protected area and is thus designated a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). Il-Qawra is a Bird Sanctuary (LN 79 of 2006) and the freshwater wetland is as an Area of Ecological Importance/Site of Scientific Importance (GN 288 of 1995). Haġret il-Ġeneral is also an Area of Ecological Importance/Site of Scientific Importance (GN 827 of 2002) and is a Nature Reserve (LN 22 of 1992) and a Specially Protected Area (under the Barcelona Convention, 1986). The area was also designated as an Important Bird Area of EU Importance by BirdLife Malta. The cliffs are important for sea birds, the *Calonectris diomedea* and the *Puffinus yelkouan*.
- **Rdumijiet ta' Malta: Ir-Ramla taç-Ċirkewwa sal-Ponta ta' Bengħajsa** - This site is a Special Area of Conservation (GN 122 of 2007 via LN 311 of 2006). Rdumijiet ta' Malta: Ras il-Pellegrin sa ix-Xaqqa & Rdumijiet ta' Malta: Ix-Xaqqa sa Wied Moqbol fall within this site and are Special Protection Areas. It contains Tree Protection Areas (LN 200 of 2011). The full length of the coastal area is an Area of Ecological Importance/Site of Scientific Importance (GN 400 of 1996). Ir-Ramla tal-Mixquqa has its own designation (GN 401 of 1996) as does Għajn Tuffieħa (GN 117 of 1995). It contains Areas of Ecological Importance/Sites of Scientific Importance (GN 63 of 1996 and GN 288 of 1995). This area is characterised by cliffs that in some areas are sheer whilst in others offer gently rolling landscapes comprised of blue clay. There are also plateaus, boulder scree (rdum) and dry coastal valleys. Habitats include garrigue, agricultural fields, perennial springs, rocky steppe, rupestral, cave, rdum amongst others. Some areas are important for tourism. It is also important for a number of endemics like *Darniella Melitensis* and the rare *Senecio leucanthemifolius*.
- **Rdumijiet ta' Malta: Ix-Xaqqa sa Wied Moqbol** - This site is a Special Area of Protection (GN 112 of 2007 via LN 311 of 2006). It falls within a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). The 'wied' is a Tree Protection Area (GN 473 of 2011) and falls within an Area of Ecological Importance (GN 400 of 1996). This site is important for sea birds *Calonectris diomedea* and *Puffinus yelkouan* and has been designated as an Important Bird Area of EU Importance by BirdLife Malta.
- **L-Inħawi tax-Xlendi u tal-Wied tal-Kantra** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006). It overlaps with Rdumijiet ta' Għawdex: il-Ponta ta' Harrux sa il-Bajja tax-Xlendi and Rdumijiet ta' Għawdex: Id-Dawra Tas-Sanap sa Tal-Hajt. It is in the major part, designated a Site of Ecological Importance/Site of Scientific Importance (GN 856 of 2000) along with the area of Il-Fekruna (GN 721 of 1995). It has two sites selected as Important Bird Areas by BirdLife Malta. This site is the largest protected area in the Maltese Islands and includes valley systems, agricultural land,

escarpments, promontories and sea cliffs. These diverse habitats support many flora and fauna, and endemics. The site is important for migratory birds and is one of the few remaining places with a perennial freshwater supply. It supports *Potamon fluviatile lanfrancoi* (Maltese freshwater crab).

- **Rdumijiet ta' Malta: Ras il-Pellegrin sax-Xaqqa** - This site is a Special Protection Area (GN 112 of 2007 via LN 311 of 2006) and falls within a Special Area of Conservation (GN 112 of 2007, Rdumijiet ta' Malta: Ir-Ramla taç-Ċirkewwa sal-Ponta ta' Bengħajja). It is an Area of Ecological Importance/Site of Scientific Importance (GN 400 of 1996 and GN 64 of 1996) and was designated as an Important Bird Area of EU Importance by BirdLife Malta. It is mainly characterised by sea cliffs and boulder screes.
- **Rdumijiet ta' Malta: Wied Moqbol sal-Ponta ta' Bengħajja** - This site is a Special Protection Area (GN 812/08 via LN 311 of 2006) within a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006, Rdumijiet ta' Malta: Ir-Ramla taç-Ċirkewwa sal-Ponta ta' Bengħajja). It was designated an Important Bird Area of EU Importance by BirdLife Malta. It is characterised by sea cliffs, boulder slopes, sea caves and valleys whilst also being an important breeding area for *Puffinus yelkouan* and *Calonectris diomedea*.
- **Wied Mizieb** - This site is a Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006) and a Tree Protection Area (GN 473 of 2011 via LN 200 of 2011). This site supports the largest population of the National Tree *Tetraclinis Articulata*, a local tree with restricted distribution. Habitats include phrygana and pre-desert scrub, and include species such as *Euphorbia melitensis*, *Thymus capitatus* and *Carlina involucreta*, besides Olea-Ceratonia forests.
- **Il-Majjistral Nature and History Park** - This site is protected under the Development Planning Act, 1992, the Environment Protection Act, 2001, the Malta Resource Authority Act, 2001 and the Cultural Heritage Act, 2002. This area is designated as a National Park and has a number of historical and archaeological sites, important flora and fauna and agricultural areas. It overlaps with a Natura 2000 site (Rdumijiet ta' Malta: ir-Ramla taç-Ċirkewwa sa r-Ramla tal-Mixquqa) and harbours phrygana communities, aerohaline communities, pre-desert scrub communities, labiate garrigues and a sandy beach. The sandy beach is very popular in summer with high visitor numbers. It is also important for the *Monticola solitarius*, amongst other birds. A stream running through it is ephemeral.
- **Wied Għollieqa** - This site is designated as a bird sanctuary (LN 79 of 2006), an area of Ecological Importance/Site of Scientific Importance (GN 241/97 amended by GN 869/09). It is also a nature reserve and a tree reserve (LN 012/01) and a Special Area of Conservation (LN112/07). The area is important for native and archaeophytic trees such as *Ceratonia siliqua*. It is known to be the habitat of the *Mustela nivalis* (weasel), rare fungi, a large population of the *Tetraclinis articulata* (sandrac gum tree), amongst other important ecological species (Engerer, 2010).
- **Foresta 2000** - This site overlaps with the Għadira Nature Reserve and thus is designated a Special Area of Conservation and a Special Protected Area as per the site. It is important for a number of endemics, such as the *Euphorbia Melitensis*, *Chiliadenus bocconei* and *Darniella melitensis*. It also has a large number of *Tetraclinis articulata*,

Malta's national tree and also around 500 *Quercus ilex*, a rare but important tree for Malta. As it is partly within the Għadira Nature Reserve, a 500m no hunting zone acts as a buffer for the Reserve. The afforestation project is jointly managed by BirdLife Malta, Din l-Art Hejwa and government.

- **Xrobb l-Għaġin Nature Park**-This park is important not only for its ecological restoration but also for the restoration of the former Deutsche Welle building, a former radio station. Nature Trust Malta manages the site and has incorporated energy efficiency measures on the building including thermal efficiency, natural lighting and renewable energy (both wind and photovoltaic panels). The site is important for halophytic flora, along with wind resistant shrubs, such as the *Darniella melitensis* and *Atriplex halimus* (NTM 2010). Up to 15,000 trees have been planted at Xrobb l-Għaġin. The site doubles up as an education centre for Maltese flora and fauna and energy efficiency.

MARINE PROTECTED AREAS

- **Zona fil-Baħar bejn Rđum Majjiesa u Ras ir-Raheb**
 - Designation: Special Area of Conservation (GN 112 of 2007 via LN 311 of 2006)
 - Characteristics: besides the diverse and rich biota, the area is important for its geomorphological characteristics that include various landscapes and bottom types. There is an extensive boulder field, steep submarine slopes and vertical cliffs. The biota includes large beds of the seagrass *Posidonia oceanica*.
- **Zona fil-Baħar fl-Inħawi ta' Għar Lapsi u ta' Filfla**
 - Designation: Special Area of Conservation of International Importance (GN 851 of 2010 via LN 311 of 2006). LN 117 of 1975 re berthing regulations (one nautical mile radius of Filfla is a no berthing zone).
 - Characteristics: This is a priority habitat for the sea grass *Posidonia oceanica*. The island is a strict nature reserve and an Important Bird Area.
- **Zona fil-Baħar fl-Inħawi tad-Dwejra (Għawdex)**
 - Designation: Special Area of Conservation of International Importance (GN 851 of 2010 via LN 311 of 2006).
 - Characteristics: Complex features of scientific importance including geomorphological, ecological, historical and aesthetic features. There are also extensive beds of *Posidonia oceanica*.
- **Zona fil-Baħar fl-Inħawi ta' Mġarr ix-Xini (Għawdex)**
 - Designation: Area of Conservation of International Importance (GN 851 of 2010 via LN 311 of 2006).
 - Characteristics: Vertical face and drops off along the shore characterised by boulders and large cobbles. The area also forms a habitat for the *Pinna nobilis*.
- **Zona fil-Baħar fil-Grigal ta' Malta**
 - Designation: Special Area of Conservation of International Importance (GN 851 of 2010 via LN 311 of 2006).
 - Characteristics: Justification for this large site is based on SLOSS (Single Large or Several Small). This area hosts the largest variations of the *Posidonia* subtypes.

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