



MALTA'S NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN 2012-2020



WORKING HAND-IN-HAND WITH NATURE

FOREWORD

Recognising the importance of biodiversity - our natural capital - for the benefit of present and future generations

As Minister for Tourism, Culture and the Environment, it gives me great pleasure to publish Malta's National Biodiversity Strategy and Action Plan (NBSAP) for adoption. This national policy comes at a time when there is widespread recognition of the need to urgently step up efforts to secure progress in halting biodiversity loss by 2020 and to place it on a course of recovery.

Through the adoption of the NBSAP, commitment has been made to achieve national targets by 2020 in support of Malta's natural heritage. Some of the targets address both direct pressures and underlying causes of biodiversity loss. A number of other targets are aimed at improving the status of Malta's biodiversity and enhancing the benefits from biodiversity and associated life-supporting services.

The finalisation of the NBSAP fulfils one of the requirements for the National Environment Policy by providing the comprehensive strategic framework to protect Malta's biodiversity. The conservation and sustainable use of biodiversity has a positive impact on the standard of living and on sectors such as tourism that are central for generating commercial activity and employment. On the other hand, such sectors must continue to develop in a sustainable manner and in ways that respect biodiversity and enrich our environment. It is therefore important that biodiversity is integrated in the relevant policies that directly or indirectly affect biodiversity. This is indeed one of the main aims of Malta's NBSAP.

The NBSAP measures that accompany the targets will serve not only to improve the status of our biodiversity but also to address drivers of its loss in a mutually-supportive and cost-efficient manner with the cooperation of relevant sectors. The NBSAP also responds to the need to fill knowledge gaps on biodiversity, especially in the context of the marine environment and to mobilise resources in support of effective conservation action. The period covered by the NBSAP also overlaps with the Decade on Biodiversity, which has been declared by the United Nations as a worldwide call to raise awareness on valuing the importance of biodiversity. In this respect, the NBSAP also aims to yield results in terms of increasing awareness on biodiversity and engaging the public in supporting conservation initiatives in their localities.

Consultations on the NBSAP have contributed towards further refining the document, which reflects national goals for safeguarding Malta's biodiversity for the welfare of present and future generations. The achievement of these targets will necessitate broad participation, ownership, commitment and collective action in order to secure implementation of the various measures set out in the NBSAP.

Considering the linkages between biodiversity and other environmental challenges such as air and water quality, climate change regulation, provision of natural resources and goals of achieving a low-carbon and green economy and sustainable development, the NBSAP will bring mutual benefits to Malta's environment and that of relevant sectors, as well as to our overall well-being.

Safeguarding Malta's biodiversity presents many challenges in view of the country's inherent characteristics as a densely populated small island state. However, I am confident that, we can work together to place Malta on the right track to meet its environmental goals, as well as contribute toward achieving the 2020 global and EU targets for biodiversity.



Mario de Marco
Minister for Tourism, Culture and the Environment

FOREWORD

Working Hand-in-Hand with Nature

The Maltese Islands support a wealth of native animals and plants, and diverse habitats, which are part of our natural heritage. Biodiversity underpins a healthy and sustainable environment.

Many sectors, such as agriculture and fisheries, are ultimately dependent on biodiversity for their sustained productivity. The Maltese countryside is also important for outdoor recreation, cultural activities, tourism and overall human well-being.

Unfortunately, biodiversity can be threatened by man-made pressures such as pollution and over-exploitation. Consumer choices and lifestyles can also indirectly cause the loss of biodiversity and the inefficient use of natural resources.

Malta's National Biodiversity Strategy and Action Plan (NBSAP) addresses the need to preserve our biodiversity and ecosystem services by strengthening the integration of biodiversity considerations within decision-making as well as within the policies, plans and programmes of those sectors that act as drivers of biodiversity change.

Malta's NBSAP adopts a long-term vision and sets out national targets with action-driven and outcome-oriented measures grouped under thematic areas. The NBSAP acts as a policy driver to set Malta on the right track to meet its biodiversity and environmental objectives as identified in Malta's National Environment Policy (2012), as well as the 2020 global and EU targets for biodiversity.

Various ongoing activities already contribute towards reaching our national targets, for example, progress in building a national network of protected areas in Malta and Gozo, activities aimed at raising awareness of the importance of biodiversity, and the implementation of EU-funded projects such as the LIFE Migrate Project and the EAFRD project on Natura 2000 management planning for Malta and Gozo.

We must work hand-in-hand with nature to ensure that our biodiversity is safeguarded, both for present and future generations. The NBSAP is an important milestone in this endeavour.



Petra Caruana Dingli
Director for Environment Protection

Abbreviations:

ABS – Access and Benefit Sharing
CBD – Convention on Biological Diversity
CDDA – Common Database on Designated Areas
CEPA – Communication, Education and Public Awareness
CFP – Common Fisheries Policy
CHM – Clearing House Mechanism
CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora
CORINE – Coordination of Information on the Environment
EEA – European Environment Agency
EIA – Environmental Impact Assessment
HNVF – High Nature Value Farmland
IUCN – International Union for Conservation of Nature
GAEC – Good Agricultural and Environmental Conditions
GHG – Greenhouse Gas
GMO – Genetically Modified Organism
GPP – Green Public Procurement
IAS – Invasive Alien Species
ICZM – Integrated Coastal Zone Management
MAT – Mutually Agreed Terms
MEA – Multilateral Environmental Agreement
MSFD – Marine Strategy Framework Directive
MSY – Maximum Sustainable Yield
NBSAP – National Biodiversity Strategy and Action Plan
NEP – National Environment Policy
ODZ – Out of Development Zone
PIC – Prior Informed Consent
PoW – Programme of Work
SEA – Strategic Environmental Assessment
SEBI – Streamlining European Biodiversity Indicators
SMR – Statutory Management Requirement
SoER – State of Environment Report
TEEB – The Economics of Ecosystems and Biodiversity
UAA – Utilised Agricultural Area
UNCCD – UN Convention to Combat Desertification
UNCLOS – UN Convention on Law of the SEA
WFD – Water Framework Directive

Biodiversity encompasses the variety and variability of all life on earth. The array of native and endemic species of plants and animals as well as the diverse natural and semi-natural habitats found on our islands, not only constitute Malta's biodiversity (natural capital), but also maintain important life-supporting ecosystem services.

Ecosystem services include the essential provision of food, raw materials, freshwater and clean air, as well as the control of natural processes, such as climate and disease regulation, pollination and the maintenance of soil fertility. These services are fundamental for human well-being and for economic development, as they play an important role in safeguarding health, protecting against natural hazards, providing clean water, adapting to climate change, and maintaining a secure supply of food.

Biodiversity also provides other key benefits to the Maltese community, including scenic, recreational, scientific, educational, cultural and socio-economic benefits. The use of local biological resources also provides the country with a degree of self-sufficiency and reduces our reliance on the importation of foreign produce and resources. It also minimises the risk of the introduction of invasive non-native species and pests associated with plants and plant products, which could severely impact Maltese agriculture and horticulture, not to mention other environmental and socio-economic impacts that these could cause.

Biodiversity underpins sustainable development and is central to the achievement of environmental goals. There is growing concern about the unprecedented rate of global biodiversity loss. Direct drivers of biodiversity loss include pollution and nutrient overload, over-exploitation of resources, land fragmentation and soil erosion, climate change and biological invasions. Socio-cultural factors, such as lifestyle and consumer choices, can be indirect drivers of biodiversity loss and the disruption of ecosystems.

The principal threats to Malta's biodiversity are documented in the 2005 and 2008 editions of the 'Malta State of the Environment Report' issued by the Malta Environment and Planning Authority. These reports document that biodiversity in Malta faces similar threats to those exerted throughout the European Union. Unsustainable activities threaten our natural heritage and undermine efforts to safeguard it.

Protecting Malta's biodiversity presents a big challenge. Malta has a very small land mass, coupled with the highest population density in Europe. As a small island state, Malta faces the challenge of meeting the future demands of a growing population for land, water, food and energy, while at the same time halting the loss of biodiversity and the degradation of ecosystem services. This challenge is exacerbated by other environmental concerns, which are inherent to our isolated and insular ecosystems.

The status of Malta's biodiversity is still not understood well enough. The status of 36% of Maltese species and 29% of Maltese habitats listed in the EC Habitats Directive is still unknown; a significant number of these relate to the marine environment. These knowledge gaps hinder the development and implementation of effective protection and conservation. In addition, 44% of species and 64% of habitats do not have a favourable conservation status and hence require enhanced conservation action.

Targets for halting the loss of biodiversity by 2010 have not been met within the European Union, and the reasons for this are also relevant to Malta. These include 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.

Over the last few years, significant positive steps have been made towards the support of biodiversity. These include 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. Awareness-raising activities were organised in 2010 which was the 'International Year of Biodiversity'. Similar activities were also undertaken in 2011 and are ongoing to celebrate the United Nations Decade on Biodiversity. These activities are also in line with the requirements of the Convention on Biological Diversity (CBD), which is the main global treaty on biodiversity. The European Union and Malta are Parties to this Convention and are thereby required to contribute to the achievement of its three objectives: the conservation of biological diversity; the sustainable use of components of biological diversity; and, the fair and equitable sharing arising out of the utilisation of genetic resources.

The National Biodiversity Strategy and Action Plan for Malta (NBSAP) is given the theme 'Working Hand-in-Hand with Nature'. It establishes the long-term vision that *"All Maltese citizens will value the importance of Malta's biodiversity and work hand-in-hand with nature in their daily lives. Efforts aimed at sustainable and more resource-efficient choices and actions by local communities and relevant sectors have contributed to a significant improvement in the status of Malta's biodiversity and associated ecosystem services, for the well-being of present and future generations."*

The main purpose of Malta's NBSAP is to serve as a national policy driver to further integrate biodiversity concerns into the plans, programmes and policies of those sectors, which are beneficiaries of ecosystem services and/or that may affect Malta's biological and natural resources. Malta's NBSAP also directly addresses all three pillars for conserving biodiversity and ecosystem services as defined in the National Environment Policy (NEP). The NBSAP provides a comprehensive policy framework for protecting biodiversity in the Maltese Islands. It also aims at improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity, as well as by reducing pressures on biodiversity and promoting sustainable use.

Malta is required to align its NBSAP with the CBD's Biodiversity Strategic Plan 2011-2020 and its 20 Aichi targets as well as conform to the EU Biodiversity Strategy to 2020 and its 6 targets (*vide Annex I*). Malta's targets must also be in accordance with national priorities and capacities, and contribute to collective global efforts to reverse global trends in biodiversity loss.

By 2020, the following targets will be achieved¹:

Policy Area: Addressing the underlying causes of biodiversity loss

- **Target 1:** More than 55% of Maltese citizens are aware of the term “biodiversity”, know what it means and also know what steps they can take to conserve and use biodiversity in a sustainable manner².
- **Target 2:** The values of biodiversity and ecosystem services, and the opportunities derived from their conservation and sustainable use, are recognised and integrated in national policies (including national accounting, as appropriate), as well as decision-making and planning processes.
- **Target 3:** Positive incentives for conservation and sustainable use of biodiversity are increasingly promoted. Malta cooperates in efforts to address environmentally harmful subsidies.
- **Target 4:** Main sectors that are beneficiaries of ecosystem services have incorporated biodiversity concerns into their sectoral and cross-sectoral plans, policies and programmes, as appropriate.

Policy Area: Reducing the direct pressures of biodiversity

- **Target 5:** The rate of loss of natural and semi-natural habitats of conservation value is at least halved, and degradation and fragmentation is significantly reduced. The percentage cover of “forests and semi-natural areas” has not decreased below the CORINE land cover data of 2006³.
- **Target 6:** Pressure on vulnerable ecosystems through overexploitation of biological resources is reduced by adopting sustainable practices.
- **Target 7:** Areas under agriculture and aquaculture are managed sustainably, ensuring the conservation of biodiversity.
- **Target 8:** The implementation of effective measures to address pollution (including from excess nutrients) in line with the requirements of established legislation, is showing signs of a decreasing trend in current pollution levels, where feasible.
- **Target 9:** Measures are in place to prevent, in so far as practical, the introduction and establishment of new invasive non-native species, while those that are established are identified and prioritised for eradication or control, where feasible.

Policy Area: Improving the status of biodiversity

- **Target 10:** Malta's 13% land area covered by terrestrial Natura 2000 sites is maintained, and Malta's sufficiency in the designation of key marine biodiversity areas is improved through a representative network of marine protected areas.
- **Target 11:** The risk of local extirpation of known threatened species has been reduced, with 30% of the species of European Community Importance in the Maltese territory having a favourable or improved conservation status⁴.

¹ These targets are indicative, and may be reviewed in 2014, when the outcome of Malta's assessment of progress towards implementation will be provided in its fifth national report to the Convention on Biological Diversity.

² The results of the Eurobarometer Surveys on Attitudes of Europeans towards Biodiversity in 2007 and 2010 indicate that 14.4% and 18% respectively of Maltese respondents had heard of the term “biodiversity” and knew what it meant. A survey commissioned by MEPA in 2011 indicates that out of the 500 persons interviewed, 24.6% of Maltese respondents heard of the term “biodiversity” and knew what it meant.

³ The CORINE Land Cover Data of 2006 for “forests and semi-natural areas” is 19.1%

⁴ This percentage is composed of the 20% of species in a favourable conservation status as documented in Malta's last assessment as per requirements of the EC Habitats Directive Article 17 reporting + 10% of species with an improved conservation status.

- **Target 12:** The status of crop and livestock genetic diversity in agricultural ecosystems and of wild relatives has been safeguarded and improved, where feasible.

Policy Area: Enhancing the benefits from biodiversity and ecosystem services

- **Target 13:** Vulnerable ecosystems that provide essential services are safeguarded, with at least 15% of degraded ecosystems restored, while 20% of the habitats of European Community Importance in the Maltese territory have a favourable or improved conservation status⁵.
- **Target 14:** The impacts of climate change on ecosystems have been reduced, in so far as feasible and, mitigation and adaptation responses to climate change that support and conserve biodiversity have been agreed and are being implemented.
- **Target 15:** Access to national genetic resources is regulated through a National Regime on Access and Benefit Sharing (ABS).

Policy Area: Enhancing implementation

- **Target 16:** Malta is implementing an effective and participatory national biodiversity strategy and action plan (NBSAP).
- **Target 17:** The contribution of local communities/entities to the sustainable management of biodiversity is recognised and enhanced.
- **Target 18:** Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved and applied.
- **Target 19:** Capacity for national implementation of the Convention on Biological Diversity, other related Multilateral Environmental Agreements (MEAs) and EU obligations, has increased from current levels.

The NBSAP also aims to mobilise action in order to contribute to the achievement of the EU biodiversity headline 2020 target at a national level, which is “to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.” The collaboration and commitment of all relevant stakeholders is required in order to achieve the following strategic goals:

- The full range of values of biodiversity and ecosystem services, as well as the potential role of biodiversity in addressing other environmental challenges (such as climate change), should be recognised at all levels and be fully reflected in decision and policy-making, where relevant;
- A coherent biodiversity monitoring regime is required to build a stronger knowledge base on the conservation status and trends of species and habitats of European community and national importance, in particular for those currently assigned an “unknown” status;

⁵ The 20% in this target is composed of the 7% of habitats in a favourable conservation status as documented in Malta's last assessment as per requirements of the EC Habitats Directive Article 17 reporting + 13% of habitats with an improved conservation status.

- Enhanced national implementation of relevant programmes of work (PoW) under the framework of the Convention on Biological Diversity necessitates collaborative projects and enabling activities;
- Strengthening the relationship between policy making and scientific research would ensure that research addresses the needs of policy makers and that in turn, policy development responds to research findings;
- Resource mobilisation is needed to improve national capacity in the fields of enforcement, site management, monitoring as well as research and development;
- Coordinated action and positive incentives, which promote local participation and private-public partnerships, and which lead to successful conservation and sustainable use of biological and natural resources are promoted, both within and outside protected areas;
- Greater awareness of the linkages between biodiversity, economic prosperity and human welfare is needed as it can empower changes in consumer behaviour based on informed choices and, hence contribute towards a more sustainable-oriented and resource-efficient economy and society;
- The right market signals are required to support the sustainable use of biological and natural resources, and to leverage private investment as well as reward practices that safeguard biodiversity; and,
- Further policy integration of biodiversity concerns in relevant sectors is essential; such mainstreaming should address direct and indirect drivers of biodiversity change, and should build on mutually-supportive measures, which in turn contribute to the achievement of the CBD and EU 2020 targets at a national level.

These strategic goals are translated into the following action-based and outcome-oriented measures, which are grouped into 18 thematic areas, which reflect the requirements of the CBD Convention text. Measures are colour coded according to the indicative timeline during which they are expected to be implemented or achieved:

Implementation Period	
	2012-2014
	2015-2017
	2018-2020
	2012-2020

Through these measures, the NBSAP is responding to the mandates required by the CBD and related MEAs, as well as European Union policies. The NBSAP aims to set Malta on the right track to meet its biodiversity and other environmental objectives, as well as its international commitments, by 2020.

Theme 1: Genetic Resources and Diversity (Code - GR)

- **GR1:** Distinct plant and animal genetic resources for food and agriculture (i.e. local livestock breeds and crop varieties, as well as wild relatives/landraces) are conserved as a genetic insurance in the face of environmental and climate risks as well as for food security. This is mainly achieved via the uptake of appropriate agri-environmental measures to support genetic diversity in agriculture.
- **GR2:** The genetic diversity of endemic species, particularly those characterised by small and isolated populations, is safeguarded against risks of natural disasters and climate change. This is mainly achieved via the maintenance of a gene/seed bank, and any other *ex situ* measures, in support of *in situ* conservation (see B13).

- **GR3:** Domestic legal provisions on access to genetic resources and benefit sharing (ABS) are strengthened via a national framework, which sets out the administrative, procedural and policy requirements to provide legal certainty and transparency to providers and users of genetic resources, based on prior informed consent (PIC) and mutually agreed terms (MAT).

Theme 2: Species and Habitats (Code - SH)

- **SH1:** The integrity, structure and functioning of important ecosystems is maintained and, where required, restored, thereby securing the continued flow of ecosystem goods and services. This is done by mapping and assessing the state of ecosystems and their services in the Maltese territory.
- **SH2:** Species and Habitats of European Community and National Importance are maintained across their natural range via the implementation of adequate conservation measures (see SH3, SH4 and SH5), which support the existing legal protection regime. Maintenance or improvement in the status of Maltese species and habitats of European Community Importance, when compared to current assessments, is achieved by 2020, in so far as feasible.
- **SH3:** Opportunities for species reintroduction or reinforcement are explored and adopted, where feasible and where deemed of added value. Such endeavours should be designed following guidance issued by the IUCN and, should also be supported by secured resources and stakeholder engagement (links with SH2).
- **SH4:** Priority species, especially endemic species, and rare specialised habitats, are covered by species and habitat action plans, respectively. These plans of action should recommend tailored conservation measures and where required, management/restoration (links with SH2 and SH3).
- **SH5:** A strict protection regime is in place, in line with requirements of the EC Nature Directives, and which incorporates measures to address the illegal and the incidental capture and killing of protected species, including those that are migratory (links with SH2).
- **SH6:** Guidelines on habitat management and restoration are adopted and provide information on best practices for managing the different terrestrial and aquatic habitat types in Malta bearing in mind guidelines established by multilateral environmental agreements (MEAs), such as the Ramsar Convention in the case of wetlands.
- **SH7:** Urban biodiversity in villages and towns is safeguarded through the uptake of community initiatives, such as green rooftops, green open spaces, and other incentives, such as competitions for the best gardens and open spaces in urban areas, which promote the use of indigenous species (as opposed to invasive non-native plants). Such initiatives contribute to an increase in green urban areas.
- **SH8:** The “2002 Guidelines on Trees, Shrubs and Plants for Planting and Landscaping in the Maltese Islands” are updated to include guidance on context sensitive landscaping and planting, and to establish new standards on the basis of experience gained over the past years since their publication.

Theme 3: Ecological Network of Protected Areas (Code - EN)

- **EN1:** Efforts are continued to ensure that Malta’s National Ecological Network constitutes a comprehensive and ecologically representative national system of protected areas, with improved sufficiency in affording protection to Maltese habitats and species.
- **EN2:** Conservation objectives and management plans are defined (by 2014 for terrestrial areas⁶) and implemented in a timely manner for Natura 2000 sites, which are also supported by sectoral policies and planning instruments that allow a fully integrated ecosystem approach.

⁶ In the case of marine sites the timeline will be after 6 years from designation as SCIs through listing in a Commission Decision.

- **EN3:** The capacity of 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, is maintained, more so in the face of climate change.
- **EN4:** Components for building a green infrastructure (as a holistic framework for resource planning and conservation) are strengthened to improve the ecological coherence of Natura 2000, via integration into the broader landscape, and hence to curb habitat fragmentation, improve adaptation to climate change and aid in integrated flood management (links with EN2 and EN3).
- **EN5:** A zoning system (which in the case of terrestrial areas builds on adapted principles of the scheduling process) is in place for protected areas and applies temporal and spatial restrictions so as to direct anthropogenic pressures away from particularly sensitive habitats and species, or away from particularly sensitive periods of the year (links with EN2).
- **EN6:** A range of governance types for long term management of protected areas is in place, based on good governance principles.
- **EN7:** Standards, criteria and indicators are established to evaluate the effectiveness of protected area management.

Theme 4: Biological Introductions (Code - BI)

- **BI1:** A national information and early warning system (e.g. species black list + existing border controls and permitting procedures) is in place to prevent the introduction and spread of invasive non-native species via priority pathways. Accidental introductions are addressed by way of contingency planning thereby avoiding/minimising any socio-economic and environmental impacts.
- **BI2:** A systematic and coherent national strategy on invasive non-native species is in place by 2015 and is based on the CBD's three-stage hierarchical approach, which includes prevention, early detection of the species, and rapid action by eradication, containment and control (where feasible). This strategy is supported by other policy guidance on the removal of invasive species.
- **BI3:** Endemic species and areas of conservation value at risk by invasive species are identified, and prioritised for targeted, well-planned, ecologically and financially feasible remedial action, with the goal of reinstating self-sustaining native communities and healthy ecosystems.
- **BI4:** Key stakeholder groups, such as traders (pet shops, breeders and nurseries), as well as land and sea users cooperate to prevent the unwanted release/escape and spread of non-native and invasive species into the environment. To assist this, national codes of best practices are established in consultation with key stakeholders and adopted for those sectors that can aid the introduction and spread of invasive species. The drawing up of such codes builds on European Codes of Conduct as adopted under the Bern Convention.
- **BI5:** Measures are in place to implement the recommendations made in the National Biosafety Framework, and by strengthening legislation describing rules and procedures to further safeguard the environment from potential damage resulting from genetically modified organisms (GMOs).

Theme 5: Sustainable Use of Biological Resources (Code - BR)

- **BR1:** A sustainable and diversified local source of native plant stock is available to cater for the increasing demand for native species of trees and shrubs for use in forestation, landscaping and planting for site stabilisation and restoration.
- **BR2:** Malta cooperates with the European Commission, EU Member States as well as Mediterranean Countries to maintain and restore fish stocks to levels that can produce maximum sustainable yield in

line with the Common Fisheries Policy (CFP) and in support of the Marine Strategy Framework Directive (MSFD).

- **BR3:** Plant-based products are derived from sources that are sustainably managed in line with EU obligations.
- **BR4:** Exploitation of wildlife for trade is based on sustainable practices in line with CITES regulations and is supported by the continued provision of information on biodiversity trade and protection regulations by the CITES management authority to importers, exporters and other stakeholders. Where required, the provision of information is enhanced through the development and dissemination of guidance/awareness material, which contribute towards adequate implementation of national legislation on wildlife trade.
- **BR5:** The regulation of capture and killing of protected species builds on sustainability principles and is in line with provisions of national law and the EC Nature Directives. This is ensured via the better regulation initiative and also in the light of conservation status assessments.

Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR)

- **NR1:** High Nature Value Farmland (HNVF) in Malta is mapped according to defined criteria, and good agricultural and low-intensive practices, including organic farming, are applied to preserve such land and associated agrobiodiversity (links with SI₂ and SI₃).
- **NR2:** Land uses are commensurate with the management of soil and by inference, water resources across the Maltese Islands. This is required in order to promote: the build-up of soil organic matter; the enhancement of soil biodiversity; the reduction (and reversal, where possible) of soil erosion, contamination and compaction; the minimisation of salinization/sodification levels (where applicable); the mitigation of flood-induced soil mass displacement/ land sliding; and the increase in infiltration and moisture retention in the soil. Measures incorporated in a soil action plan are formulated to address these goals in terms of how to mitigate the threats to Maltese soils and adopt measures aimed at soil conservation. The soil action plan and other national relevant policies shall contribute towards the requirements of the Convention to Combat Desertification (UNCCD) to develop desertification national action programmes.
- **NR3:** Transposition and implementation of the Pesticides Framework Directive (2009/128/EC), which advocates the sustainable use of pesticides and integrated pest management, assists in reducing the potential damage on biological and water resources caused by pesticides. This is supported by the development of a national action plan.
- **NR4:** Effective measures are in place and implemented to address the over-abstraction and pollution of groundwaters, namely by nitrates and chlorides, in line with the Groundwater Directive (2006/118/EC), the Nitrates Directive (91/676/EEC), the Dangerous Substances Directive (76/464/EEC), transposing national legislation, the National Water Policy for the Future, and the Water Catchment Management Plan for Malta.
- **NR5:** Appropriate and cost-effective rainwater harvest technologies are adopted, where feasible, in urban and rural areas as an environmentally sound approach to address imbalances between water supply and demand, and thus ensure long term water security in Malta (links with NR4).
- **NR6:** Integrated water resources management, based on the ecosystem approach, is achieved via the full implementation of the Water Framework Directive (2000/60/EC amended by 2008/105/EC) and its programme of measures (which shall be updated in 2015) as well as the Marine Strategy Framework Directive (2008/56/EC). Such implementation shall be in a mutually supporting manner in the case of coastal waters. The successful implementation of measures in the Water Catchment Management Plan for Malta results in the attainment of “Good Ecological Status” in surface waters, “Good Chemical Status” for groundwater and surface waters, and “Good Quantitative Status” for groundwater bodies, all by 2015 (and if this is not possible, by 2021 or 2027). “Good Environmental Status” in the marine environment is achieved by 2020, at the latest, via drawing up a national marine strategy by 2016, and,

where possible supported by other policies in line with relevant Regional Seas Conventions. Implementation of the MSFD on a national level also contributes to the goals of the EU's Integrated Maritime Policy.

Theme 7: Climate Change (Code - CC)

- **CC1:** The interlinkages of climate change and biodiversity are taken into account when designing adaptation and mitigation activities, so as to ensure that such activities are both compatible with policies for the protection of biodiversity in Malta and the goals of creating a climate-resilient and low-carbon economy.
- **CC2:** The adaptive capacity of species and the sequestering ability of key habitats that act as sinks or carbon reservoirs are maintained or restored in so far as feasible (links with SH4), by way of forward planning, climate proofed management plans, where possible (links with EN2) and via the pro-active management of resources to reduce both non-climatic stresses (links with NR2, NR3 and NR4) and climate-related stresses.
- **CC3:** Existing data limitations (e.g. specific time series data for projections and to shed light on population trends) are addressed through biodiversity research and monitoring (links with RD1 and BM1) and other relevant environmental monitoring in order to provide quantitative data on vulnerability analyses based on climate projections and national impact scenarios which factor in Malta's small island state characteristics. This allows for prioritising measures to safeguard those species and habitats most at risk or most vulnerable to climate change (links with GR2 and SH4).
- **CC4:** Forestation for climate change mitigation is carried out on land of low biodiversity value or ecosystems largely composed of non-native species (following appropriate removal of invasive species using established guidelines – see B12), and preferably degraded ones, and taking into account of the Pan-European Guidelines for Afforestation and Reforestation. Ecologically-sensitive forestation schemes, strategically located within the landscape, also enhance habitat connectivity (links with SH8 and EN4).
- **CC5:** The linkages between inland water ecosystems and climate change are assessed and the risks of water shortages for freshwater-dependent species are identified and rectified, where possible, especially during the hot summer months.

Theme 8: Pro-biodiversity Businesses and a Green Economy (Code - BE)

- **BE1:** Increased cooperation and involvement of the private sector and businesses in biodiversity conservation is encouraged, including the promotion of private sector voluntary initiatives/green business schemes, the support/uptake of pro-biodiversity business projects and by including biodiversity safeguards in corporate plans and programmes, as appropriate following guidance issued by the World Business Council for Sustainable Development and other organisations as well as by learning and sharing experiences and best practices through the EU Business@Biodiversity Platform.
- **BE2:** Eco-efficient facilities, which adopt the cleaner production approach, and use environmentally-sound and innovative technologies, are increasingly established.
- **BE3:** The economic valuation of ecosystem services is assessed and integrated into green accounting and reporting systems at a national level by 2020.

Theme 9: Financing Biodiversity (Code - FB)

- **FB1:** European Community and new funding opportunities for biodiversity, including public and private investment and innovative financing of biodiversity conservation and protected areas, are identified at

a national level bearing in mind the findings of “The Economics of Ecosystems and Biodiversity” (TEEB) study, and incorporated in a national biodiversity financial plan by 2014. The purpose of this biodiversity financial plan is to assist resource allocation and uptake of funds towards supporting projects that adopt effective and innovative approaches to advancing biodiversity conservation and sustainable use in the Maltese Islands.

- **FB2:** Market-based instruments (such as economic incentives, fiscal instruments, environmental certification schemes, labelling/branding and green public procurement) that have the potential to support the conservation and sustainable use of biodiversity, as well as improve the sustainability of supply chains, are explored, and where feasible, established and implemented. Moreover
- instruments/standards that recognise the value of goods of production systems that sustain biodiversity and the diversification of niche markets at a local level are also identified and fostered, including for those goods and services produced by protected areas (links with FB1).

Theme 10: Communication, Education and Public Awareness (Code - PA)

- **PA1:** Malta continues its biodiversity campaign to celebrate the UN Decade for Biodiversity via audience-targeted programmes on communication, education and public awareness (CEPA), which adopt a wide range of communication tools and media following guidance by the CBD CEPA Toolkit. Such a campaign aims at increasing communication (i.e. gaining cooperation in motivating actions in support of biodiversity), education (i.e. empowering people by promoting behavioural changes in support of biodiversity) and awareness (i.e. drawing attention about key issues to people who can influence outcomes in support of biodiversity).
- **PA2:** A National Biodiversity Database incorporating updated red data lists is completed by 2016 as a mechanism for maintaining and organising data on biodiversity. It is launched on Malta’s Clearing House Mechanism (CHM) thereby creating a one-stop shop for access to updated biological information on species and habitats, and measures in place to protect them.
- **PA3:** A communication campaign on Natura 2000 is launched by 2014.

Theme 11: Participatory Conservation (Code - PC)

- **PC1:** Members of society view Malta’s biodiversity and its conservation as a “national insurance policy” and actively engage in resource efficient lifestyles and practices as well as participate in conservation measures, coordinated by voluntary bodies entrusted with the role of inspiring and engaging the public in conserving biodiversity within their locality (links with IE1).
- **PC2:** The positive and active role of Maltese farmers as stewards of agrobiodiversity and in the maintenance of the countryside and rural environment is encouraged.
- **PC3:** Outreach to farming, fisheries and aquaculture cooperatives, as well as hunting associations, helps to foster new partnerships and new projects or other collaborative work in support of biodiversity.
- **PC4:** The CBD Plan of Action on Sub-national Governments, Cities and Other Local Authorities for Biodiversity (2011-2020) is implemented according to national priorities and needs by:
 - engaging the participation of local councils in supporting the implementation of Malta’s NBSAP, at the local/sub-national level by encouraging them to reach out to major groups such as children and youth, women, NGOs and businesses, as well as by raising awareness and promoting local action and synergistic partnerships for biodiversity in their locality;
 - fostering and acknowledging crucial efforts of local communities in implementing the NBSAP by supporting biodiversity in their locality; and

- integrating biodiversity considerations into urban infrastructure investments (where feasible) and procurement choices.

Theme 12: Enforcement (Code - EF)

- **EF1:** Resource constraints in the enforcement sector are addressed resulting in more timely and effective interception and deterrence of illegalities by way of *inter alia* setting up a centralised call centre on environmental contraventions and by setting up a task force assigned with the role of strengthening consolidation between environmental enforcement agencies (links with CB1).
- **EF2:** The polluter pays principle and principles of liability and redress are applied wherever environmental damage has resulted from an occupational or other activity of an operator.
- **EF3:** A National Enforcement Directorate is set up and effectively deals with curbing illegalities in Out of Development Zone (ODZ) areas.
- **EF4:** Environmental illegalities such as, but not limited to, the illegal alteration of water flows that is detrimental to freshwater-dependent biodiversity, illegal land conversion, as well as the illegal capture and killing of species, are addressed through strengthened enforcement and corrective action (links with EF1).

Theme 13: Environmental Assessment (Code - EA)

- **EA1:** The carrying out of environmental impact assessments (EIA), strategic environmental assessments (SEA) and appropriate assessments (AA) ensures that potential adverse and significant effects of projects, plans or programmes, and activities (including those with EU funding) on biodiversity (flora, fauna, habitats, ecosystems, protected areas etc.) are prevented/mitigated.
- **EA2:** Environmental assessments are undertaken with due consideration of established guidelines by the CBD and other multilateral environmental agreements (MEAs) and, the Natura 2000 sectoral guidelines issued by the Commission.

Theme 14: Research & Development (Code - RD)

- **RD1:** Working partnerships with research institutions are developed or strengthened in order to undertake targeted interdisciplinary research that improves an understanding of biodiversity in ecological, social and economic aspects, and in line with policy demand.
- **RD2:** Attainment of know-how of environmental technologies and use of best practices assist in the fulfilment of national compliance and implementation requirements of the EU Environmental Acquis.
- **RD3:** Malta cooperates (e.g. by participating in research projects) with other Mediterranean Countries to identify marine areas beyond the limits of national jurisdiction eligible for designation as protected areas in accordance with international law, especially the UN Convention on Law of the Sea (UNCLOS) and taking into account of scientific guidance under the CBD.

Theme 15: Biodiversity Monitoring (Code - BM)

- **BM1:** A national biodiversity monitoring strategy is formulated taking into account established indicators such as the EU 2010 Biodiversity Baseline and relevant updated Streamlining European 2010 Biodiversity (SEBI) Indicators as well as other national environment monitoring activities undertaken in line with requirements of EU Directives (such as the WFD and MSFD) in order to avoid duplication of effort, while maximising best use of resources. The implementation of such a strategy will help Malta

fulfil its monitoring obligations under the EC Nature Directives and biodiversity-related MEAs in a coordinated and coherent manner.

- **BM2:** A national volunteer network that carries out biological recording on selected taxonomic groups throughout the Maltese Islands is set up and supported via training.

Theme 16: Networking & Information Exchange (Code - IE)

- **IE1:** Existing or new national fora serve as a platform to maximise the involvement of relevant stakeholders in discussions on environmental issues, as well as to assist information flow to guide decision-making and to share expertise/experiences.
- **IE2:** Inter-departmental information exchange and cooperation is enhanced by means of direct communication channels, designation of national focal points and inter-institutional cooperation agreements, setting up an integrated environmental website as well as the setting up of inter-agency committees, where required. Such activities also result in the streamlining of responsibilities.
- **IE3:** Bilateral and multilateral cooperation with other CBD Parties and EU Member States is continued to advance global and regional progress in biodiversity conservation.

Theme 17: Capacity Building (Code - CB)

- **CB1:** National authorities responsible for overseeing the sustainable use of resources (environment, agriculture, fisheries and water) and, for the regulation of species trade and the movement of non-native species, are well-equipped with adequate human, financial and technical means. An enabling environment is created that allows for effective conservation of biological resources, by way of capacity building including via training and continued professional development; reviewing administrative structures, where required; adopting mechanisms for adequate support in line with the CBD Resource Mobilisation Strategy, where relevant; and via a flexible and adaptable framework which promotes inter-sectoral planning, cooperation and synergy (links with FB1, EF1 and IE2).
- **CB2:** Site managers entrusted with the responsibility of managing protected areas, where applicable, are well-trained and appropriately equipped to carry out their duties effectively and based on best-practice.
- **CB3:** 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 (links to SH8 and CC4).
- **CB4:** Gaps in taxonomic knowledge are addressed by strengthening taxonomic expertise and urging uptake of taxonomic research (links with RD1 and CB5).
- **CB5:** Scientific capacity in conservation biology tools for the recovery of endangered species is strengthened.

Theme 18: Other Sectoral Integration (Code - SI)

- **SI1:** Governmental entities involved in environmental management lead by example through various initiatives and by ensuring that green policies in support of biodiversity are adopted within their portfolio.

- **SI2:** Emerging biodiversity goals are integrated into future national Rural Development Plans, tailoring action to national and local needs whilst still maintaining an economically viable agricultural activity built on sustainable production.
- **SI3:** Farmers receiving financial assistance under the Common Agricultural Policy are compliant with Good Agricultural and Environmental Conditions (GAECs) and Statutory Management Requirements (SMR) in line with EU and national legislation.
- **SI4:** Good-management practices and aqua-environmental measures for sustainable management of the aquaculture sector and for preventing inadvertent release of aquaculture species are adopted on the basis of a national strategy for aquaculture. This aquaculture strategy sets environmental, social and economic standards for this industry in Malta.
- **SI5:** The principles and recommendations on integrated coastal zone management (ICZM) in the Coastal Strategy Topic Paper are developed further by way of a maritime spatial plan in line with the EU's Integrated Maritime Policy.
- **SI6:** The role and importance of spatial planning as an instrument for wider biodiversity conservation is reflected in new policy on spatial planning. The latter builds on the principles of integrated land use planning and devises measures to safeguard the wider countryside from urban sprawl, to support urban biodiversity and to contribute towards the EU priorities on a Green Infrastructure (links with EN4).
- **SI7:** Proposals for the development of renewable energy facilities are evaluated against obligations stemming from the EC Nature Directives, through appropriate assessments and EIAs (links with EA 1 and EA2). Through site planning, mitigation and monitoring in line with guidance issued by the EU and MEAs, any impacts on wildlife (such as bats, birds and marine mammals) are minimised.
- **SI8:** Sustainable and responsible tourism in Malta is promoted as one of the strongholds of the local economy and is attuned with biodiversity conservation, with an overall increased trend seen in the quality of Malta's tourism offer combined with evenly distributed temporal and spatial tourist flows and in keeping with the carrying capacity of fragile ecosystems. This is achieved via the implementation of relevant actions under the national tourism policy for the Maltese Islands, and taking into account the recommendations and guidelines under the CBD thematic area "Tourism and Biodiversity".
- **SI9:** Sustainable waste management via waste prevention, re-use and recycling results in a generally positive impact on the natural environment and is supported by increased public awareness and cooperation to adopt more resource efficient lifestyles thereby reversing trends of waste generation across the different waste streams.
- **SI10:** The consideration of healthy and biodiverse ecosystems in protecting against natural disasters (such as floods) is integrated into relevant risk reduction and preparedness policies.

These 18 thematic areas and accompanying actions contribute to the 19 targets, where one theme may contribute to more than one target, while some targets are addressed by several themes as indicated in Annex II of this document. The timeline for implementing or achieving the measures is summarised in Annex III.

Implementation of the NBSAP will require collective action across sectors and at all levels using existing or updated environmental and relevant sectoral policy instruments. New policy instruments for biodiversity are envisaged at EU level as required by the EU Biodiversity Strategy to 2020, which include a coherent framework on addressing invasive non-native species, and the forthcoming EU Strategy on a Green Infrastructure.

A review of the implementation of the NBSAP will be undertaken in 2014, in 2017 and in 2020. The indicators that will be used to assess such progress will be based on CBD and EU indicators, including the EU 2010 Biodiversity Baseline. These are still being elaborated at the CBD and EU level. For this reason, examples of possible applicable (and adapted) indicators are listed in [Annex IV](#) to this document.

Malta's NBSAP is a living document, which will continue to evolve on the basis of experiences and reviews, as well as feedback received through consultation with stakeholders, especially with respect to its targets, strategic directions and actions. This requires the participation of a broad spectrum of the community, comprising all major groups as well as individuals, to build a sense of ownership and commitment. The NBSAP aims to achieve consensus on a set of practical and realistic actions that reflect national aspirations for the conservation and sustainable use of biodiversity, together with other environmental goals in Malta.

Annex I – CBD and EU Biodiversity Targets

Table: CBD Aichi Targets included in the Strategic Plan 2011-2020

In October 2010, the tenth meeting of the Conference of the Parties (COP) to the Convention on Biological Biodiversity (CBD) adopted a Strategic Plan for Biodiversity 2011-2020 and 20 Aichi targets. The targets, which are listed below provide a global framework for action across all CBD Parties.

<p>Strategic Goal A: Addressing the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society</p> <p>Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.</p> <p>Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.</p> <p>Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions.</p> <p>Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.</p>
<p>Strategic Goal B: Reduce the direct pressures of biodiversity and promote sustainable use</p> <p>Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.</p> <p>Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.</p> <p>Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.</p> <p>Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.</p> <p>Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.</p> <p>Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.</p>
<p>Strategic Goal C: Improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity</p> <p>Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.</p> <p>Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.</p> <p>Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.</p>
<p>Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.</p> <p>Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.</p> <p>Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.</p>

Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

Table: Targets in the EU Biodiversity Strategy to 2020

The EU Biodiversity Strategy to 2020, which was adopted in May 2011 focuses on 6 major targets which are listed below. These targets address the main pressures on nature and ecosystem services in the EU, and beyond.

<p>TARGET 1: FULLY IMPLEMENT THE BIRDS AND HABITATS DIRECTIVES</p> <p>To halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status so that, by 2020, compared to current assessments: (i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and (ii) 50% more species assessments under the Birds Directive show a secure or improved status.</p>
<p>TARGET 2: MAINTAIN AND RESTORE ECOSYSTEMS AND THEIR SERVICES</p> <p>By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems.</p>
<p>Target 3: INCREASE THE CONTRIBUTION OF AGRICULTURE AND FORESTRY TO MAINTAINING AND ENHANCING BIODIVERSITY</p> <p>3A) Agriculture: By 2020, maximise areas under agriculture across grasslands, arable land and permanent crops that are covered by biodiversity-related measures under the CAP so as to ensure the conservation of biodiversity and to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by agriculture and in the provision of ecosystem services as compared to the EU2010 Baseline, thus contributing to enhance sustainable management.</p> <p>B) Forests: By 2020, Forest Management Plans or equivalent instruments, in line with Sustainable Forest Management (SFM), are in place for all forests that are publicly owned and for forest holdings above a certain size that receive funding under the EU Rural Development Policy so as to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by forestry and in the provision of related ecosystem services as compared to the EU 2010 Baseline.</p>
<p>TARGET 4: ENSURE THE SUSTAINABLE USE OF FISHERIES RESOURCES</p> <p>Achieve Maximum Sustainable Yield (MSY) by 2015. Achieve a population age and size distribution indicative of a healthy stock, through fisheries management with no significant adverse impacts on other stocks, species and ecosystems, in support of achieving Good Environmental Status by 2020, as required under the Marine Strategy Framework Directive.</p>
<p>TARGET 5: COMBAT INVASIVE ALIEN SPECIES</p> <p>By 2020, Invasive Alien Species (IAS) and their pathways are identified and prioritised, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new IAS.</p>
<p>TARGET 6: HELP AVERT GLOBAL BIODIVERSITY LOSS</p> <p>By 2020, the EU has stepped up its contribution to averting global biodiversity loss.</p>

Annex II – Linkages between the NBSAP Targets and Thematic Areas

Target	Thematic Areas
Target 1: Awareness	Theme 10: Communication, Education and Public Awareness (Code - PA)
Target 2: Valuation of biodiversity & ecosystem services	Theme 8: Pro-biodiversity Businesses and a Green Economy (Code - BE)
Target 3: Positive incentives for the conservation and sustainable use of biodiversity	Theme 8: Pro-biodiversity Businesses and a Green Economy (Code - BE) Theme 9: Financing Biodiversity (Code - FB)
Target 4: Mainstreaming	Theme 5: Sustainable Use of Biological Resources (Code - BR) Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR) Theme 18: Other Sectoral Integration (Code - SI)
Target 5: Loss of habitats	Theme 2: Species and Habitats (Code - SH) Theme 3: Ecological Network of Protected Areas (Code - EN) Theme 12: Enforcement (Code - EF) Theme 13: Environmental Assessment (Code - EA)
Target 6: Overexploitation	Theme 5: Sustainable Use of Biological Resources (Code - BR) Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR) Theme 12: Enforcement (Code - EF)
Target 7: Sustainable agriculture & aquaculture	Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR) Theme 18: Other Sectoral Integration (Code - SI)
Target 8: Pollution	Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR) Theme 13: Environmental Assessment (Code - EA) Theme 18: Other Sectoral Integration (Code - SI)
Target 9: IAS	Theme 4: Biological Introductions (Code - BI)
Target 10: Protected Areas	Theme 3: Ecological Network of Protected Areas (Code - EN) Theme 9: Financing Biodiversity (Code - FB) Theme 13: Environmental Assessment (Code - EA)
Target 11: Species Loss	Theme 1: Genetic Resources and Diversity (Code - GR) Theme 2: Species and Habitats (Code - SH) Theme 3: Ecological Network of Protected Areas (Code - EN) Theme 4: Biological Introductions (Code - BI) Theme 5: Sustainable Use of Biological Resources (Code – BR) Theme 12: Enforcement (Code - EF) Theme 13: Environmental Assessment (Code - EA)
Target 12: Genetic diversity important for food and agriculture	Theme 1: Genetic Resources and Diversity (Code - GR)
Target 13: Restoration of ecosystems	Theme 2: Species and Habitats (Code - SH) Theme 3: Ecological Network of Protected Areas (Code - EN) Theme 4: Biological Introductions (Code - BI) Theme 6: Sustainable Use of Natural Resources: Soil, Water and Land (Code - NR) Theme 13: Environmental Assessment (Code - EA)
Target 14: Climate change	Theme 7: Climate Change (Code - CC)

Target 15: Access to Genetic Resources	Theme 1: Genetic Resources and Diversity (Code - GR)
Target 16: NBSAP	Theme 18: Other Sectoral Integration (Code - SI)
Target 17: Contribution of local communities	Theme 11: Participatory Conservation (Code - PC)
Target 18: Scientific knowledge of status and trends	Theme 13: Environmental Assessment (Code - EA) Theme 14: Research & Development (Code - RD) Theme 15: Biodiversity Monitoring (Code - BM)
Target 19: Capacity for national implementation	Theme 8: Pro-biodiversity Businesses and a Green Economy (Code - BE) Theme 9: Financing Biodiversity (Code - FB) Theme 16: Networking & Information Exchange (Code - IE) Theme 17: Capacity Building (Code - CB)

Annex III – Timeline for implementation of NBSAP Actions

	Implementation Period	Applicable Actions
	2012-2014	SH4; SH5; SH8; EN6; BI4; NR3; CC5; FB1; PA3; EF1; EF3; BM1; SI1; SI2; SI5; SI6;
	2015-2017	GR2; GR3; SH1; SH6; EN4; EN7; BI2; BI5; BR1; BR2; NR1; CC3; BE2; FB2; PA2; RD3; BM2;
	2018-2020	SH2, EN3; EN5; NR4; NR5; CC2; BE1; BE3; CB2; CB4; CB5; SI9;
	2012-2020	GR1; SH3; SH7; EN1; EN2; BI1; BI3; BR3; BR4; BR5; NR2; NR6; CC1; CC4; PA1; PC1; PC2; PC3; PC4; EF2; EF4; EA1; EA2; RD1; RD2; IE1; IE2; IE3; CB1; CB3; SI3; SI4; SI7; SI8; SI10

Annex IV – Examples of Indicators to Assess Progress in Implementation of the NBSAP

(Adapted from CBD, EEA, SEBI and EU indicators, including the EU 2010 Biodiversity Baseline, which are subject to revision)

Policy Question	Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas	
S T A T E	What changes are occurring in the distribution of Malta's habitats, ecosystems and their services and what are the causes?	Trends in extent, condition and vulnerability of habitats, as well as ecosystems and their services	Trends in the extent (coverage – surface area) and degradation of natural and semi-natural ecosystems and habitats (including agroecosystems)	- CORINE land cover data - Data from mapping and assessment of ecosystem services - National Assessment under Habitats Directive Article 17 Reporting and Data on Natura 2000	Target 5 Theme 2
	Are habitats of European Community interest found in the Maltese territory in an improved conservation status?		Trends in conservation status of habitats of European Community interest in the Maltese territory	National Assessment under Habitats Directive Article 17 Reporting i.e. Number of habitats in green, amber or red status	Targets 5 & 13 Theme 2
	How many native species are threatened?	Trends in diversity, abundance, distribution and extinction risk of species	Trends in threat status of selected groups of species	- Red Data Lists (using IUCN criteria) - Data from biodiversity monitoring	Targets 11 & 18 Theme 2 & 15
	What is the species richness and proportion of endemism of selected taxonomic groups?		Trends in species richness in selected taxonomic groups (e.g. plants, insects, mammals etc.)	Taxonomic data/Species Inventories as kept in the National Biodiversity Database	Target 11 Theme 2
	What is the status of breeding birds in Malta?		Trends in number of breeding birds in Malta	Rare Breeding Bird Reporting	Target 11 Theme 2
	What is the conservation status of species of European Community interest?		Trends in conservation status of species of European community interest	National Assessment under Habitats Directive Article 17 Reporting i.e. Number of species in green, amber or red status	Target 11 & 18 Theme 2 & 15

Policy Question		Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
S T A T E C O N T.	What is the status of soil biodiversity in Malta?	Trends in diversity, abundance, distribution and extinction risk of species (Cont.)	Trends in diversity and abundance of selected above and below soil macro and micro species according to functional group	Data from environmental monitoring baseline survey (e.g.): - Species abundance within sampled horizon - Species evenness within sampled horizon - Presence of microorganisms, small and large invertebrates, small mammals and plant roots (incl. composition of microflora), within sampled horizon	Targets 7 & 13 Theme 6 & 18
	Are fewer local breeds and crop varieties being used in Malta?	Trends in genetic diversity of species	Trends in genetic diversity of cultivated plants, and farmed animals and their wild relatives	- Number of crop varieties and livestock breeds conserved - Agri-environment measures on genetic diversity in agriculture & their uptake	Targets 7 & 12 Theme 1
	How many endemic species are at risk of local extirpation and what are the reasons?		Population trends in endemic species	- Data on Endemic Species from biodiversity monitoring - Data from genetic research	Targets 11 & 18 Theme 1 & 15
P R E S S U R E S	Has the share of total utilised agricultural area (UAA) occupied by organic farming increased over the years?	Trends in pressures from agriculture, aquaculture, fisheries, trade and illegal capture and killing	Trends in organic farming	Percentage Organic Farming (State of Environment Indicator)	Target 7 Theme 6
	Has the share of agricultural land under agri-environment and cross-compliance schemes increased?		Trends in the uptake of agri-environment measures and cross-compliance by Maltese farmers	- Number and effectiveness of measures developed in the National Rural Development Plans in support of agrobiodiversity and ecosystem services - Compliance rate for Statutory Management Requirements	Target 7 Theme 18
	What is the extent of High Nature Value Farmland in Malta?		Trends in the extent and distribution of high nature value farmland (HNVF)	Mapping data on HNVF	Target 7 Theme 6

Policy Question		Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
P R E S S U R E S C O N T.	Has the share of fish farms under aqua-environment schemes increased?	Trends in pressures from agriculture, aquaculture, fisheries, trade and illegal capture and killing (Cont.)	Trends in the uptake of aqua-environment measures by Maltese farmers	Uptake of aqua-environment support under the National Operational Programme under the European Fisheries Fund and the future European Maritime and Fisheries Fund	Target 7 Theme 18
	Has by-catch increased in fishing operations in Malta?		Trends in by-catch of selected species by certain fishing practices (e.g. turtles by long-lining)	Data from on-board observer schemes and number of turtles landed for rehabilitation	Target 11 Theme 2
	What is the status of Mediterranean commercial fish stocks?		Trends in catches for selected species	Biological data gathered in line with reporting requirements under the Common Fisheries Policy and national fisheries data collection programme to evaluate catches and landings	Target 6 Theme 5
	Has fishing capacity increased in Malta?		Trends in fishing effort capacity	Data gathered on Maltese fishing fleet in line with reporting requirements under the Common Fisheries Policy	Target 6 Theme 5
	What is the demand for the trade of CITES-listed species in Malta?		Trends in the number of CITES permits issued	Data from CITES permitting	Target 6 Theme 5
	To what extent is Malta succeeding in curbing illegal capture and killing of protected species?		Trends in illegal capture and killing of protected species	Number of prosecutions for species-related offences under the Environment and Development Planning Act	Target 11 Themes 2 & 12
	Is Malta succeeding in achieving no net loss of its countryside?	Trends in pressures from habitat conversion, invasive species, climate change, and pollution	Trends in loss of natural and semi-natural habitats (trends in land cover change)	- CORINE land cover data - Measures in place to offset habitat loss - Development permitted in ODZ by type - Development permitted in protected areas by type - Percentage of damaged ecosystems which are restored	Target 5 Themes 2, 13 & 18

Policy Question		Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
P R E S S U R E S C O N T.	Is Malta succeeding in minimising habitat fragmentation?	Trends in pressures from habitat conversion, invasive species, climate change, and pollution (Cont.)	Trends in terms of fragmentation levels from 'very high' to 'very low'	- CORINE land cover data - Data adapting modalities from EU Biodiversity Baseline - Area forested with native species - Percentage of damaged ecosystems which are restored	Target 5 & 13 Theme 2 & 7
	What percentage of Maltese soils is affected by sealing, soil organic matter decline and erosion?		Trends in proportion of land affected by soil sealing, soil organic matter decline and soil erosion	- Data from soil monitoring - Percentage uptake of measures concerning soil conservation	Target 5 & 6 Theme 6
	Is the number of non-native species listed as “worst invasive species” in Malta increasing?		Trends in number/extent and impacts of invasive non-native species	- Number of new records of potentially invasive species - Number of species eradicated, controlled or contained	Target 9 & 18 Theme 4 & 15
	How is climate change affecting Malta’s biodiversity?		Trends in integrity of vulnerable ecosystems and response to climate change (e.g. changes in seasonal patterns of flowering, migration, shifts in distributions etc.)	- Data from biodiversity monitoring - Data from mapping and assessment of ecosystem services	Targets 14 & 18 Theme 7 & 15
	Is Malta succeeding in mitigating green house gas (GHG) emissions and curbing air pollution?		Trends in GHG emissions by sector and trends in emissions of Ozone, Carbon Dioxide, Nitrogen Dioxide, Nitrogen Oxides and Sulphur Dioxide	- Data from Greenhouse Gas Inventory - Data from Air Quality Monitoring - State of Environment Indicators	Target 8 & 14 Theme 7
	Is the nitrogen surplus (the difference between all nutrient inputs and outputs) from agriculture being reduced?		Trends in pollutant releases from agricultural activities into the environment	- Data from Reporting under Nitrates Directive - Data on the Nitrogen Balance for Malta	Target 8 & Theme 6
	Are water bodies in the Maltese territory in a good status?		- Trends in surface and groundwater quality - Trends in Nitrate and Chloride Levels in Groundwater Bodies	- Data in line with requirements of Water Framework Directive - Data gathered in line with Bathing Water Quality Directive - State of Environment Indicators	Target 8 Theme 6

	Policy Question	Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
P R E S S U R E S C O N T.	Is Malta making progress towards achieving good environmental status in the marine environment?	Trends in pressures from habitat conversion, invasive species, climate change, and pollution (Cont.)	Trends in the environmental status of the marine environment in the Maltese territorial waters	Data gathered in line with Marine Strategy Framework Directive	Target 6 Theme 6
	What are the implications of biodiversity loss on the well-being of Maltese citizens?	Trends in distribution, condition and sustainability of ecosystem services for human well-being	Trends in the capacity of ecosystems to provide benefits in terms of life-supporting services to Maltese citizens	Data from mapping and assessing the state of ecosystems and their services	Target 13 Theme 2
B E N E F I T S	Are Maltese citizens using more than their share of Malta's biological and natural resources?		Trends in natural capital that delivers multiple ecosystem services	- Data from mapping and assessing the state of ecosystems and their services - CORINE land cover data	Targets 6 & 13 Themes 2, 5 & 6
	Are freshwater resources in Malta used in a sustainable and equitable manner?	Trends in the water and ecological footprint	Trends in abstraction levels from aquifers	- Reporting under Surface Water Abstraction Directive - Extent of rainwater harvesting in Malta	Target 6 Theme 6
	Are Maltese citizens increasingly reliant on material benefits?		Trends in waste generation by type of waste stream	SoER data on waste generated by type annually	Target 17 Themes 11 & 18
	Is access to Malta's genetic resources based on prior informed consent (PIC)?	Trends in access and equity of benefit sharing of genetic resources	Trends in applications requesting for access to Malta's genetic resources	Number of PIC Applications	Target 15 Theme 1
	Are the benefits derived from the use of genetic resources equitably shared between the providers and users of genetic resources?		Trends in the finalisation of mutually agreed terms (MAT)	Number of MATs (by type)	Target 15 Theme 1

Policy Question	Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas	
RESPONSES	Are Maltese citizens aware of the meaning of the term “biodiversity”?	Trends in awareness, attitudes as well as public and sectoral engagement in support of biological diversity and ecosystem services	Trends in public awareness and education on biodiversity issues	- Public Attitudes Survey - Eurobarometer surveys on “Attitudes of Europeans towards the Issue of Biodiversity” - Number of educational courses which include biodiversity - Number of initiatives undertaken such as biodiversity tours and number of persons who attended	Target 1 Theme 10
	How well engaged are Maltese communities in support of biodiversity in their locality?		Trends in number of community initiatives in support of biodiversity in localities	- Number of community initiatives - Number of local sustainability strategies which include biodiversity safeguards - Number of schools participating in EkoSkola (State of Environment Indicator)	Target 17 Theme 11
	What is the level of awareness of the Natura 2000 Network by Maltese citizens?		Trends in awareness of Natura 2000	Eurobarometer survey on “Attitudes of Europeans towards the Issue of Biodiversity”	Target 1 Theme 10
	What is the uptake of green public procurement in Malta?	Trends in integration of biodiversity, ecosystem services and benefits sharing into sectors plans, programmes, policies and incentives	Trends in sustainable consumption and production of goods and services	Implementation of the National Action Plan on GPP	Target 3 Theme 9
	What is being done to implement Malta’s NBSAP?		Trends in implementation of NBSAP actions	NBSAP Review on progress on the implementation of actions	Targets 4 & 16 Theme 18
	To what extent is biodiversity integrated in incentive systems?		Trends in incorporation of biodiversity and ecosystem services into incentive systems	- Number and effectiveness of positive incentives developed - Number of adverse incentives removed, reformed or reoriented	Target 3 Themes 8 & 9
	To what extent is biodiversity integrated in decision and policy making?		Trends in reflection of biodiversity and ecosystem services in policy decisions, planning and reporting processes	Number of sectoral policies that include considerations for biodiversity and ecosystem services	Target 4 Theme 18

Policy Question		Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
RESPONSES CONT.	To what extent is the value of biodiversity integrated in green accounting?	Trends in integration of biodiversity, ecosystem services and benefits sharing into sectors plans, programmes, policies and incentives (Cont.)	Trends in knowledge of values of biodiversity and ecosystem services and extent to which the economic value is integrated in national accounting	Value of biodiversity in National Accounts	Target 2 Theme 8
	Has the level of taxonomic and other scientific knowledge of Malta's biodiversity increased over the years?	Trends in accessibility of scientific and technical knowledge and its application	Trends in number of research projects and commissioned studies on components of biological diversity	<ul style="list-style-type: none"> - Number of taxonomic groups for which taxonomic expertise is adequate or is lacking - Research dissertations, commissioned studies and EIAs - Number of habitats and species for which good data exists and status assessments undertaken - Number of ongoing research and survey programmes on biodiversity - Number of volunteers engaged in monitoring 	Target 18 Themes 13, 14 & 15
	Are there conservation measures in place to adequately safeguard threatened species?	Trends in conservation action targeting threatened species	Trends in species-related conservation measures	<ul style="list-style-type: none"> - Number of species action plans in place and being implemented - Number of protected species in ex situ conservation 	Target 11 Theme 2
	What is the progress with the national designation of protected areas as a tool for biodiversity conservation?	Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches	Trends in protected areas coverage and representation	<ul style="list-style-type: none"> - Number and area of designated protected areas by type as reported on the Common Database on Designated Areas (CDDA) - Data on Natura 2000 	Target 18 Theme 3
	Are protected areas effectively managed in Malta?		Number of protected areas covered by a management plan	<ul style="list-style-type: none"> - Number of sites for which management plans are prepared and implemented - Number of site conservation objectives achieved by type 	Target 10 Theme 3

Policy Question		Headline Indicator	Indicator Sub-topic	Data Source	Applicable NBSAP Target & Thematic Areas
RESPONSES CONT.	How much of Malta's public funds are being committed to the conservation of biodiversity?	Trends in mobilisation of resources, capacity building and networking	Trends in public financial flows of biodiversity-related funding	Data from Government of Malta	Target 19 Theme 9
	How many private entities and businesses invest in biodiversity conservation in Malta?		Trends in private financial flows of biodiversity-related funding	Number of corporate plans which incorporate safeguards on ecosystem services	Target 19 Themes 8 & 9
	How much of the EU allocated funds are used to finance biodiversity conservation projects in Malta?		Trends in number of uptake of EU funds in support of biodiversity	- Data from National Management Authorities of EU funds - Amount of funding in support of the Natura 2000 network	Target 19 Theme 9
	How does biodiversity contribute to green jobs in Malta?		Trends in job opportunities in the environmental sector	Employment in the biodiversity-related fields	Target 19 Theme 17
	What extent of networking is there amongst governmental entities?		Trends in national committees established on environmental issues	Number of established committees	Target 19 Theme 16



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